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SESSIONAL PAPERS

VOLUME 8

FIRST SESSION OF THE NINTH PARLIAMENT

OF THE

DOMINION OF CANADA

SESSION 1901

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OF THE

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OF THE

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11. Tables of the Trade and Navigation of Canada, for the fiscal year ended 30th June, 1900. Presented 18th February, 1901, by Hon. W. Paterson.....*Printed for both distribution and sessional papers.*

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12. Inland Revenues of Canada. Excise, etc., for the fiscal year ended 30th June, 1900. Presented 11th February, 1901, by Hon. M. E. Bernier .....*Printed for both distribution and sessional papers.*

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14. Report on Adulteration of Food, for the fiscal year ended 30th June, 1900. Presented 22nd February, 1901, by Hon M. E. Bernier..... .....*Printed for both distribution and sessional papers.*

15. Report of the Minister of Agriculture, for the year ended 31st October, 1900. Presented 11th February, 1901, by Hon. S. A. Fisher ....*Printed for both distribution and sessional papers.*

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19. Report of the Minister of Public Works, for the fiscal year ended 30th June, 1900. Presented 11th February, 1901, by Hon. J. I. Tarte..... ..... *Printed for both distribution and sessional papers.*

20. Annual Report of the Department of Railways and Canals, for the fiscal year ended 30th June, 1900. Presented 18th February, 1901, by Hon. A. G. Blair.
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21. Report of the Department of Marine and Fisheries (Marine), for the Fiscal Year ended 30th June, 1900. Presented 11th February, 1901, by Hon. W. S. Fielding.
Printed for both distribution and sessional papers.

21*a*. Annual Report of the Geographic Board of Canada, 1900.
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22. Report of the Department of Marine and Fisheries (Fisheries), for the fiscal year ended 30th June, 1900. Presented 11th February, 1901, by Hon. W. S. Fielding.
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23. Report of Harbour Commissioners, etc., 1900..... . *Printed for both distribution and sessional papers.*

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24. Report of the Postmaster General, for the year ended 30th June, 1900. Presented 11th February, 1901, by Hon. W. Mulock .....*Printed for both distribution and sessional papers.*

25. Annual Report of the Department of the Interior, for the year 1900. Presented 11th February, 1901, by Hon. C. Sifton .. . . *Printed for both distribution and sessional papers.*

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individual who may have become vested with the said bonuses or subsidies by transfer or otherwise, during each of the said years, and the conditions of such payments. 4. On what part or parts of the said bonuses or subsidies voted during the said years was interest payable, and how much of each of the said bonuses or subsidies on which interest is payable has been paid, giving details with reference to each railway. 5. The amount of interest paid during each of the said years by each of the said railways on the bonuses or subsidies they have received. 6. What railways to which bonuses or subsidies have been voted by parliament during each of the said years, and paid wholly or in part with the condition that interest should be payable, have paid interest on the bonuses or subsidies received by them, and how much interest has each railway receiving such bonuses or subsidies paid each year. Presented 25th February, 1901.—*Mr. Wilson.*

Not printed.

56. Return to an address of the House of Commons, dated 12th February, 1901, for copies of the address presented by the citizens of Dawson to his excellency the governor general on the occasion of his excellency's visit to that city in 1900, all orders in council, correspondence and papers in any way connected with the said address and the requests and representations contained therein. Presented 26th February, 1901.—*Sir Charles Hibbert Tupper*..... .... *Not printed.*

57. Return to an order of the House of Commons, dated 12th February, 1901, for copies of all papers, instructions, tenders, contracts, specifications, correspondence, reports in any way relating to the construction of a dwelling for the officers of the government or staff in Dawson city. Also all instructions, papers, tenders, contracts, correspondence, reports in any way relating to the construction of public buildings under contract awarded to William Rourke. Also all instructions, papers, tenders, contracts, specifications, reports in any way relating to the construction of a bridge leading from the barracks and other public buildings to the main part of the town in Dawson. Presented 26th February, 1901.—*Sir Charles Hibbert Tupper*.....*Not printed.*

58. Ordinances of the Yukon Territory for 1900, pursuant to 61 Victoria, chapter 6, section 7. Presented 28th February, 1901, by Hon. C. Sifton .. .. *Not printed.*

58*a*. Return to an order of the House of Commons, dated 12th February, 1901, showing an itemized statement of the number of gallons of spirituous and malt liquors taken into the Yukon District since the period covered by return (1900) the number of permits issued therefor, name and post office address of those persons or companies to whom permits were granted, and the amount paid therefor, and all correspondence in connection therewith. Presented 28th February, 1901.—*Sir Charles Hibbert Tupper*..... ... .*Not printed.*

58*b*. Return to an order of the House of Commons, dated 12th February, 1901, for copies of all reports from Mr. Ogilvie, commissioner of the Yukon district, not already brought down, together with such information as is available respecting the report referred to on page 5025 *Hansard*, May 10, 1900, and the delay in sending it forward. Presented 4th March, 1901.—*Sir Charles Hibbert Tupper*..... .... *Not printed.*

58*c*. Return to an order of the House of Commons, dated 18th February, 1901, of all reports made by Mr. Charleson respecting telegraph construction work formerly or now under his charge; showing also the names of men employed under him between Bennett and Dawson and the nationality of each so far as possible; the wages and allowances for each man so employed; particulars as to any strikes on the part of the men for higher wages; the names of parties who supplied the poles for the telegraph wire, and copies of all contracts and correspondence respecting the same; whether standing trees en route have been used for stringing wires, and if so, for what distance approximately, in comparison with the distance where poles were used; how many poles were paid for, how many of those paid for were not used for the telegraph line; whether the linemen employed at Dawson, Ogilvie, Selwyn, Selkirk, Five Fingers, Lower LeBarge and Tagish are British subjects, and if not, the nationality of each; the names of sub-contractors for the supply of poles and the residence of each sub-contractor, and all contracts respecting the same; the terms of charter of ss. *W. S. Stratton*, the charterer's name and all papers respecting the same; the name of her master and acting master and his nationality; the terms of the charter party; the use made of this steamer, whether she was used for supplies or otherwise, and what boats other than scows were so used; how many scows were used and on what terms; the amount charged or paid for transportation by water outside of the ss. *Stratton*: the length of time during construction Mr. Charleson was actually present with the construction party; the particulars as to purchase of ss. *Lullie C.*, the purchase, disposal or sale or transfer of the boat and the terms thereof respectively; copies

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CANADA

REPORT

OF THE

Minister of Public Works

ON THE

WORKS UNDER HIS CONTROL

FOR THE FISCAL YEAR ENDED JUNE 30, 1900

SUBMITTED IN ACCORDANCE WITH THE PROVISIONS OF CHAPTER 36, SECTION 37 OF THE REVISED STATUTES OF CANADA

PRINTED BY ORDER OF PARLIAMENT

OTTAWA

PRINTED BY S. E. DAWSON, PRINTER TO THE QUEEN'S MOST EXCELLENT MAJESTY

1901

(No. 19—1901.)

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To His Excellency the Right Honourable Sir Gilbert John Elliot, Earl of Minto, G. C. M. G., &c., &c., &c., Governor General of Canada.

MY LORD,

I have the honour to lay before your Excellency the Report of the Department of Public Works of Canada, for the fiscal year ended June 30, 1900.

I have the honour to be,

My Lord,

Your Excellency's most obedient servant,

J. ISRAEL TARTE,

Minister of Public Works.

OTTAWA, 18 January, 1901.

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PART I

REPORT

OF THE

Deputy Minister of Public Works

FOR THE YEAR ENDED

30th June, 1900

DEPARTMENT OF PUBLIC WORKS

OTTAWA, DECEMBER 24th, 1900.

The Honourable J. ISRAEL TARTE,

Minister of Public Works

Ottawa.

SIR.—I have the honour to lay before you the report of the operations of the Department of Public Works during the fiscal year ended the 30th June last (1900).

This report contains the history of the work performed by the Department in the several branches under its control, which can be subdivided in three sections: 1o., the harbours and rivers, (including slides and booms, graving docks and dredging); 2. the public buildings and, 3. the telegraph service.

It also contains a detailed statement, prepared by the Accountant, Mr. A.G. Kingston, of the expenditure of the several appropriations placed at the disposal of the Department of Public Works by Parliament for the fiscal year under review, as well as a statement of the Collector of Revenue, Mr. E.T. Smith showing the income of the Department from its various sources.

The harbours and rivers branch is presided over by the Chief Engineer of the Department of Public Works, this position being now held by Mr. Eugène D. Lafleur, acting as Chief Engineer.

Its operations extend over a large field and cover the expenditure of a large amount of money, the sums voted under that head, for the fiscal year 1899-1900, having been $3,091,987.50.

The public buildings are under the charge of Mr. David Ewart, the Chief Architect. The sum voted for the construction of new buildings, for the completion of those begun in past fiscal years, and for the maintenance of the existing structures, amounts to $1,445,641.00

The telegraph service is supervised by Mr. David H. Keeley.

This branch of the service is assuming large proportions, owing to the extension of the Government lines in various directions, and the total sum voted, for construction, operation and maintenance of telegraph lines, under the control of this Department, has, for the last fiscal year, amounted to $527,400.00.

The revenue of the Department has been somewhat reduced during the fiscal year under review. It is mainly derived from dues received for the passage of timber through the various slides and booms constructed to facilitate the same, as well as from the use of the graving docks constructed at various points in Canada. Circumstances beyond the control of the Department, among which may be placed the practical cessation of the manufacturing of square timber in the Ottawa District, and a sudden flood in the River St. Maurice during the past year, which allowed a large quantity of logs to escape into the St. Lawrence for which no dues could be charged, answer in some degree for that reduction. As regards the graving docks, however, it may be remarked that, as their revenue is in direct ratio of accidents to shipping, it follows that if, on the one hand, less revenue is derived from that source in any one year, that decrease shows fewer casualties and a corresponding diminution of loss to the ship owners and other persons generally engaged in the shipping trade.

A perusal of the report will show in detail the operations carried on by the branches of the Department above referred to, and it is needless to particularize here by giving the names of the places where work was performed, their geographical description nor the cost of the performance of such work.

This would perhaps be a tedious repetition, while I could not undertake to give as full information in this necessarily concise report as could be obtained by examination of the detailed statements of the operations of each of those branches.

I desire however to call your attention to the particularly successfull attempt made by this Department of late years and especially for the period during which you have had control of its administration as Minister, in the direction of the improvement of means of transportation and lines of communication throughout the country. I may be permitted, I hope, when all attention is given throughout the world to the means of coupling facility and cheapness in transportation, to state and describe the share taken by the Department of Public Works of Canada in improving the resources of the country in that direction.

TRANSPORTATION.

Transportation, in the popular mind, associates more closely with the operations of railways and canals, although other works of paramount importance have to be performed in order that the exports and imports of the country be handled with despatch and cheapness, the two requisites in the race for business. It would therefore not be deemed amiss, before referring particularly to the work of the Department of Public Works, to say a few words about the railways and canals of this country, with whose work that of the Department of Public Works most is intimately connected, coming as a powerful adjunct to unite the links of those great arteries of communication separated by reaches of navigable waters.

The birth of railways in Canada goes back to the year 1835, when rails were laid between Laprairie and St. Johns, Quebec, the road being completed and opened in July 1836. The mileage then in operation was 16 miles, and it remained in that condition until the year 1847, when it was increased to 54 miles. Year by year, however, by the enterprise of the people of Canada, largely helped by the subsidies of the various Governments, this mileage increased rapidly until, in the year 1899 the number of miles of railway in operation amounted to 17,250, that of the tracks laid being 17,358, and that of the roads in course of construction 799 miles, or a gross total of 18,157 miles. The quantity of rolling stock on all those railways comprised, on the 30th June 1899, 70,855 carriages of various kinds, including engines, sleeping and palace cars, 1st, 2nd class, box, coal, tool cars, etc.

The total number of passengers carried was, during the year ended June 30th 1899, 19,133,315, and the number of tons of freight transported, 31,211,753, being subdivided in 16,081,934 barrels of flour, 163,881,948 bushels of grain, 3,850,572 head of cattle, etc., etc., etc.

Of the above railways, that having the greatest Canadian mileage under its control is the Canadian Pacific, operating 6,683 miles of track of which 4,590 are owned by the company and 2,093 are made up of leased lines. Next in order comes the Grand Trunk Railway system with a total of 3,162 miles, and the Canadian Government Railway system embracing 1,510 miles, while the balance of the 5,895 miles is divided between about 102 railways and their branches among which are the Manitoba and North Western, the Northern Pacific and Manitoba, the Canada Southern, the Canada Atlantic, the Ottawa Arnprior and Parry Sound, the Kingston and Pembroke, the Great Northern, the Quebec Central, the Quebec and Lake St. John, the Temiscouata, the Canada Eastern, and the Dominion Atlantic.

The greater part of those railways was constructed during the short period of 20 years which elapsed between 1874 and 1894, when the mileage which, in the

first named year, was only 3,800 was increased at the latter period to 15,800 miles.

The total nominal capital paid up to the 30th June, 1899, amounts to the enormous figure of $964,699,784, this sum including, besides the ordinary share capital, the preference bonds, bonded debt and sums granted by the Federal and Provincial Governments as well as by municipalities.

In the year 1898-9, the gross earnings of the Railways of Canada reached the total of $62,243,784.65, while the net earnings were $21,537,567.48.

The above figures show what a rapid and wonderful development railway facilities have acquired in a relatively short period, and speak volumes for the spirit of progress of the citizens of Canada, as well as the enlightened policy of Parliament and the Legislatures which, by their timely help and generous provisions, have made possible such an advancement.

In the construction of canals as means of transportation for industrial, agricultural and mining products, progress been made no less rapid nor less marked. The canals on the line of the main transportation route, between Lake Superior and the port of Montreal are the Sault Ste. Marie, the Welland, the Williamsburg Canals (the Galops, Rapide Plat and Farren's Point) the Cornwall, Soulanges & Lachine, a total length of artificial waterway of nearly 64 miles. The total difference of level overcome by the above named canals is 551 feet, and the number of locks utilised for that purpose is 47. The length of the locks 270 feet, their breadth 45 feet and depth of water on sills 14.0 is the same, with the exception of the lock at Sault Ste. Marie, the dimensions of which are as follows: length 900 feet, width 60 feet, depth of water on sill 20 feet 2 inches. The United States canals on the route to the seaboard are the Sault Ste. Marie, with a lock 800 feet long, 100 ft. wide and 20 ft. 2 inches on sills, and the Erie Canal having 72 locks 110 feet long, 18 feet wide with 7 feet of water on sills.

Besides the Canadian canals mentioned above, there are others constructed on other waters than the St. Lawrence, viz; the Carillon & Grenville canals on the Ottawa River, the Murray and Trent canals, the Rideau canal between Ottawa and Kingston, the Chambly canal, the St. Peter's canal between St. Peter's Bay and Bras d'Or Lakes, in Nova Scotia, the Beauharnois canal, which was used to overcome the Coteau, Cedars and Cascades rapids on the St. Lawrence River before the construction of the Soulanges canal, and the locks of St. Ours on the Richelieu, Yamaska on the Yamaska River, St. Anne's on the Ottawa River and Rivière du Lièvre on the river of that name, a few miles above Buckingham.

The first attempt at canalization work in this country was made in the past century when work was begun between Montreal and Lachine as well as between Lakes St. Louis and St. Francis and at Mille Roches. These canals were of small dimensions but were enlarged in 1804, and subsequently in 1807, when they were made 12 feet in width with a depth of $3\frac{1}{2}$ feet How far removed are we now from that crude attempt at artificial navigation with our huge Sault Ste. Marie canal, and its 900 feet lock, 60 feet in width and 30 feet in depth.

The need of improvement in canal communication was however soon felt, and the Lachine canal from its original depth of $2\frac{1}{2}$ feet was carried in, 1825, to 5 feet, in 1874 to 12 feet, and is now 14 feet on the lock sills. The amount expended to the 30th June, 1899 upon this canal was $10,787,094.

The Welland canal, the longest of the Canadian canals ($23\frac{1}{4}$ miles) was begun in 1816, improved from 1823 to 1833 enlarged from 1842 to 1848, and in 1875 plans of the present canal, with 14 feet of water on the sills, were approved and the work since carried to completion. The cost of the canal to the 30th June 1899, was 23,771,636.

The improvement of the other canals followed apace, and the completion of the magnificent system was finally brought about by the opening to navigation, last summer, of the Soulanges canal 12.17 miles long, with four locks of the standard size of 270 by 45 feet.

During the last season of navigation (year 1900), 19,699,128 bushels of grain passed through the Lachine canal, made up as follows :

Wheat	8,279,701
Corn	8,354,115
Peas	273,926
Oats	1,846,855
Barley	601,898
Rye	342,633

During the year 1899, the tonnage which passed through the Welland Canal reached the figure of 1,060,673 tons, and the St. Lawrence Canals 2,378,432 tons, compared with 1,140,077 and 1,439,134 tons respectively in 1898.

The total number of vessels which passed through the Canadian Canals for the same year was 20,590, aggregating a tonnage of 7,594,304 tons, transporting 213,711 passengers, and 6,225,924 tons of freight.

The movement of freight and the tonnage on the Welland Canal and the St. Lawrence Canals during the six months ended on the 30th June last (1900) was as follows : On the Welland Canal the total tonnage was 347,292, the freight transported aggregating 241,906 tons, and the number of passengers being 11,269. On the St. Lawrence Canals the movement of freight reached the figure of 259,185 tons, with a total tonnage of 640,886 and 12,278 passengers.

The total expenditure on Canadian Canals, including renewals and repairs, represents the large sum of $92,036,524.

The revenue derived from these canals since Confederation amonts to $12,079,274.

The above few facts show the vast expenditure made by a comparatively young country, representing a total investment in railways and canals, from all sources of $1,056,736,308.

The largest portion, of the above works, was executed by the old Department of Public Works before its subdivision, by the Act 42, Victoria Chap. 7, in the year 1879. Since that year the present Department of Public Works has become specially charged with the improvement of the harbours and rivers and the consruction of buildings and telegraphs, the enlargement of canals and the management of the Government railways remaining altogether with the new Department of Railways and Canals.

Concurrently with the encouragement of the construction of railways by grants and subsidies in land and money, and the construction of canals for the easier transportation of products of all kinds, the attention of the Government of the Provinces until 1867, and especially of the Federal Government, since Confederation to the present date, was given to the improvement of the various harbours, from the western lakes to the sea, not only in increasing their available depth by means of dredging, but in enlarging their shipping facilities by the construction of landing piers and of breakwaters for their protection against storms and deposits from either rivers or lakes, forming bars and shoals which rendered navigation very difficult.

This attention was given in a broad spirit of generosity and general usefulness, every part of the country being given the advantage of all the expenditure that could be made within the means at the disposal of the treasury. In the older provinces : from Fort William, on Lake Superior, to Montreal ; from Montreal to Quebec and through the St. Lawrence to the Gulf ; along the exposed shores of Nova Scotia, New Brunswick and Prince Edward Island ; piers and breakwaters were constructed, improved and enlarged until there are now over 325 works of various kinds under the care of the Department. As the other provinces joined in Confederation, their river and lake navigation, was improved : the navigation of the Fraser River, in British Columbia, on account of the peculiarity of its course and the nature of its shores, presenting a pro-

blem difficult to solve, engaged the earnest attention of the Government as necessitating a large expenditure of money. For that purpose the Department has entered into a contract for the construction of a powerful sand dredge, 125 feet long, 32 feet wide and 7 feet deep, constructed to work to a depth of 40 feet, either by means of a long pontoon pipe, by a suspended discharge pipe or by the ordinary means of scows. This dredge is to be a self propeller and will have a speed of about 8 miles an hour.

Originally, however, the improvements in question were more or less of a local character, as the various harbours improved presented the only means of accommodation for the shipment of the produce raised in the section of the country of which they were the natural outlets, and for the introduction of those commodities of life not produced by the surrounding country. For that purpose, only ordinary depth of water was required and the general standard adopted was for a time sufficient for the needs of traffic and commerce. At some points, artificial harbours were created by the construction of parallel jetties and the deepening of water between them, and at others, protection works were built to direct and control the flow of rivers and prevent the discharge of sediment and detritus in harbours at time of flood.

The harbours of Port Arthur, Collingwood, Owen Sound, Meaford, Southampton, Port Elgin, Goderich, Port Stanley, Port Burwell, Cobourg, Port Hope, &c., were created and improved. Natural harbours, such as Toronto, Hamilton, &c., were rendered easier of access and protected by means of jetties constructed at their entrance ; large sums in each case being expended.

The settlement of the north western states of the American Republic, that of the North West Territories, in our own country, and the accession of British Columbia to Confederation, increasing the cultivation and production of wheat and cereals, and augmenting the mining output, soon placed the Government of Canada face to face with the all-important problem of transportation. To the two great railways, the Grand Trunk and Canadian Pacific, reaching either directly or by leased lines to the ports of Collingwood, Goderich, Owen Sound and Fort William, soon were added, by the enterprise of that eminent canadian, Mr. J. R. Booth, the Parry Sound and Canada Atlantic lines which, no sooner built and equipped, claimed their share of the transportation business, and constructed at their western and eastern terminals, Parry Sound and Coteau Landing, accommodation for their grain and lumber business. The giant strides made by the citizens of the United States, in the construction and equipment of their railways and improvement of their harbours ; their unstinted expenditure, both out of federal and local sources, for the improvement of their great shipping ports, New York, Boston, Portland, Philadelphia and Baltimore, and of their lake ports, especially Buffalo, soon opened the eyes of those immediately interested in Canadian transportation. The various boards of trade, the commercial bodies and the Federal Government took the matter into consideration and were urged to definite plans by the rapid action of their rivals, which threatened to irretrievably capture all transportation for many years to come and even deprive Canada of its own field of operations, the transportation of products grown on its own soil, the same being to a large degree transported in United States bottoms and on United States wheels, to the detriment of Canadian interests. Buffalo, with its sixty elevators, with its Erie Canal and network of railways centering at its gates, had no competing Canadian harbour on the lakes. The United States railroads, with their splendidly equipped terminals, were powers with which it appeared difficult to wage a successful rivalry.

The improvement of our own facilities within the quickest possible time by the expenditure of large sums of money, to put into effect the plans evolved by the skill and professional knowledge of our engineers, was the only course indicated to enable us to claim our rights and transact the volume of business per-

taining to our situation and our almost unlimited agricultural and mining resources.

The first relief granted in that direction was the assumption by the Government, in 1889, of the large amount expended by the Commissioners of the port of Montreal, for the improvement of the river between Montreal and Quebec, which had reached a total of over $3,000,000. Next came the question of providing a winter port in Canada after the close of the St. Lawrence navigation; immediately also had to be considered the formation on the great lakes at the head of our canal navigation, of a harbour giving the protection, as well as pier and elevator facilities for housing the vessels transporting cargoes, their loading, unloading, etc., prior to their entrance into the Welland Canal. The further improvement of the St. Lawrence between the port of Montreal and the sea was a matter also to be considered, as well as the improvement of elevator and wharf facilities in the harbor of Montreal.

The enlargement of our canals to a depth of 14 feet on the lock sills gave over the 7 foot navigation of the Erie Canal, an advantage which could not be utilized unless the facilities at either end of the canalized navigation rendered it possible of utilization to its highest degree. We could not on the other hand, leave such a great undertaking, representing such a large expenditure, without its being made to give all possible return for the sums expended.

While the truth of all this was becoming well recognized, and it was understood that the use of the canals was to be encouraged in every possible way, still other avenues of transportation were to be helped by the execution of works of improvement to admit of a large classs of vessels and allow of the quick handling of cargoes. In pursuance of this policy, the large ports of Canada, although not on the main route of transportation, were equipped with much rapidity,

For the past seven years, a dredge operated by the Department has been stationed at Fort William, deepening the river Kaministiquia and creating basins for allowing the most easy access to vessels receiving their cargoes from the several large grain elevators constructed at that point by the Canadian Pacific Railway Company. This work is still being carried on at the present time, but the nature of the river is such that each season sand bars are formed at its mouth by the concurrent action of the large body of lake water and the rapid discharge of the river: the material in suspension being deposited in shallower water when it meets with the almost solid wall formed by the mass of water in the lake. To prevent this, expensive jetties would require to be constructed at the mouth of the river, but the plan, although studied at various times has not assumed a definite shape, owing mostly to the estimated large expenditure connected with this undertaking.

For the purpose, however, of increasing the duration of navigation, in the latter part of the fall of the year, a powerful tug has been engaged andopnt to work to prevent, if possible, the formation of ice or break it loose, if f1rmed, on the shoals at the mouth of the river and leave the latter navigable for a onger period. It is hoped circumstauces will permit of this experiment proving successful.

At Collingwood, an important contract was entered into two years ago by the Department for the dredging of that harbour to a depth of 20 feet, and it is expected that the work will be completed during the course of next season. At Goderich, after having taken steps to put in thorough repair the breakwater which had become dilapidated, the harbour itself has been improved by dredging, so as to give to vessels a depth of 20 feet. Works of very expensive and extended nature have also been and are being executed at the harbours of Owen Sound and Meaford, on Georgian Bay, while dredging of considerable importance has been done at Midland and Kingston.

Contracts are in course of execution for improving the entrances to the harbours of Hamilton and Toronto, and a portion of the dredging fleet of the De

partment has been engaged in the improvement of minor harbours to encourage local trade or permit of extending already existing connections with United States ports.

Such is the case at Port Burwell and Port Stanley, where works of renovation and improvements have been going on for the past two or three years and are nearing completion.

It is also intended to improve the wharf facilities at Sault Ste. Marie, where existing conditions are almost revolutionized by the energy and spirit of enterprise of Mr. Clergue, whose great work in connection with the Algoma Central Railway is of a magnitude that excites wonder at the rapidity of execution, extent of interests involved and expected results.

The improvement of the Rainy River has also engaged the attention of the Department, and plans have been prepared and an initial sum of money voted for the purpose of rendering the navigation of that river easier.

Works of a very important and extended nature have also been planned to improve the navigation between Selkirk and Winnipeg, in the Province of Manitoba, by flooding what is called the St. Andrews Rapids. This is to be effected by the construction of a dam which will raise the water on the Red River 21 feet, so as to obliterate the rapids and afford continuous navigation at all stages of the water

In connection with the dam, a lock is to be built 215 feet long, 45 feet wide, with nine feet of water on the sill. The dam above referred to is to be built of concrete and to be granite-faced.

Its length will be 800 feet with moveable sections of iron and a service bridge over the piers. This improvement has been urged, for quite a period, by the persons interested in the navigation of Red River, and it has become with the people of Winnipeg one of the most important of the questions to which they have, at various times, drawn the attention of the Government. The surveys, and the plans based upon the same, were made by Mr. Arthur St. Laurent, and a contract has been awarded for the performance of the work to Messrs. Kelly Brothers, of Winnipeg, who have made a commencement and are pushing the work with celerity.

In the Yukon District, much has been done by the Department for the improvement of navigation on the water route from Bennett to Dawson. Since the beginning of the year 1899, a party of Departmental engineers, under the direction of Mr. J. C. Taché, has been at work increasing the depth of water by the contraction of the river channel by the construction of wing dams, such as that at Caribou Crossing; straightening and directing the flow of water at the head of Lake Laberge; removing rocks and constructing guide piers at the Rink and Five Finger Rapids, and generally facilitating the journey and reducing the time employed in running between the several points. The same party is still employed continuing the improvements already begun and with the appropriation of further funds, it is hoped the needed work shall all be performed in an additional season.

In the province of Quebec and in the Maritime provinces, large expenditures have also been made by the Department to improve wharf and harbour facilities; in the Gulf, attention has been given to the wants of the fishermen by constructing breakwaters for the protection of their boats and improving their landing facilities.

This hurried reference to works in sections of the country, outside of the main transportation route, shows that the Government has been on the alert to supply all the wants of trade and commerce and that the high interests of great national value, although well looked after, have not prevented the necessary help and protection being given to industries and needs which, although apparently of smaller moment, assume for the section which they concern an importance which cannot be too highly considered.

As the best method of judging of the value and urgency of works of any kind is to look at their immediate results, let us see the nature of some of the

improvements which have been rendered possible by the timely action of the Department.

At Collingwood, in addition to the 200,000 bushel elevator constructed in 1871 and rebuilt in 1890, it is intended to erect a second with a capacity of 1,000,000 bushels. It is also intended to build, in the almost immediate future, steel works of a capacity of 300 tons of finished product daily, and further to enlarge the present graving dock to a length of 445 ft., a breadth of 75 ft. and a depth of 16 feet on the sill. The export trade at this point has increased from a value of $1,387,005 in 1897 to $2,657,413 in 1900.

At Meaford the determination of the Department to construct new harbour works and to give a 20 ft. channel into the harbour has resulted in the construction of a grain elevator with a capacity of 700,000 bushels.

At Goderich the new elevator with a capacity of 500,000 bushels has handled during the past 2 years over two million bushels of grain, and the export trade has expanded from $660,903 in 1897 to $1,317,583 in 1900.

The advancement at Midland is none the less remarkable. There are now at this point two grain elevators owned respectively by the Midland Elevator Co. and the Grand Trunk Railway Co. They are respectively of 1,200,000 bus. and 413,000 bus. capacity and they have handled during the past two years the large quantity of nearly 21,500,000 bushels.

In addition to the grain elevators there have been built the Midland Smelting Works of a per diem capacity of 150 tons, having now on hand 10,000 tons of ore from the Helen Mine, Michipicoten, and 2,000 tons of magnetic ore from local mines. Four lumber mills are operated averaging an annual cut of 75,000,000 ft.

The three elevators at Kingston have during the last three years handled 35,000,000 bushels of grain, the largest quantity being that of the Montreal Transportation Co's., 26,000,000 bushels, the other elevators being those of the Kingston Elevator and Transit Co. and of Richardsons.

The dredging performed by the Department at Coteau Landing has enabled the Canada Atlantic Railway Co. to operate their grain transportation business with a facility which could not have existed but for our timely assistance. The statistics show that at Depot Harbour with an elevator of a capacity of 1,250,000 bushels, the Canada Atlantic R'y Co. has handled in 1899, 12,345,231 bushels and in 1900, 13,391,500 while at Coteau Landing the number of bushels handled by the Company was 10,985,276 in 1899 and 12,345,000 in 1900, the capacity of the elevator being 550,000 bushels.

Let us now revert to the steps taken for the improvement of navigation at the head of canal navigation and in the stretches of navigable waters, between the canalized sections and tide water at the Port of Quebec.

A reference to the distances over the principal transportation routes, from the head of the great lakes to Liverpool, shows very clearly the advantage to be gained by the use of the Canadian route, in point of time as soon as the same shall be made the most available by the creation of a suitable port at the head of canal navigation and the improvement of receiving facilities at the port of Montreal.

From Fort William to Liverpool by the United States route, comprising lake, river, canal and ocean navigation, the distance is 4,286.73 miles, while by the Canadian route the distance is only 3,834.54. From Duluth, the comparative distance is respectively 4,342.81 and 3,940.62; from Milwaukee, 4,250.92 and 3,798.73; and from Chicago 4,308.31 and 3,858.12, or in each case 452.19 miles shorter by the Canadian route than by the United States route.

The above figures are conclusive. They show more easily and clearly, than any long dissertation could establish it, the advantage to be gained by the selection of the Canadian route, should the security and facilities of the same be made equal to those of the other route.

With this end in view, and concurrent with canal improvement works at the

entrance of the Welland Canal, the Department of Public Works has awarded a contract for the construction at Port Colborne of a breakwater 5,700 feet in length, extending from Sugar Loaf Point into deep water, the said breakwater having for its object the formation of a sheltered enclosure 438 acres in extent, with (after the necessary dredging shall have been performed) 20 feet of water at lowest stage, thereby permitting the largest vessels now operating on the lakes to seek the shelter of the Canadian shore and lie under the lea of this breakwater in perfect safety under any wind from any quarter. Inside of that protected area, the shipping will find, when the plans are carried into effect, the necessary pier and elevator accommodation for loading, unloading and transhipment.

From the moment it enters the canal at Port Colborne, to that at which it will reach the port of Montreal, at the foot of the Lachine canal, a vessel going through our St. Lawrence navigation, will find throughout all the distance the minimum depth obtaining in the canals, that is to say, 14 feet, and in order to leave no work undone, to give that necessary feeling of security to the shipping, a survey and examination has been ordered, and is being carried on in that part of the St. Lawrence extending from Kingston Harbour to the head of the Cornwall Canal. Furthermore, it can be added that throughout this line of navigation, good harbours of refuge can be found at convenient points which vessels can enter and where they can be in safety, when detained by stress of weather.

At the Port of Montreal, great improvements are also under way for the purpose of accommodating the large volume of increasing business which will come to this natural outlet of the national transportation route of Canada. Up to last year the wharfs, constructed by and under the superintendence of the Harbour Commission, have been of the type known as low level wharfs, that is to say, being under water during the winter and at the periods of floods in the spring, thus necessitating the removal of the storage sheds and other accommodation given to shipping during the season of navigation. The Commission has, however, with the approval of the Minister of Public Works, adopted the principle of high level piers and has commenced their construction, which is being carried on with great rapidity.

Montreal, as regards the improvement of its harbour, has stood, compared to the other public harbours of the Dominion, excepting Quebec and St. John, in a conspicuously unique position.

Up to the present year not one cent of public money has been expended on works of improvement in the harbour, the works executed being defrayed out of the revenues as regards the repairs and maintenance, and out of the proceeds of debentures, issued by the Commission and authorized by the Government, as regards the works of construction. As the works decided on by the Commission, and approved by the Government, are proceeded with, periodical statements are sent to this Department showing the extent and the value of the work done, and upon the deposit of debentures the amount required is advanced to the Commissioners upon the payment of interest and sinking fund, as regulated by the various Acts authorizing such advances. In that manner, the Harbour Commissioners of Montreal have executed their various improvements out of their own funds, and have necessarily been compelled to impose such wharfage and other rates as would bring sufficient revenue to enable them to meet the demands made upon them. It is true that they have received the cooperation of the city of Montreal, but such cooperation is only given as a proportion for the execution of works for the protection of the city against floods.

In 1887, a commission composed of the Chief Engineer of the Department of Public Works, the Chief Engineer of the Commission, the City Surveyor and Mr. T. C. Keefer, was appointed to report upon the means best adapted to protect the city against the disastrous floods which had for years previous afflicted it on the departure of the ice in the spring, and, at the same time, to suggest plans for

the further improvement of the harbour. Several plans were laid before the Commission, but, in 1887, they finally decided upon a scheme designed to meet the dual requirement of flood protection and harbour improvement, such scheme being known as plan No. 6 and being formally approved of by the Federal Government. The present guard pier, extending from Victoria Bridge down stream, a distance of 7,150 feet, was one of the principal features of the plan. Dredging in the upper end of the harbour was also carried on with vigour, but while these works were carried on, it was soon found that further works of a different nature would require to be executed. The selection of suitable plans was the subject of prolonged discussion and continued careful research, not only on the part of the Commission but of the engineers of this Department: the relative merit and advisability of low and high level wharfs being one of the principal features of the controversy. Many were the interviews that took place with the Commission and the interested commercial bodies, and many were the plans suggested. Finally, in 1898, a plan which seemed to unite all contending opinions and which was known as plan No. 12 A 2, sanctioning the principle of high level wharfs, was adopted with the approval of the Privy Council, and work was begun in accordance therewith and is now vigourously carried on. This plan provides for the construction of three high level wharfs from 825 to 1,000 feet long, 300 ft. wide, with intervening basins 555 feet wide.

When completed all the possible accommodation shall have been provided in the upper section of the harbour.

The wharf improvement having been successfully disposed of, the question of elevator construction was the next which demanded consideration and was taken up in the most vigourous manner. To companies or corporations presenting proper guaranties, free location was offered by the Commission at a very convenient place at the Windmill Pt. Basin, in the upper part of the harbour, but this proposal, although of vital importance to the interests of Montreal, was also the subject of much difference of opinion and consequent delay.

As in the matter of plan 12*a* 2, the Minister of Public Works took, in this matter of elevators, an interest which was wide awake and which never flagged for one moment. Many interviews were had by him with the Commission, and both in his speeches and in the several articles he wrote on the question, he urged the necessity of coming to an early conclusion. The rapid advance of Buffalo with regard to improvement of harbour facilities and elevator equipment; the vast volume of trade diverted to other channels, although its proper route was through Canadian waters; the great advantages to be derived in the future by the country at large, and the many other aspects of a case as urgent as it was important were laid before the public by him on all possible occasions. He had made a careful and complete study of the conditions obtaining in other harbours enjoying the bulk of the western trade, and he proved conclusively that the advantages were ours if we were only on the alert and prepared for the emergency. Delay would be fatal.

The Harbour Commissioners became imbued with the same spirit, and a large deputation was sent early in 1899 to visit the principal ports of the United States, view their commercial facilities and equipment and evolve out of the information so gathered an acceptable and useful scheme.

The result of all these negociations was the contract made with what is known as the Connors Syndicate. By the month of August next, this association of capitalists has undertaken, with the Commission, to construct one steel elevator with a capacity of 3,000,000 bushels, as well as storage warehouses for an additional 3,000,000

With the execution of the works comprised in the plan known as 12*a* 2, the completion of the dredging and of the guard pier, the construction of these elevators will equip, as far as necessary, the section of the harbour it is intended to accomodate to the needs of trade and commerce. The difficult exit of the

harbour, at what is known at St. Mary's current, being made easier by proper dredging will perfect the scheme.

This was not, however, deemed sufficient: such works as above referred to would possibly suit the present needs, but what about those of the almost immediate future?

There was no more room for new works and additional accommodation in the upper and central part of the harbour, but what were not the possibilities of what is called the eastern section, extending from below St. Mary's current down to Longue Pointe, and farther, if necessary? Here the question of considering Montreal as a national harbour was brought forward; the absence of any direct contribution by the state to its improvement was again made the subject of strong representations, and under the flood of light which former discussions and study had thrown upon the question of transportation and consequent necessity of further equipment, Parliament granted a sum of money sufficient to begin immediately the construction of important works in that section of the harbour. Plans were prepared after careful surveys, and in July last a contract was entered into with Messrs. Poupore & Malone for the construction of a high level wharf situate midway between the two level ones constructed some years ago by the Harbour Commissioners. This pier is to be built of concrete on timber cribwork foundation. It is to be 1,000 feet long on the upper or western face and 850 feet on the opposite face, and is to have a width on top (at coping level) of 270 feet.

Its top, when completed, will stand 23 feet above extreme low water level, and the depth along its face will be 30 feet at the same stage of water.

The contract also includes the construction of two bulkheads, respectively, 478 and 422 feet long of an even width of 150 feet including embankments up to the high level of 23 feet of the main wharf.

The work in question is however only the beginning of a much more comprehensive scheme which will be developed, as the needs of commerce require further extension.

From Montreal eastward lie 140 miles of river navigation before reaching the tidal harbour of Quebec, forming what is commonly called the "Ship Channel" between Montreal and Quebec.

Ever since the year 1830, when the Harbour Commissioners were constituted for the management of the Harbour of Montreal, the deepening of that channel has had to keep pace with the increase in the size of ships consequent upon the enlargement of trade and commerce between European countries and Canada.

As can be seen by the following brief notes, the growth of the harbour and the improvement of the channel have gradually followed the demands of trade. In the harbour, up to 1825, there were only two small wharfs between what is now Custom House square and the foot of Lachine Canal, with about 1,120 ft. frontage and about two feet depth of water at the lowest stage. In 1825, the wharfing was extended and placed in about 5 feet of water. Between 1830 and 1832, several of the present wharfs were built of piles with from 5 to 20 feet of water in front of them, the aggregate frontage reaching 4,590 feet. From 1840 to 1846, that frontage was extended to 7,070 feet, With the exception of two new wharfs built in 10 feet of water, in the lower part of the harbour, nothing further was done till 1856.

Dredging operations had, however, been already commenced to deepen the river below the city and were by that time sufficiently advanced to allow vessels reaching Montreal with a draught of 13 feet at ordinary low water, instead of 11 feet as before, and it was then determined to continue the deepening of the ship channel which, in 1844, it had been decided to carry down to a depth of 16 feet.

From a depth of 16 feet, the enlargement was carried to 20 feet in 1867, then to 22 feet at the close of 1878, to 25 feet in October 1882, and ultimately to 27½ feet, and it is evident to the Department that this latter depth will not long be

sufficient for the enormous ships which are now built for the carrying trade, and which will require greater depth accommodation.

The deepening of the channel to 27½ feet has been proceeded with since 1883, and that depth can now be found, under normal conditions, when the water is at its ordinary stage.

In 1895, however, during the lowest stage of the water, in the month of October and November, it was found that the water had become so low that during a few weeks of those months, the normal depth of 27½ feet was not found at a few points, the water showing during the two last weeks of October and November an average depth of 26 feet 6 inches. There was also a small reduction in the depth of water in 1897, 1898 and 1899, but this time for a shorter period, i. e., only one week in October, when the depth was less than 27 feet. In the season just closed the water has maintained a fairly uniform level, the lowest depth observed in the channel having been 27.3 and that for only a short period, the observations since 1895 showing the following average :—

Year	May	June	July	Aug.	Sept.	Oct.	Nov.
1896	33.6	30.6	28.9	28.0	27.6	27.9	29.0
1897	33.6	32.6	30.3	29.3	28.0	27.0	27.6
1898	31.6	30.9	29.8	28.6	28.2	28.3	28.6
1899	36.0	31.9	30.3	28.6	27.6	28.0	27.9
1900	33.6	30.9	30.6	29.6	28.1	28.9	

These observations show that during nearly the whole of the season of navigation, that is to say, up to the beginning of October the depth of water is always in excess of the standard depth of 27½ and that during the years following 1896, the water level was practically at no period below the standard depth.

It must however be borne in mind that the assistance of the tide is given to navigation as far as Three Rivers and that when the depth of water is reported from Sorel or Montreal, or shown by the semaphores, advantage can be taken of the tide in exceptional years, such as 1895, in order to pass over the parts of the channel affected by it.

In the present state of the channel, as shown by the depths recorded, with proper care and proper handling of vessels by the person in charge, one may say that the navigation at 27½ feet is safe for any vessels not loading beyond that draught.

The extraordinary low water of 1895 will not, we hope, occur again, but as it was due to circumstances outside of the control of the Department, and as there might possibly be a recurrence of the same stage of water, the Department has taken steps to refer the depth of the channel to that extraordinary low water instead of, as originally, to the ordinary low level of the fall season, and for that purpose, since 1895, dredges of the department have been at work widening the sharp curves of the channel, deepening at points where the depth was not at the standard required and doing all possible to give the necessary security to the large ocean steamers navigating the St. Lawrence.

During the season of 1898 and since, each year, upon your orders, the channel has been tested and swept, from the month of June to the month of September, in a regular manner with a plant under the immediate charge of Mr. F. W. Cowie, an engineer of this department ; a lookout being kept at the same time for any displacement of the buoys marking the channel, and whenever obstructions were met, a dredge was immediately, upon the obstruction being found, put at work to remove the same.

The dredges under the control of the department, and operating in the ship channel during the year under review, were the "Laurier," the "Laval," the "Lady Aberdeen," the "Lady Minto" and dredges No. 8 and No. 11.

These dredges have, during the season of 1899 and 1900 worked at the followlng points :

Ile Ste-Thérèse	width	450	feet	depth,	29.0	length 0.3 M
Varennes to Cap St. Michel....	"	"	"	"	"	3.0 "
Cap St. Michel to Ile Bellegarde	"	500	"	"	"	1.4 "
Ile Bellegarde to Verchères....	"	450	"	"	"	2.0 "
Ile au Bœuf.....	"	"	"	"	"	0.3 "
Ile de Grace channel.....	"	"	"	"	"	1.7 "
Stone Island.....	"	600	"	"	"	0.5 "
Champlain & Pointe Citrouille..	"	"	27½	"	"	"
Cap Santé.....	"	500	"	"	"	0.2 "
Ste. Croix.....	"	"	"			0.3 "
Total length of dredging completed in 1899 and 1900....						10.7 "

It may be here observed that the depth above given is reduced to extreme low water which is 2.40 feet lower that the old datum of the 27½ foot channel.

With reference to further details that may be required to give a more complete idea of the improvement of this channel during the past two years, I may be permitted to quote from a memorandum submitted by the Acting Chief Engineer, Mr. Lafleur, upon this point :

" Since the opening of the 27½ foot channel in 1888, almost the whole of " the dredged portion of the river, except through Lake St. Peter, has been gone " over. The bottom has been scraped and deepened, many curves and narrow " places have been widened ; and in tide water below Cap Charles, shoals have " been dredged to avoid the necessity of waiting for the tide.

" The low water of 1895 and 1897, and the increase in the size of vessels, " called for a wider and deeper channel, and larger and more powerful dredges " and plant were required.

" In 1899 the dredging plant in operation and under construction was in a " position to warrant the commencement of a more extensive plan of operations.

"The new elevator dredges of large type, with their tugs and plant had " proved their efficiency. Two powerful steel dredges, the result of long " experience in design and practice with their tugs &c. were almost completed " and two more, to complete the six required, were authorized. With the dredg- " ing fleet, repair shops &c., settled, and having in view the faults of the old " channel, the type of vessels in use, and the urgency of work capable of " immediate utility, the question of type of channel to give the best results was " carefully considered."

"The old channel depth was 27½ ft. at low water of ordinary years, but " it was possible this depth could not always be relied on, and future fluctuations " of water level might even be worse."

"The lowest water on record in the 27½ foot channel was 25 feet 10 inches, " on November 1st 1895. The level adopted for extreme low water was there- " fore assumed to be 10 inches lower, or at a river level that would give 25 feet " in the old ship channel."

"As almost all accidents in the channel have been the result of vessels " stricking the edge of the bank, whether from pilots' negligence, defect in " stearing-gear or otherwise, it was decided to make the new channel as wide as " could be dredged in one cut, and to straighten curves and lengthen tangents as " much as economical considerations would permit."

" It was considered advisable to undertake the section from the limits of " Montreal Harbour down the Batiscan, where the tide could be utilized ; a " distance of less than 100 miles, on which distance there would be about " 50 miles of dredging to be done."

" In 1899 the new proposition was commenced. In general this proposition " may be stated to be the making of a channel, from the limits of Montreal Har- " bour down to tide water, 400 to 500 feet wide and 29 feet deep at extreme " low water, together with a possible anchorage basin in Lake St. Peter."

" During 1899 a commencement only was made, but during the present season " with four new dredges working day and night, and two old dredges, a splendid " result has been obtained."

" Of the estimated 50 miles of dredging more than 10 miles are already " completed."

" The fifth new dredge is expected to be ready some time next year, and the " 6th in 1902. With equal success, and operations conducted with the same " vigour, it is expected that this proposition will be completed in 5 or at most 6 " more seasons."

" In the mean time, although the shallowest place will govern the draught, " the wider, straighter and deeper channel, will be safer and more easy of " navigation."

" Any one cognizant of the recent difficulties of navigation of the old channel " at Varennes, Verchères and Three Rivers, need only ask the pilots and naviga- " ting officers of ships in reference to the relief already given at these places during " the last two years, both as to the safety and speed possible. As each locality " is completed the same relief will be given until the full depth is ready for " utilization."

" The present ship channel between Montreal and Quebec has a minimum " width of 300 feet, with the bends, all, 450 feet and wider."

With reference to the length of time necessary to complete the further deepening of the channel in accordance with the policy outlined in the Acting Chief Engineer's memorandum, it must be borne in mind that the period in question is entirely in direct relation to the class of dredging machinery to be employed. If to the powerful six dredges which will, as above stated, comprise the fleet of the Department, a hydraulic dredge were to be added for work on Lake St. Peter, the deepening and widening of the channel in that sheet of water could be performed in much less time. These powerful machines, with a capacity of 2,000 cubic yards of dredging per hour, could remove with ease, during at most three seasons, the estimated 10,000,000 to 12,000,000 cubic yards of material required to be taken out to give a channel 400 feet wide and 29 feet deep, and could afterwards be utilized for dredging other parts of the St. Lawrence such as for instance the shoal opposite Ile aux Grues below Quebec. A type of such hydraulic dredge is now at work in the port of New York, U. S. That dredge is served by ten scows of a capacity of 2,500 cubic yards, each, of dredged material, and they have to be towed 20 miles to sea to the dumping ground. On a special test, one of those scows was filled in 40 minutes.

From the "Engineering" of 15th and 29th Dec. 1899, are taken the following extracts in reference to the enormous capacity of this style of dredge, which will show what progress is being made in this branch of river and harbour improvement work.

In order to more easily form an opinion concerning the relative value of the ordinary elevator and those hydraulic dredges one must bear in mind that the estimated work of one of the best type of our dredges, now employed on the St Lawrence in about the same material would produce an average of probably 9,000 cubic yards per day :—

" The dredge Beta, is the pioneer of high-powered dredges, and was built by " Mr. Linden W. Bates for the American Government. The output contracted " for was 1,600 cubic yards, and her official tests reached the almost incredible " record of 7,800 cubic yards an hour."

" It was immediately recognized by the engineering world that the " Beta " " was the pioneer of a new order ; that she brought to the work a power which

"must revolutionize old systems: that improvements in waterways hitherto im-
"practicable from magnitude and cost were made commercially possible.

"Among the first to avail themselves of the American experience were the "Russians. They invited Mr. Bates, in the winter of 1897, to make a study of "the Volga and report upon the applicability of his system to its needs. As a "result the Government decided to apply his methods for some hundreds of "miles of river.

"The Engineering Department of Russia therefore favoured an order for a "duplicate of the "Beta", the machine which had already given her record on "the Mississippi."

"Trials of the Russian dredge—

"All parts of the dredge were subjected to searching trials prior to the de-
"parture of the plant for St. Petersbourg.

"One set of tests for one half the dredge was conducted in a basin of about "40 acres at Drygoten, Belgium, on a testing ground provided by the Belgian "Government; the other was conducted at Steendorp on a bar of the river "Scheldt, about 10 miles above Antwerp. Unofficial trial No. 1 at Drygoten was "for the purpose of ascertaining the precision with which a given stratum could "be taken, and it was found possible by raising and lowering the cutters to take "a stratum of any required thickness, up to seven feet. The dredge advanced at "a speed proportioned to the depth, fast for a shallow excavation, more slowly "for a deep one. One test for an average cutting of 2 feet 4 inches resulted as "follows:—

Distance run	1,200 feet
Time	76 minutes
Advance per minute	17.78 feet
Average cut	2.38 feet
Rate per hour	2,590 cubic yards.

"The material was fine compact sand and clay. This had been formerly "farm land below the plane of cultivation; the cultivated surface had been pre-
"viously removed for the construction of levees.

"Two weeks later the first official trial was made in a cut parrallel to the "former, with steam at high pressure and more pump revolutions, and a crew "which had become familiar with the mechanism. In this trial the result was "as follows:—

Distance run	1,000 feet
Time	37½ minutes
Advance per minute	28.8 feet
Average cut	2.44 feet
Rate per hour	4,524 cubic yards.

"The material in this cut was favourable, half of it being a loose sand, the "other half a compacted sand and mixed clay.

"The trials of the other half of the dredge were conducted on a large bar at "Steendorp, composed of very fine sand; some cuts were along hard-packed "material, others in material relatively loose. None of the material on the "Scheldt is of so favourable a character as the coarse, looser sand met with in "the cross-over bars of the Volga or Mississipi rivers. Preliminary to the "official trial two prolonged tests were made at Steendorp to determinate meth-
"ods of sounding and measurement. The first test showed:

An average rate of advance per minute	10.13 feet.
Average cut	5.66 "
Rate per hour	3,824 cubic yards.

" In another place the result was :

Advance per minute	9.09	feet.
Average cut	4.62	"
Rate per hour	2,803	cubic yards.

" It was observed that on account of the hardness of the face, the cutters " were not powered sufficiently high to supply the full carrying capacity of the " pumps. The second official test, conducted at Steendorp, resulted as follows :

Distance run	2,129	feet.
Time	180	minutes.
Advance per minute	11.83	feet.
Average cut	3.52	"
Rate per hour	2,860	cubic yards.

" The material was fine compact sand. All tests were conducted with 700 " feet of discharge pipe. All measurements were in excavation, and to deter- " mine the capacity upwards of 5,500 soundings were taken. The Mississippi " measurements were barge measurements, and to make comparison with the " maximum capacity rate achieved by the Beta, it is necessary to double the " official test No 1, 4,524 cubic yards (of the half dredger), and add 15 per cent, " or 10,404 cubic yards, which is 30 per cent higher than any previous record. " At the termination of the trials it was officially considered that each half of the " dredge could be rated without exageration as having an hourly capacity of " 2,700 cubic metres, about 5,500 cubic yards ; or a total capacity for the whole " plant of 7,000 cubic yards per hour. It was also demonstrated that working " on a cross-over bar, with a current velocity of 3 to 4 knots per hour, the " dredge could be manœuvred with facility with but one line, (a head), thus " doing away with half a dozen lines heretofore necessary for holding and man- " œuvering. As the machine is self-propelling and self-controlling in the current, " the electric features manifestly have added enormously to the effective use of " the dredge, and have minimised all possible interference with or from com- " merce."

The great capacity of that dredging machine shows how much more rapidly the work required to be done in the Lake St. Peter portion of the channel can be performed. The additional expense incurred would soon be recouped by increased rapidity in the performance of the work and the consequent earlier delivery to shipping of an enlarged channel. It is true that the expense connected with the purchase of one of those improved machines, may at first appear to be somewhat large, but when maintenance is considered, the comparative cost is greatly reduced and is not, as a matter of fact, higher, if as high, than the ordinary elevator dredge now used.

In connection with the necessary expenditure for the quick prosecution of this work, I may quote the remarks made in the report of 1898, which are still absolutely appropriate to the present moment :

" I do not think that I need make any lengthy reference to the necessity " and urgency of carrying on the work on the St. Lawrence with as great rapidity " as possible. The whole of Canada is interested in the performance of this " work. Everybody recognizes that it must be thoroughly and quickly done, " and I have no doubt that any efforts from the department, tending to procure " better and more secure accommodation for the oceanic trade, would be met " with hearty support by all who have at heart the advancement of the country. " Already the grain carrying trade has looked to the Canadian route as an outlet " for the transportation of the products of the Great West. Elevators are being " constructed at various points on the route, and with the improvement of facil- " ities in the Harbour of Montreal, the Canadian route should become the " favorite, and should receive all the encouragement which it deserves."

The above conclude the short review I have thought advisable to make of the works performed and intended to be performed, in order to permit of useful and successful competition by us in the transportation of products from the West. The creation of a protection harbour at the head of canal navigation; a canal system giving 14 feet of water; a national harbour at Montreal fully equiped with wharf and elevator accommodation; the channel to tide water at Quebec deepened at all stages of water; these will give a transportation route which will, with the difference of 452 miles in its favour, successfully compete with that passing through the United States, and will give that additional impetus to commercial enterprise which, alone, will make of Canada a great and rich country, and of Montreal in particular one of the most important shipping ports of Northern America.

Already the importance of our route for through shipment appears to have been recognized by our neighbours across the line, to such an extent that four United-States steamships, the "Monskaven," "Leafield," "Theano" and "Paliki," each of over 900 tons burthen have come, only a month ago, from Ohio U. S. through the Canadian canals on their way to the European ports of Bristol, Swansea, Newport and Cardiff respectively, and it is further announced that other ships of greater size are being built expressly for the transportation of the products of the West direct to Europe by way of Canadian canals, one having been launched at Chicago, on the 29th December, her length being 242 feet and her capacity 2,500 tons.

In addition to the all important question of transportation another subject is now occupying the minds of persons having an interest in the prolongation of the season of navigation on the St. Lawrence, I mean winter navigation. The question is not a new one, and occupied the attention of the Department and of the Harbour Commissioners as far back as November 1886, when an Order in Council was passed authorizing the expenditure of $2,000 for fitting two powerful tugs for ice breaking purposes. No practical result appears to have been obtained as the attempt was not renewed.

The almost marvellous work of the Russian ice breaking steamer "Ermack" and its successful experience in the very thick ice of the Baltic Sea, has revived the interest in this question which has been brought more closely to the attention of the business men of Montreal by the conferences had with their representative bodies by Captain Inman, of Duluth.

Some details in reference to that remarkable ship and its work in the Baltic sea may not be out of place in this report and may be found of some interest:—

The "Ermack" was built in 1898 by W. G. Armstrong, Withworth & Company at Walker-on-Tyne for the government of Russia. She is a quadruple screw boat, three screws at stern and one at the bow. She has 48 water-tight compartments, 8 sets of engines, double ended return tube boiler and nickel steel propeller blades. At her trial on the 18th February 1899, she developed a speed of 16¼ knots with 12,000 h. p. She was designed by Admiral Makaroff for the purpose of keeping open the northern ports of Russia during the winter season.

A report of her trial work in the ice is taken from the "Engineering" of the 31st March, 1899.

"Admiral Makaroff first met the ice in the Baltic. It was drift ice, apparently about 5 ft thick, and judging by the report of Mr. Cluston, of Newcastle, who accompanied Admiral Makaroff on his voyage, there seems to have been not the slightest difficulty in getting the "Ermack" through this obstruction, as she went comparatively easy at 9 knots, the engines working slowly. Before going into the ice the vessel had been slowed down to 10 knots, so as to reserve the powers of the engine room staff for the harder work which was to come

"The worst piece of ice which was encountered was estimated at 25 feet thick, and the ship went nearly through this formidable obstruction before she

" was brought up by it. Accurate measurements were taken, as far as possible, " and the report reads that the field ice was 5 feet in thickness, the pack on the " top was 9 feet and there was ice below the field amounting to 11 feet, so far as " it could be measured, but may have been more as there was no means of " measuring a greater distance below the bottom of the field. It was evident " that a large mass of ice had been washed off a shoal place and had frozen on to " the field.

" The worst field ice that they had much of was apparently 4 feet thick, with " snow on the top of it. The snow seems to be the greatest impediment to the vessel's " progress, as the designers of the ship had always been led to expect. " Mr. Cluston reports that 12 in: of snow is a serious impediment and 18 in: " almost blocks her; this is, of course, on the top of thick field ice. The ice gener- " ally in the Baltic appears to have been much more serious this winter than was " expected, and it is said to be beyond 1883, which we gather was a record " winter. The "Ermack" did not run continuously, but rested at night and " started early in the morning, working with searchlight. There was apparently " no difficulty in starting, although the ship had become fast in the ice. Ice " anchors were put out and the vessel was warped backwards from her " berth, after which she started apparently without difficulty. One of the most " satisfactory features is that she steers, as Mr. Cluston says, "in any way, at " any time, in any ice." This has never been the case with any ice-breakers " that have previously been built, and is no doubt due to the form of the ship. " As already stated, there is no flat place in her side, either vertically or horizon- " tally, so that unless absolutely frozen in solid she can be given some " movement, and can thus be worked loose by her own propellers and by " ice-anchors laid out. Her arrival at Cronstadt was evidently an extraordinary " sight. The ice was about 18 in: thick with a good deal of snow on the top, and " the ship steamed through this at 6½ knots up to the sea wall and past the " battle ships. She swung round on the port hand and entered the harbour " through an entrance only 95 ft. wide; the ship, it will be remembered, is 71 ft " beam. She swung once on the inside harbour and one charge astern put her into " her berth along side the coal store. Some manœuvring trials were made in ice " of about 2 ft. to 3 ft. in thickness, when the turning circle was found to be " about 600 ft. and there was apparently very little difference in which direction " the ship was turned. The effect of the bow propeller was most marked, and it " seems practically to be that if the bow propeller be stopped, the ship stops too."

" Mr. Cluston examined the ship both inside and outside as far as he could, " and could find absolutely no signs of weakness. The outer skin is polished " bright where the vessel had been running through the ice, but there are no " signs of leakage anywhere. The ice varied enormously in quality. Drift ice " was passed through and appeared to offer practically no impediment. Pieces " described as being quite 2 to 3 acres in extent were apparently pushed aside, " the ship moving through quite easily. Pack ice with 18 in: of snow on the top " appears to have been the greatest difficulty. Field ice of about 18 in: to 2 ft. " seems to cause very little trouble, as the speed of 7 and 8 knots seems to have " been comparatively easily maintained In places such as that in which the " very thick ice described as of 25 ft. in thickness was found, it consisting of " very thick pack ice into which the ship had to charge, progress seems to have " been not more than about 3 knots and sometimes even less. She arrived in " Revel on Saturday afternoon having left Cronstadt on the previous Wednesday " afternoon, so that she was three days on the journey. The ice was found to " be 20 ft thick, and nine frozen in steamers were released. These vessels were " conveyed out to sea by the "Ermack," and she was put about to bring into " port others which were apparently lying outside the ice."

On a report lately submitted on the question to the Harbour Commission of Montreal, Mr. John Kennedy, their Chief Engineer, treats at length of the pos-

sibility of successful work being done and considers it of importance that an effort be made in that direction. He instances the keeping open of the winter ferry at Quebec by the skillful use of steamers of moderate power at the proper time and place, and states his belief that the ice blockades can in like manner be prevented or if formed, be broken up before attaining great strength.

I take the liberty of quoting one of the most important parts of Mr. Kennedy's report :—

" It is well known that the Cap Rouge ice jam is the last point of obstruction " to the clearing away of the ice above Quebec in spring, and navigation up to " Montreal is sometimes seriously delayed by its holding on to a late date. The " average date of the opening of navigation at Montreal by the river steamers, " which winter above Cap Rouge is, for the last twenty-five years, April 19th, " but the average date of the first arrivals from sea is retarded until April 30th. " Allowing a day for ships to come from Quebec to Montreal leaves ten days' " average delay in the opening of navigation from sea which may be fairly con- " sidered as caused by the holding on of the Cap Rouge ice jam."

" An ice-breaking boat of the power of the " Stanley " could by occasional " work at proper times, easily eliminate this delay. By additional work she could " keep open all winter the channel up to the lower end of Lake St. Peter ; " and the same, or a more powerful boat, by more constant work and skill which " would be gained by experience, would not only keep open the navigation chan- " nel through to Montreal, but, as was pointed out by the Montreal Flood Com- " mission in 1887, it would, by breaking up the ice at proper places and times, " prevent the formation of heavy ice jams, and thereby prevent the disastrous " winter floods, of which they are the primary cause."

As the above had not yet been officially communicated to the Department, at the time of writing this report, it is not deemed advisable to express, at present, an opinion upon the feasibility of the proposed scheme. Suffice it to say that should any experiments, that may be made, have successful and promising results, even if the navigation only be lengthened instead of being opened throughout the winter, such an improvement would be another advantage to our Canadian Route and be an additional token of the success of Canada's efforts in the direction of transportation through its own natural channels.

These notes would hardly cover the required ground if a mention were not made of the works of improvement carried on at Sorel, Three Rivers, Quebec and St. John, N.B. the latter especially equipped for use as a winter port in connection with the Intercolonial and Canadian Pacific Railways.

At Sorel tenders have just been received for the construction of a pier of large dimensions with 16 ft. water at extreme low water upon which the Quebec Southern Railway propose to erect a large grain elevator, as well as storage sheds for general merchandise, This Quebec Southern Railway is to be operated in conjunction with the Rutland Railway which intends to inaugurate a through service from Sorel to Boston and New York. The Quebec Southern will be used from Sorel to Noyan, Que., then the " Inland Route " will be utilized through Lake Champlain to Burlington, Vt. the Rutland to Bellows Falls and the Fitchburg and Boston and Albany to Boston. Great expectations are based upon this new route which will open an additional outlet for Canadian products.

At Three Rivers, the Harbour Commissioners out of the proceeds of debentures, issued by them, are increasing their wharf accommodation by constructing a further length of wharfing to close the gap between the western end of their present wharf and that of the Richelieu and Ontario Navigation Company. When completed the wharfs under the control of this Commission shall have a total frontage of 2 000 feet with a minimum depth of 30 feet of water. Since 1897-98 the Harbour Commission has expended in wharf improvement the sum of $80,000,00. The revenues of this harbour are growing steadily, under careful management, and the number of vessels seeking accommodation at this port is increasing year by

year. That number which was 49 in 1897, and 43 in 1898 grew to 91 in 1899 and in the year 1900 the wharf accommodation was insufficient for the demand.

At Quebec great progress has also been made in the improvement of the harbour. I need not comment upon the great facilities offered by this unrivalled harbour, its great depth of water, excellent anchorage, the great accommodation given by Louise Docks and the relief to distressed shipping afforded by the commodious graving dock constructed on the Levis side of the river St. Lawrence It may be proper to state here that this fine graving dock which had up to a year ago a length of 484 feet, has been enlarged so that its full length is now 600 feet, its width, 62 feet, remaining however the same. This work of lengthening the dock has just been completed.

During the past three years the Harbour Commissioners of Quebec have bent all their energies towards the gradual improvement of their already extensive wharf facilities. In 1898 the extension of what is called the Pointe-à-Carcy wharf was begun and was completed at the end of the present season (1900). The enlarged section of this wharf fronting on the St. Lawrence has a length of 350 feet, with a depth at low water of 50 feet, while the Custom House front has a length of 300 feet and a depth of 30 feet at low water.

In addition to this, 3,600 feet of railway track were laid on the wharfs, the breakwater was raised 3 feet as well as the South Quay wall of the dock; a coal wharf was built, as well as two freight sheds respectively 324 feet long by 38 feet wide, and 452 feet long by 80 feet wide. With the help of the Department, dredging was also performed for the foundation of the new extension as well as for the filling in, etc., the total expenditure during those three years for construction works having been $252,426.03.

Mention should also be made of the construction, during the past season, by the Great Northern Railway, under the approved guarantee of the Harbour Commissioners, of a large grain elevator to accommodate the traffic of the railway. This large building, with a capacity of one million bushels, was constructed in a remarkably short time, and its service was inaugurated in the course of last autumn by the steamship "Albanian" of the Leyland line.

The number of vessels which arrived at the port of Quebec last season was 269, representing a total of 656,325 tons.

At St. John, N.B., the expenditure in the harbour has been jointly made by the city authorities and the Department, the greater part, however, having been borne by the city, the co-operation of the Department extending only to the operation of the dredge "Cape Breton".

For the last few years up to and including 1900, the total civic expenditure for the harbour improvements may be said to have been $571,000 exclusive of the subsidies granted by the corporation to the Canadian Pacific Railway Company.

Broadly speaking, wharfs giving five deep water berths for ocean steamers together with the necessary warehouses, were provided by this expenditure.

This harbour was conferred upon the corporation by the Crown by charter dated 18th May 1785.

The revenue of the harbour for 1899, which may be taken as the present average, amounted to $33,196, to which may be added $4,000.00 rentals of fisheries.

The expenditure by the Department in dredging for the enlargement of the entrance, the deepening of berth at Sand Point and removal of shoal between deep water of the harbour and I. C. R. terminus long wharf, has amounted in 1899 and 1900 to the total of $12,500.00.

During the same years a careful survey of the harbour was made by E. T. P. Shewen with a view to future improvement and deepening and the plans and report of said survey are nearly completed.

The above does not naturally contain any reference to any part of the extensive work performed by the Department of Railways & Canals for the improvement of the I. C. R. terminus, details of which may be found in the report of that Department.

At the mouth of the harbour is Partridge Island on which is established the Government Quarantine Station. The increasing number of steamers, &c., making St. John their port of call, especially during the winter, after the close of navigation in the St. Lawrence, has necessitated the further improvement of the quarantine facilities, a work of much importance, the cost of which is defrayed by this Department.

SURVEYS.

Quite an important part of the work of the Department consists in the preliminary surveys for the execution of works for which, afterwards, specifications and plans are prepared, thus permitting of contracts being awarded, or else of examinations being made after the execution of the works with a view to their proper maintenance to the required standard.

A number of those surveys have been executed during the past year, under the direction of the Chief Engineer, by his various assistants in Canada, but the most important to which I desire here to call attention are the survey of the French River and the hydraulic survey of the River St. Lawrence between Montreal and Quebec.

Representations have been made to the department to the effect that a very important addition to the transportation routes of this country would be made if French River, from Georgian Bay to Lake Nipissing were made navigable for large lake transportation craft. Quite a large proportion of the grain carried from north western Canada by the Canadian Pacific Ry., and stored in the elevators at Fort William, is delivered to whomsoever will transport it, beyond the small quantity that is carried by the steamers of the Canadian Pacific Ry., plying between Port William and Owen Sound. Owing to the physical condition of the route on the northern side of Lake Superior, the transportation of grain cannot be carried on with the necessary degree of cheapness, and the bulk of the Canadian Pacific Ry., transportation to Fort William evident y finds its way to Buffalo and thus to New York, the physical condition of the New York Central enabling that company to haul two or three times as many cars to a train as either the Grand Trunk or the Canadian Pacific could do over the greater part of the Georgian Bay lines.

It has been considered that the opening of a new route for grain transportation with its ultimate terminus at Montreal, and the additional advantages of permitting the further construction of elevators for the storage of grain for distribution during the winter months, would not in any way diminish the advantages or receipts of other Canadian transportation routes, as this new one would be principally fed out of what at the present goes through American channels.

Under those circumstances, the Minister has decided to examine the stretch of the French River between Georgian Bay and Lake Nipissing, a distance of about 50 miles, and a party of engineers has been despatched to make this examination.

Already a cursory survey has been made and enough information has been obtained to show that the scheme is a feasible one, and that in its execution no unsurmountable difficulty will be encountered. The survey now being carried on by the Department will more closely determine the technical features of the work and the estimated cost of its execution.

The second survey to which I have referred at the opening of this paragraph, is the hydraulic survey of the River St. Lawrence. This examination was begun by the Department in 1896, and is being carried on, at present, with a special

staff of engineers. The object of this survey is to ascertain and map out the exact depths that are now being found in the River St. Lawrence between Montreal and Pointe Platon, in order to establish not only the work which has been executed with a view of providing a 27½ foot channel throughout, but to determine the amount of work which may be required in some places to attain an increased depth of 30 feet and a possible increased width from the actual 300 feet. The operations of the survey have required most minute instrumental measurements and accurate soundings, the greater part of the latter having been taken during the winter season, when greater accuracy could be obtained, and the most dangerous portions more fully covered.

The survey has now reached Champlain, below Three Rivers and will be pushed with every degree of rapidity to completion.

When the charts of that survey are completed and delivered to the public, they will form a most valuable addition to the collection of charts of the River St Lawrence and will certainly give the latest and most accurate description of the depth of water to be found not only in the improved channel, but in the whole section of the river.

TELEGRAPHIC COMMUNICATION.

The first telegraph system in Canada was established between Quebec and Toronto in 1847.

Now in 1900 there are 35,057 miles of lines of which 18,286 are in the hands of the Great North Western Telegraph Company, 8,886 are operated by the Canadian Pacific Railway Co., 2,912 by the Western Union Co., and 4,973 are controlled by the Government. This alone represents about 85,000 miles of wire and over 2,700 offices.

The Government lines may be subdivided into 4,711 miles of land lines and 262 miles of cables, the division into the several provinces being as foltows :—

	Land Lines.	Cables.	Total.
Newfoundland	14 miles	.... miles.	14 miles.
Nova Scotia	230 "	26 "	256 "
New Brunswick	76 "	11 "	87 "
Quebec	1446 "	214 "	1660 "
Ontario	24 "	11 "	35 "
North-West Territories	698 "	.. . "	698 "
British Columbia	691 "	.... "	691 "
British and Yukon District	1533 "	.... "	1533 "
Grand Total	4711 miles.	262 miles.	4973 miles.

With the exception of the Yukon telegraphs and the extension on the coast towards Belle-Ile, the lines included in the Canadian Government Telegraph Service were almost all established and equipped between the years 1880 and 1882, the length of the cables laid being in December 1882, 152 miles and that of land lines constructed, 2,566 miles.

The Government telegraph service was established in 1880, under the superintendence of the late F. N. Gisborne.

Simultaneously with the acquisition of the British Columbia lines, from the Western Union Telegraph Co., in 1880, the lines on the north shore of the St. Lawrence, from Murray Bay to the Gulf, those on Anticosti and Magdalen Islands, as well as the sections in Cape Breton, on Campo Bello and Grand Manan Islands, were constructed. At that period also were laid the cables between Anticosti Island and the Mainland of Gaspé and from Cape Breton to the Magdalen Islands.

This coast telegraph and cable service only become a *fait accompli* after long and careful study, extending over a period of five years. The first step towards its establishment was taken in 1876, when a committee of the House of Com-

mons was appointed to examine into the best means of giving such telegraphic connection. It was, however, only in 1880 that the requisite sum of $200,000 was granted. Foremost among the advocates of this useful work was the Hon. P. Fortin, then member for Gaspé, who had for a number of years been commandant of the fishery protection schooner "La Canadienne."

He strongly and urgently pressed the necessity of utilizing electric telegraphs for the purpose of signalling vessels navigating the St. Lawrence and for giving the required information at different points on the coast during the fishing season.

It must be said that the initial step in the construction of the St. Lawrence coast telegraph was due to his persitent initiative. At that date, however, the telegraph line was only constructed on the north of the St. Lawrence as far as Bersimis, but in subsequent years, further sums were granted until the system was extended as far as Pointe aux Esquimaux, about 500 miles from Murray Bay.

It was nevertheless soon understood that the telegraphic communication so afforded, at large expense, would not be complete and would not entirely fill the object had in view by its pioneers, were not the line extended so as to reach the first land generally seen by steamers coming from Europe and seeking entrance into Canadian waters. The necessity had been brought to the attention of the Minister of Public Works of the time by Hon. Mr. Fortin, in a letter which he wrote in November 1881, and the course which he advocated then has since fairly been followed, with the exception that he proposed the extension in question by means of sub-marine cables, crossing from point to point of the many bays, with which the north coast of the St. Lawrence is dotted, to Beile Isle.

At the direction of the present Minister, however and before any step was taken, a survey was ordered to be made in order to ascertain whether a land line could not be as expeditiously and as cheaply constructed, and the result was the decision of the Department to select a land line in preference to the laying of cables, the latter mode of communication being much more expensive, especially as regards its maintenance, and requiring for the repairs more skillful and expert labour than the repairing of land lines.

Three years ago, contracts were given for the supply of poles and for the construction of a portion of the 325 miles, forming the distance between Pointe aux Esquimaux and Baie du Chateau, it being from this latter point that the cable to the light-house at Belle Isle is to be laid. Year by year the line has been built, and it is now expected that by the middle of next summer the whole length shall be completed. The cable required to be laid between the mainland and Belle Isle has been purchased, but the unfortunate loss of our cable ship "Newfield" has prevented us from attempting to lay the same during last fall. The necessary preparations are however, made, and as soon as the required vessel shall be provided, this last length of most important telegraphic communication shall be laid. Practically, navigation between Europe and Canada will be reduced to 3 days, the oceanic distance being reckoned from land to land, and most passengers consider the oceanic passage at an end when they are able to receive news from the outside world and are again placed in instant communication with it. This will be effected when boats will be able to receive and send telegraphic despaches at Belle Isle, that is to say, 2 days before they are now able to be signalled after their entrance in the Gulf.

There is however one danger to be feared, in connection with the constancy of the telegraphic service, and this is the possible action of the icebergs upon the cable. It is well known that those enormous masses very often ground in very deep water, and it can be easily understood that their immense weight, when set again in motion, creates such a force that no human power is apparently able to resist it. The Minister will kindly remember that, in this connection, I have frequently recommended that an experiment be made with the system of wireless

telegraphy. It is now a well known and well established fact that communications, by that system, are sent and received over distances theoretically assumed to be as great as 80 miles. Whether, in practice, communication over that distance would be constantly successful, is a question perhaps not yet absolutely settled, but there is no doubt whatever, from the number of experiments which have been made, of the successful working of the apparatus for a distance of say from 30 to 40 miles. The distance across the Strait from Bay du Chateau to Belle Isle is only 22 miles, and I would therefore strongly advise that steps be taken at once to to establish of a wireless telegraph station at Baie du Chateau, so that should ice-the Department will have the alternative use of the cable and the wireless telegraph bergs, etc., ever interfere with the working of the cable.

This very important part of the Department's work having been well put under way, it was not long before our attention was called to the necessity for telegraphic work at the very opposite extreme of the country. Since the discovery of gold in the Yukon "Eldorado," in the years 1895-96 and 1897, the rush of gold seekers from all parts of the old world as well as from the United States and Canada, rendered necessary the establishment, by the Government, of a branch of the administration at the capital of the Yukon District, for the purpose of administering justice and protecting in a proper manner the lives and property of the persons operating in those distant regions. In 1898, the Minister ordered the Chief Engineer of the Department to proceed to the Yukon, by what was then thought to be the most suitable and best way of reaching that district, that is to say, by way of the Stickeen River to Telegraph Creek, thence to the head of Teslin Lake and the Yukon River, to Dawson City.

The main object of the visit of the Chief Engineer, it may be stated, was in connection with the improvements that were required for navigation, but he was also instructed to look into the feasibility of the construction of telegraphs by the best and most available route. On his return, however, the Department found that the route most used and which would probably become that which all miners would follow, was that from Vancouver to Skaguay and from that point over the White Pass, to Lake Bennett, and following the River Yukon, to Dawson. The necessity for the construction of a telegraph line becoming more and more apparent, it was thought that one or the other of the companies having obtained charters for such purpose would undertake, without delay, the construction of the so much needed line. At last, when no move was being made and when, with the extraordinary increase in the number of persons going northward, necessity for quicker communication between the administration at Dawson and the central power at Ottawa became more imperative, the Minister of Public Works decided, with the sanction of Council, to undertake the construction of a telegraph line which would shorten the existing distance between Dawson and the eastern world by as many days as possible. Mr. J. B. Charleson, a trusted officer of this Department and one having acquired large experience when in the employment of the Government of Quebec, was selected by the Minister to conduct the operations, and he was instructed to give telegraphic communication between Skaguay and Dawson within the least possible time, the instructions issued to him naming the 15th November as the latest period at which the line should be completed. The country to be traversed was not, at that time, very well known. It is true that several of the surveyors of the Department of Interior had been in those northern regions, but the nature of the work they had to do was not such that they could supply the information required for the construction of a telegraph line, where every foot of the country had to be gone over and its particularities well known, both as regards the construction and the future maintenance of such a line.

On the 11th March 1899, the construction staff started on its journey, and on the 28th of the succeeding month, construction work was commenced at Bennett, the White Pass Railway having partially constructed its line to that point and having its telegraph line in operation, ready for the transfer of business from

our own when completed. In the remarkably short period of six months, the 650 miles of telegraph line were completed, and on the 28th day of September, a telegram was sent by Mr. Charleson from Dawson, and was received in Ottawa four days after its having been despatched, thereby shortening the usual time taken for the receipt of news from that distant country by nearly 21 days.

It must be here explained that the four days were practically taken by the fast boat plying between Vancouver and Skaguay.

The rapidity in the construction was the cause of much favorable comment at the time and Major General A. W. Greely, chief of the United States Signal Corps, a very competent judge in such matters, expressed his surprise at the unprecedented short time in which the work in question was performed, and he has given the highest enconium to Mr. Charleson for the expeditious and most successful manner in which the work was so satisfactorily performed.

This construction, however, was only a link of what the Government considered necessary to unite the Yukon Country with the rest of the world. A four days navigation during summer, which increases to seven or eight days during winter, caused too long a delay for modern wants, and while the line from Bennett to Dawson was being constructed, Parliament was granting the necessary money to connect it over all Canandian territory with the northern terminus of the Government telegraph lines in British Columbia, at Quesnelle. The lines of the Canadian Pacific Railway Company's Telegraph are connected at Ashcroft with a section of the Government line running northwards, 225 miles, to the point above named, Quesnelle. From there, it was decided that further construction would be extended until it would reach a point on the newly built Yukon telegraph. Before returning from the construction of the Bennett-Dawson line, Mr. Charleson had been instructed to construct a further length southwards of 70 miles from Caribou Crossing to the town of Atlin, situate in the district of that name, in British Columbia, which was already becoming famed for the gold discoveries that had been made. The objective point to be reached from Quesnelle was therefore the town of Atlin, the distance being roughly estimated at 900 miles. The success which had met the efforts of Mr. Charleson the year before, being a guarantee that he would also be as fortunate in this further work, prompted the Minister to entrust him with the same, and at the beginning of 1900, he again started for the field of his labours.

Greater difficulties, both in transportation and construction, were to be met with on this new work. The shortness of the season of navigation of the rivers Stickeen and Skeena, by which part of the supplies were to be transported, and the high cost of freight which had to be sent by way of Ashcroft over land to Quesnelle, were matters which required quick decision in order that the enterprise might be successfully carried out, Work was commenced at both ends, namely:—from Atlin southwards, and from Quesnelle northwards, the line running by way of Hazelton, on the Skeena River, to Telegraph Creek, on the Stickeen, thence to Atlin.

At the end of the season Mr. Charleson was in a position to report the line nearly completed, with the exception of a gap estimated at between 30 and 40 miles from a point on the Cheweiax river to another near the confluence of the Iskoot and Ningunsaw rivers. Pending full completion it is the intention of the Department to establish relays by means of dog trains during the month of January, 1901, the distance to be covered in one day and two nights, so that it will be possible to send messages from any point in Canada to Dawson and receive the answer therefrom in less than two days, while, on the other hand, we may state without fear of contradiction, that by the month of June or July, at the very latest, the line in question shall be absolutely completed.

The Department of Public Works has, therefore, during the past four years, undertaken and carried to successful completion the construction of nearly 2,000 miles of telegraph in, for the most part, unknown country under difficulties of all

kinds, which the officers in charge have easily overcome, and where the construction, under adverse circumstances, has been successfully completed without any mishap.

I believe this work is one for which the department has earned a great meed of praise, the more so as it has been done without ostentation, in a very quiet manner, so much so that probably a large number of people are yet unacquainted with the work performed, its nature and difficulties and the great advantages to result from its execution.

While those great works of construction were going on, the maintenance of the existing lines and their renewal when necessary, were carried on with the means placed at the disposal of the Department, and through its carefulness, the most remote parts of the country, where the probable volume of business could not warrant any profitable compensation in undertaking the required work, were brought into close contact with the balance of the business and commercial world at large.

The Department cannot of course look to any adequate pecuniary return for the sums expended. It had to do the work in the interest of the country and, as I have just stated, in sections where no commensurate return for the expenditure could be hoped for. The line from Bennet to Dawson, however has been a happy exception to the general rule, and the returns show that a very large proportion of the receipts has gone into the Treasury in excess of the expenditure required for maintenance.

I will here close the reference I have thought advisable to make to the work of this Department, both as regards transportation routes and lines of electric communication.

I hope, nevertheless, that incomplete as they may be, they will serve to show the great work completed in a relatively short period. These various undertakings, performed under the active and inspiriting direction of the Minister, could not, however, have been satisfactorily carried to a successful issue but for the hearty cooperation of the several officers of the Department, each one in his particular sphere helping towards the success of the general work. I believe that there is great cause for congratulation, and I cannot give too much praise to the chief officials who had immediate charge of those works and their assistants for the active support which they have given me in carrying out the orders given by the Minister.

A cursory statement of the business performed will show the extraordinary increase of the Department during the past few years. For instance, in 1891, when I became Deputy Minister, the amount placed at the disposal of the Department for expenditure, was $3,260.000.co while for the year 1900-1901, this amount has reached the figure of $6,200,000.00, that is to say nearly twice as much.

In the year 1891, the number of payment cheques issued by the Department was 5.600, while in the year 1899 that number was 14,540, and in 1900, 24,620, a most extraordinary increase. The number of different works alone under the charge of the Chief Engineer was, during the last fiscal year, over 800, while the Chief Architect had to see to the maintenance of nearly 250 buildings and prepare plans and specifications for the construction of from 10 to 15 new ones including two important buildings at Dawson City, the post office and Court House, the former being occupied during the last days of December. This shows a great increase in the work of the Department, while on the other hand, the accounts show that this work is performed with a staff very little larger than it was 10 years ago and with an expenditure so small comparatively as to appear out of all proportion with the amount of work executed.

I have the honour to be, Sir,

Your obedient servant,

A. GOBEIL,

Deputy Minister.

PART II.

STATEMENTS OF EXPENDITURE

DURING

FISCAL YEAR ENDED JUNE 30, 1900.

PART II.—1899-1900

STATEMENT A.—Showing the Amounts Expended by the Department of Public Works of Canada, during the fiscal year ended June 30, 1900.

Name of Work.	Construction and Improvements.	Repairs and Furniture	Staff and Maintenance.	Total.
PUBLIC BUILDINGS	$ cts.	$ cts.	$ cts	$ cts.
Nova Scotia.				
Amherst post office		23 82		23 82
Annapolis "		402 17		402 17
Antigonish "		159 60		159 60
Arichat "		3 00		3 00
Baddeck "		108 38		108 38
Dartmouth "		20 50		20 50
Digby P.O. custom house, etc	3,120 16			3,120 16
Halifax Appraisers' office		151 56		151 56
" Assistant Receiver-General's office		14 45		14 45
" Dominion Building		1,265 47	52 77	1,318 24
" Drill Hall	14,839 82			14,839 82
" Immigration building		560 21		560 21
" New Public Building	24,048 52			24,048 52
" Quarantine Station on Lawlor's Island	7,608 50			7,608 50
Kentville post office	10,478 80			10,478 80
Liverpool " etc	12,011 58			12,011 58
Lunenburg " etc	34 29	68 06		102 35
Nappan Experimental Farm	307 63	168 86		476 49
New Glasgow post office		26 09		26 09
North Sydney "		338 34		338 34
Pictou custom house		39 80		39 80
Pictou post office		54 30		54 30
Sydney "	210 00	60 02		270 02
Truro "	1,822 44	305 21		2,127 65
Windsor drill hall	1,386 99			1,386 99
" post office	3,459 02	12 00		3,471 02
Yarmouth post office		209 50		209 50
Heating, lighting, water, etc., for all buildings in Nova Scotia (for details, see page 23)			19,706 70	19,706 70
Totals for Nova Scotia	79,327 75	3,991 34	19,759 47	103,078 56
Prince Edward Island.				
Charlottetown Dominion building		1,761 51		1,761 51
" Queen's square ground, 1897-98			500 00	500 00
Montague post office		18 18		18 18
Summerside post office		46 85		46 85
Heating, lighting, water, etc., for all buildings in Prince Edward Island (for details, see page 23)			4,524 26	4,524 26
Totals for Prince Edward Island		1,826 52	5,024 26	6,850 78

PART II.—STATEMENT A.—EXPENDITURE—*Continued.*

Name of Work.	Construction and Improvements.	Repairs and Furniture	Staff and Maintenance.	Total.
PUBLIC BUILDINGS—*Continued.*	$ cts.	$ cts.	$ cts.	$ cts.
New Brunswick.				
Bathurst post office	295 00	84 40		379 40
Carleton, St. John, post office		61 61		61 61
Chatham new bonded warehouse	1 60			1 60
" post office		31 16		31 16
Dalhousie "		1,318 00		1,318 00
Fredericton " etc		166 17		166 17
Marysville "	53 80			53 80
Moncton "		51 83		51 83
Newcastle		13 50		13 50
Portland (St. John) post office		33 60		33 60
St. John custom house		2,396 03		2,396 03
" post office		1,391 09		1,391 09
" Quarantine station, improvement	19,593 43			19,593 43
" Savings' Bank		3 25		3 25
Tracadie Lazaretto (out building)	1,237 11	298 55		1,535 66
St. Stephen's post office, etc		111 98		111 98
Sussex "	1,813 25	104 10		1,917 35
Woodstock "		63 40		63 40
Heating, lighting, water, etc., for all buildings in New Brunswick (for details, see page 23)			20,659 03	20,659 03
Totals, New Brunswick	22,994 19	6,128 67	20,659 03	49,781 89
Quebec.				
Aylmer post office		782 07		782 07
Berthierville post office		400 96		400 96
Buckingham Public Building	80 00			80 00
Coaticook post office		64 40		64 40
Dundee custom house		4 00		4 00
Drummondville post office, etc		45 00		45 00
Farnham post office	350 00	77 52		427 52
Grosse Isle Quarantine station	12,801 72	2,992 55		15,794 27
Hull post office	1,184 87	48 95		1,233 82
Joliette post office		176 48		176 48
Lachine "		627 31		627 31
Laprairie "		71 45		71 45
Montreal custom house		2,488 48		2,488 48
" examining warehouse	74 00	2,094 86		2,168 86
" exam. warehouse, power for elevator			91 21	91 21
" inland revenue office		862 01		862 01
" post office		19,546 09		19,546 09
" " power for elevator			3,044 59	3,044 59
" assistant receiver general's office		325 00		325 00
" Lachine Canal custom house		99 30		99 30
" St Henri post office		589 54		589 54
" St. Lawrence street post office		11 25		11 25
" generally		247 36		247 36
Quebec brigade office		82 20		82 20
" citadel, Governor-General's quarters		5,781 29		5,781 29
" clerk of works office		77 50		77 50
" cullers' office		236 47		236 47
" examining warehouse		1,856 08		1,856 08
" custom house		3,047 44		3,047 44
Carried forward	14,490 59	42,635 56	3,135 80	60,261 95

PART II.—STATEMENT A.—EXPENDITURE—*Continued.*

Name of Work.	Construction and Improvements.	Repairs and Furniture	Staff and Maintenance.	Total.
PUBLIC BUILDINGS—*Continued.*	$ cts.	$ cts.	$ cts.	$ cts.
Brought forward	14,490 59	42,635 56	3,135 80	60,266 95
Quebec—Continued.				
Quebec Dominion public buildings		10 61		10 61
" immigrant building, Louise embankment		1,913 87		1,913 87
" observatory		624 46		624 46
" post office		8,055 99	52 64	8,108 63
" Queen's wharf building		2,787 38		2,787 38
Richmond		443 26		443 26
Rimonski		17 00		17 00
Rivière du Loup (Fraserville) post office		96 40		281 40
Sherbrooke post office		562 54		1,392 54
Sorel "	185 00	814 00		814 00
St. Hyacinthe "	830 00	233 04		233 04
St. Jérôme "		74 36		74 36
St. John's "		66 58		66 58
St. Lin "		203 00		203 00
St. Roch post office		32 25		32 25
St. Thomas de Montmagny post office		111 30		111 30
Three Rivers custom house		108 38		108 38
" dairy exhibit building	873 63			873 63
" post office		1,134 49		1,134 49
Valleyfield "		3 80		3 80
Victoriaville public building	3,908 25			3,908 25
Heating, lighting, water, &c. for all buildings in Quebec (for details see page 24)			46,443 06	46,443 06
Totals, Quebec	20,287 47	59,928 27	49,631 50	129,847 24
Ontario.				
Alexandria Reformatory	1,233 05			1,233 05
Almonte post office		8 75		8 75
Amherstburg custom house		6 00		6 00
" post office	1,038 08	147 45		1,185 53
Arnprior "	3,450 10	149 79		3,599 89
Barrie "		2 50		2 50
Berlin "		630 49		630 49
Belleville "		392 76		392 76
Brampton "		67 10		67 10
Brantford "		316 88		316 88
Brockville "		107 85		107 85
" drill hall	290 43			290 43
Carleton Place post office		6 75		6 75
Cayuga "		94 80		94 80
Chatham "		1,587 30		1,587 30
Cornwall "		111 25		111 25
Dundas "		20 50		20 50
Galt "		566 15		566 15
Gananoque "		76 04		76 04
Goderich "		35 30		35 30
Guelph "		145 06		145 06
Hamilton "	1,151 00	772 20		1,923 20
Ingersoll "	10,081 41			10,081 41
Kingston custom house		677 54		677 54
Carried forward	17,244 07	5,862 46		23,106 53

PART II.—STATEMENT A.—EXPENDITURE.—*Continued*

Name of Work.	Construction and Improvements.	Repairs and Furniture	Staff and Maintenance.	Total.
PUBLIC BUILDINGS—*Continued.*	$ cts.	$ cts.	$ cts.	$ cts.
Brought forward	17,244 07	5,862 46		23,106 53
Ontario—Continued.				
Kingston drill hall	39,975 27			39,975 27
" graving dock office		178 45		178 45
" post office		790 37		790 37
Lindsay "		73 40		73 40
London drill hall and armoury site	5,010 45			5,010 45
" post office	4,000 00	1,437 05		5,437 05
" custom house		2,547 53		2,547 53
Milbrook Ry St. post office		1 00		1 00
Napanee post office		100 75		100 75
Newmarket "		9 25		9 25
Niagara Falls "		54 09		54 09
Orangeville "	477 08	382 37		859 45
Orillia "		108 55		108 55
Ottawa parliamentary and departmental buildings :				
Parliament buildings and library, renewing wiring		6,416 36		6,416 36
West block, reconstruction after fire, including new furniture	17,099 61			17,099 61
East block, new elevator	2,955 61			2,955 61
Langevin block, balance original construction.	29,165 81			29,165 81
" " improvement, steel shelving, etc	24,742 07			24,742 07
Generally, balance, electric light, wiring, etc..	21,628 40			21,628 40
" repairs and furniture		111,834 09		111,834 09
" power for running elevators, etc			533 00	533 00
" telephone service			4,951 31	4,951 31
Ottawa parliament grounds :—				
Maintenance of grounds			5,099 29	5,099 29
Removal of snow			979 00	979 00
Major's Hill park, fence wall	875 00			875 00
" " maintenance			2,624 03	2,624 03
Experimental farm "	10,763 35	1,157 10		11,920 45
National Art Gallery	1,000 00	374 53		1,374 53
New militia stores	4,342 66			4,342 66
Post office, etc., new boiler	1,515 80			1,515 80
Supreme Court	1,160 26			1,160 26
Rideau Hall, new wing	19,273 22			19,273 22
Rideau Hall, repairs and furniture		15,324 40		15,324 40
Rideau Hall, grounds, $2,780.38; watchman, $547.50; snow, $589.51; fuel and light, $8,000			11,917 39	11,917 39
Picton post office	29 25			29 25
Pembroke "		30 00		30 00
Peterboro' custom house		54 17		54 17
" post office		218 56		218 56
Petrolea "	150 13	33 75		183 88
Port Arthur "		171 73		171 73
" " Immigration building		85 82		85 82
Port Colborne "		17 80		17 80
Port Hope "		255 45		255 45
Prescott custom house		52 61		52 61
Carried forward	201,408 04	147,571 64	26,604 02	375,083 70

PART II.—STATEMENT A.—EXPENDITURE—*Continued.*

Name of Work.	Construction and Improvements.	Repairs and Furniture	Staff and Maintenance.	Total.
	$ cts.	$ cts.	$ cts.	$ cts.
PUBLIC BUILDINGS—*Continued.*				
Brought forward	201 408 04	147,571 64	26,104 04	375,083 70
Ontario—Concluded.				
Prescott post office		207 80		207 80
Rat Portage "	12 028 46	16 50		12,044 96
Sarnia "	8,596 70			8,596 70
Smith's Falls		17 62		17 62
Stratford " etc.		106 25		106 25
Strathroy "		103 80		103 80
St. Catharines drill hall	18 00			18 00
" post office	165 00	905 25		1,070 25
St. Thomas "	631 29	748 31		1,379 60
Toronto "		6,309 10		6,309 10
" post office, Union Station		1,056 57		1,056 57
" " custom house		125 10		125 10
" " gas inspectors office		34 00		34 00
Trenton post office		39 00		39 00
Walkerton "		38 63		38 63
Windsor drill hall	29 76			29 76
" post office		2,365 30		2,365 30
Woodstock post office	10 515 31			10,515 31
Heating, lighting, water, etc., for all buildings in Ontario (for details see page 25)			158,325 72	158,325 72
Totals, Ontario	233,392 56	159,644 87	184,429 74	577,467 17
Manitoba.				
Brandon post office		269 55		269 55
" experimental farm	431 87	222 53		654 40
Dauphin Dominion lands office		3 25		3 25
" immigration building		2 25		2 25
Portage La Prairie post office		52 93		52 93
Selkirk immigration building		29 35		29 35
Winnipeg clerk of works office		163 80		163 80
" custom house	450 00	325 68		775 68
" Dominion lands		1,040 88		1,040 88
" exam. warehouse		74 20		74 20
" immigration building		579 97		579 97
" post office	663 69	3,337 40		4,001 09
Yorkton Dominion lands office		16 00		16 00
" immigration building		13 40		13 40
Heating, lighting, water, &c., for all buildings in Manitoba (for details see page 27)			15,652 25	15,652 25
Totals, Manitoba	1,545 56	6,071 19	15,652 25	23,269 00
North West Territories.				
Alameda Dominion lands office		19 25		19 25
Battleford registry office		241 00		241 00
Banff Museum		40 55		40 55
Calgary court house		561 07		561 07
" immigration building		67 50		67 50
" lands office		2 50		2 50
Carried forward		931 87		931 87

PART II.—STATEMENT A.—EXPENDITURE—*Continued.*

Name of Work.	Construction and Improvements.	Repairs and Furniture	Staff and Maintenance.	Total.
PUBLIC BUILDINGS—*Continued.*	$ cts.	$ cts.	$ cts.	$ cts.
Brought forward		931 87		931 87
North West Territories.—Continued.				
Calgary Post office		206 30		206 30
Edmonton Dominion lands office		68 30		68 30
Elkhorn school		25 95		25 95
Indian Head experimental farm	76 84	46 34		123 18
Lethbridge court house		164 75		164 75
" custom house		17 50		17 50
" post office		52 31		52 31
Macleod custom house		87 50		87 50
Medicine Hat court house	8,280 71	16 50		8,297 21
Moose Jaw "	581 15	9 50		590 65
Moosomin "		7 30		7 30
Prince Albert artesian well	1,189 50			1,189 50
" court house		355 00		355 00
" lands titles office		129 85		129 85
Regina barracks		99 33		99 33
" court house		166 78		166 78
" government house sidewalk	2,998 52	773 76		3,772 28
" immigration building		117 25		117 25
" inland revenue office		8 50		8 50
" lands titles office	10,549 00			10,549 00
" post office		85 33		85 33
" registry office		33 25		33 25
Rosthern immigration building	2,586 09			2,586 09
Strathcona " "	292 29			292 29
Wolseley court house		347 26		347 26
Heating, lighting, water, &c., for all buildings in North West Territories (for details, see page 27)			12,655 71	12,655 71
Totals, North West Territories	26,261 81	4,042 73	12,655 71	42,960 24
British Columbia				
Agassiz experimental farm	62 25			62 25
Atlin, fittings and box fronts for post office	980 88			980 88
Discovery post office		51 00		51 00
Kamloops "	221 50			221 50
Nanaimo "	275 60	672 04		947 64
Nelson public building	11,346 07			11,346 07
New Westminster engineer's office		907 34		907 34
" custom house	639 39	10 25		649 64
" public building	13,429 95			13,429 95
" temporary post office		170 62		170 62
Rossland public building	12,366 12			12,366 12
Vancouver drill hall	18,889 00			18,889 00
" exam. warehouse		51 37		51 37
" post office		1,467 67		1,467 67
Victoria custom house		1,135 87		1,135 87
" (old) custom house, fitting up, &c.		793 13		793 13
" clerk of works office		15 50		15 50
" engineers office		24 50		24 50
" immigrant shed		25 78		25 78
" marine hospital		87 66		87 66
" new post office	8,527 25			8,527 25
Carried forward	66,738 01	5,412 73		72,159 74

PART II.—STATEMENT A.—EXPENDITURE—*Continued.*

Name of Work.	Construction and Improvements.	Repairs and Furniture	Staff and Maintenance.	Total.
PUBLIC BUILDINGS.—*Continued.*	$ cts.	$ cts	$ cts.	$ cts
Brought forward	66,738 01	5,412 73		72,650 74
British Columbia—Concluded.				
Victoria new power for elevator			406 20	406 20
" old post office		1,537 88		1,537 88
Williams' Head quarantine station	1,550 12	515 30		2,065 42
Ymer post office		2 00		2 00
Heating, lighting, water, etc., for all buildings in British Columbia (for details, see page 28)			12,748 28	12,748 28
Totals, British Columbia	68,288 13	7,467 91	13,154 48	88,910 52
Yukon Territory.				
Yukon public buildings	72,439 73	13,432 05		85,871 78
Heating and lighting for Yukon buildings. (For details see page 29)			41,153 66	41,153 66
Totals, Yukon Territory	72,439 73	13,432 05	41,153 66	127,025 44
Public Buildings generally.				
Printing, stationery, instruments, travelling, etc.			13,614 58	13,614 58

PART II. - STATEMENT A.—Expenditure—*Continued.*

Name of Work.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
HARBOURS AND RIVERS.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Nova Scotia.					
Advocate Harbour		992 79			992 79
Arcadia			696 34		696 34
Barrington Passage			9 94		9 94
" Wharf			1,169 02		1,169 02
Bass Pond			600 62		600 62
Beaver River			732 70		732 70
Belliveau			1,995 04		1,995 04
Birch Hill Cove			299 88		299 88
Black Rock		500 00			500 00
Blue Rock Breakwater			391 28		391 28
Boularderie, Ross Ferry			3 96		3 96
Brooklyn wharf		1,836 47			1,836 47
Brulé wharf			1,097 73		1,097 73
Canada Creek Breakwater			1,076 93		1,076 93
Cape Cove			624 14		624 14
Chebogue River, Town Point, wharf			864 19		864 19
Cheggogin (extension to breakwater)		604 12			604 12
Cheticamp wharf			977 41		977 41
Cheverie wharf			903 27		903 27
Chipman's Brook breakwater			1,000 00		1,000 00
Church Point pier			815 08		815 08
Clark's Harbour			3,076 64		3,076 64
Coffin's Island			269 75		269 75
Cook's Cove	1,387 41				1,387 41
Cow Bay breakwater			3,409 10		3,409 10
Cribbin's Point			317 92		317 92
Digby			173 56		173 56
Devil's Island			97 13		97 13
East Chezzetcook		980 83			980 83
East Bay, North side			300 00		300 00
East Ragged Island		1,248 00			1,248 00
East Tracadie breakwater		933 22			933 22
Eatonville wharf			971 35		971 35
Englishtown wharf		3,737 95			3,737 95
Fox Island breakwater			216 16		216 16
Georgeville			109 96		109 96
Gabarus Bay breakwater		26 00			26 00
Grand Etang	3,299 90		154 34		3,454 24
Gunning Cove		1,476 43			1,476 43
Halifax Graving Dock				10,000 00	10,000 00
Halifax I. C. R'y wharfs, $2,625; whole refunded by I. C. R'y.					
Hall's Harbour		1,522 00			1,522 00
Harbour au Bouche	7,911 88				7,911 88
Harbourville		2,397 90			2,397 90
Hunt's Point		1,805 64			1,805 64
Ingonish, North Bay		3,784 84			3,784 84
Iona wharf		1,514 53			1,514 53
Jordan Bay, East			1,172 29		1,172 29
Judique, McKay's Point		6,103 00			6,103 00
L'Ardoise			1,472 12		1,472 12
Little Brook			180 75		180 75
Livingston Cove		2,746 13			2,746 13
Lockport		2,948 98			2,948 98
Carried forward	12,599 19	35,158 83	25,178 60	10,000 00	82,936 62

PART II.—STATEMENT A.—EXPENDITURE—*Continued.*

Name of Work.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
HARBOURS AND RIVERS.—*Con.*	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Brought forward	12,599 19	35,158 83	25,178 83	10,000 00	82,936 62
Nova Scotia.—Concluded.					
McNair's Cove			574 21		574 21
Malignant Cove		3,878 35			3,878 35
Margaree Island Wharf		2,000 00			2,000 00
Merigomish, Big Island		919 00			919 00
" Harbour		252 26			252 26
Meteghan (Cove) Breakwater			2,000 00		2,000 00
" River		4,200 03			4,200 03
Milton	248 71				248 71
Morden			1,553 02		1,553 02
Mill Creek			1,904 70		1,904 70
Newellton, Cape Island		1,955 92			1,955 92
New Harbour		1,308 59			1,308 59
Oyster Pond			149 75		149 75
Parker's Cove		1,177 54			1,177 54
Petit de Grat			453 59		453 59
Pictou Light (beach protection)			191 11		191 11
Pictou, Acadia Coal Co's wharf $225.00 (whole refunded by comp)					
" Bar	1,262 05				1,262 05
" Landing, $4,800.00 (whole refunded by I. C. R)					
Port George			398 50		398 50
Porter's Lake		244 25			244 25
Port Hilford		2,241 19			2,241 19
Port Hood			699 99		699 99
Port Latour		3,201 87			3,201 87
Port Maitland (Yarmouth Co.)			2,246 46		2,246 46
Port Medway			485 72		485 72
Port Mouton			1,981 57		1,981 57
Red Head, Roseway			2,098 87		2,098 87
River Hebert Village		485 00			485 00
River John		449 94			449 94
St. Ann's North River		1,526 32			1,526 32
Salmon River, Digby Co		2,400 00			2,400 00
Sanford (or Cranberry Head)		2,599 96			2,599 96
Saulnierville Wharf		399 93			399 93
Saw Pit Wharf		820 24			820 24
Seaside Wharf			3 96		3 96
Shag Harbour Wharf		1,950 93			1,950 93
Spencer's Island			859 42		859 42
Summerville			601 68		601 68
Swim's Point		199 99			199 99
Tancook Island			991 60		991 60
Tatamagouche			246 00		246 00
Trout Cove		780 00	1,748 50		2,528 50
Upper Port Latour		698 97			698 97
" Wood's Harbour		901 00			901 00
West Chezzetcook			300 00		300 00
West Berlin		1,486 83			1,486 83
Whycocomagh		669 80			669 80
Windsor Harbour		6,168 49			6,168 49
Wolfville		162 75			162 75
Carried forward	14,109 95	78,237 98	44,667 25	10,000 00	147,015 18

PART II.—STATEMENT A.—EXPENDITURE.—*Continued.*

Name of Work.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
HARBOURS AND RIVERS.—*Con.*	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Brought forward	14,109 95	78,237 98	44,667 25	10,000 00	147,015 18
Nova Scotia.—Concluded.					
Yarmouth	13,108 17				13,108 17
Yarmouth Bar		970 29			970 29
Young's Landing		795 58			795 58
Harbours generally, N. S.				1,654 25	1,654 25
Totals, Nova Scotia	27,218 12	80,003 85	44,667 25	11,654 25	163,543 47
Prince Edward Island.					
Annandale			39 93		39 93
Bay View			83 93		83 93
Brae			54 54		54 54
Canoe Cove		140 97			140 97
China Point			2,207 00		2,207 00
Chapel Pier			396 27		396 27
Charlottetown P. E. I. Ry. Wharf	2,546 78				2,546 78
" Poole's "	919 41				919 41
Clifton Pier			292 95		292 95
French River	5,194 01				5,194 01
Haggarty wharf			85 00		85 00
Higgins Shore Pier			16 50		16 50
Malpeque	4,914 04				4,914 04
Miminigash, addition to North'n B'wat'r		988 00			988 00
" works-repairs			997 87		997 87
New London			236 14		236 14
North Cardigan			308 61		308 61
Rocky Point		1,447 43			1,447 43
St. Peter's Bay			554 37		554 37
Souris, Knight's Point		4,742 27			4,742 27
Sturgeon Pier			101 75		101 75
Summerside Harbour	2,472 37	192 19			2,664 56
Tignish			2,093 82		2,093 82
West Point Pier		37 73			37 73
Harbours generally P. E. I., expenses of staff				929 41	929 41
Harbours generally, creosoted timber for minor repairs			1,800 00		1,800 00
Totals, Prince Edward, Island.	16,046 61	7,548 59	9,268 68	929 41	33,793 29
New Brunswick.					
Bay du Vin			610 04		610 04
Black Brook wharf		30 59			30 59
Buctouche			1,094 05		1,094 05
Burnt Church		1,516 00			1,516 00
Campbellton ballast wharf			1,727 84		1,727 84
Campobello (Wilson's Beach)			187 19		187 19
Cape Tormentine			7,486 18		7,486 18
Chatham custom house wharf			2,046 18		2,046 18
Clifton breakwater			6,086 92		6,086 92
Cocagne			663 46		663 46
Carried forward		1,546 59	19,901 86		21,448 45

PART II.—STATEMENT A.—EXPENDITURE—*Continued.*

Name of Work.	Dredging.	Construction and Improvements.	Repairs	Staff and Maintenance.	Total.
HARBOURS AND RIVERS.—*Con.*	$ cts.	$ cts	$ cts	$ cts.	$ cts.
Brought forward	.....	1,546 59	19,901 86	.....	21,448 45
New Brunswick.—Continued.					
Dalhousie	.....	.....	3 165 37	.....	3,165 37
Edgett's Landing	.....	.....	499 99	.....	499 99
Hopewell Cape-wharf	.....	28 87	.....	.....	28 87
" " repairs to wharf	.....	.....	409 21	.....	409 21
Jemseg	974 84	.....	.....	.....	974 84
La Tête, St-George	.....	313 65	.....	.....	313 65
L'Etang	.....	388 84	.....	.....	388 84
Main River Bridge	.....	2,448 66	.....	.....	2,448 66
Point du Chene	.....	.....	68 24	.....	68 24
Richibucto	.....	.....	3,982 27	.....	3,982 27
River St. John, including tributaries	.....	640 20	2,072 37	.....	2,712 57
" Ox Island	680 96	.....	.....	.....	680 96
" Robinsons Bar	2,861 54	.....	.....	.....	2,861 54
" Springhill	4,563 92	.....	.....	.....	4,563 92
St. John Harbour, Negro Point B'water	.....	.....	4,911 89	.....	4,911 89
" " (Fort Dufferin)	.....	.....	800 00	.....	800 00
" winter berths	7,394 09	.....	.....	.....	7,394 09
St. Nicholas River	.....	1,500 00	.....	.....	1,500 00
Salmon River (Queen's Co. Ward's shoal)	5,026 42	.....	.....	.....	5,026 42
Salmon River (Queen's Co.) Curley's shoal	4,011 80	.....	.....	.....	4,011 80
Shippegan Harbour	.....	.....	2,538 31	.....	2,538 31
" wharf at Lameque	.....	114 63	.....	.....	114 63
Tracadie	.....	.....	375 47	.....	375 47
Upper Salmon River	.....	.....	305 84	.....	305 84
Generally	.....	.....	.....	1,654 26	1,654 26
Totals, New Brunswick	25,513 57	6,981 44	39,030 82	1,654 26	73,180 09
Quebec.					
Anse à Beaufils	.....	4,910 53	.....	.....	4,910 53
Anse au Gascous (Pt. Daniel East)	.....	2,754 00	.....	.....	2,754 00
Anse St. Jean	.....	.....	501 00	.....	501 00
Baie St. Paul (Cap aux Corbeaux)	.....	10 067 20	614 99	.....	10,682 19
Beauport Wharf	.....	4,009 08	.....	.....	4 009 08
Berthier (en bas)	.....	.....	4,739 51	.....	4,739 51
Buckingham	.....	.....	160 00	.....	160 00
Cacouna	.....	5,118 94	.....	.....	5,118 94
Cap à l'Aigle	.....	.....	1,488 62	.....	1,488 62
Cap Santé	.....	821 70	.....	.....	821 70
Cap Santé Wharf	.....	4,006 24	.....	.....	4,006 24
Chicoutimi	.....	5,050 59	.....	.....	5,050 59
Coteau Landing	1,760 57	.....	.....	.....	1,760 57
Cote Ste. Catherine	.....	3,199 46	.....	.....	3,199 46
Dorval	2,630 00	.....	.....	.....	2,630 00
East Templeton	610 00	.....	.....	.....	610 00
Etang du Nord	.....	.....	400 90	.....	400 90
Gatineau River	.....	.....	92 35	.....	92 35
Graham	.....	1,125 76	.....	.....	1,125 76
Grande Rivière	.....	.....	100 00	.....	100 00
Grosse Isle	.....	.....	1,639 21	.....	1,639 21
Carried forward	5,000 57	41,063 50	9,736 58	.....	55,800 65

PART II.—STATEMENT A.—EXPENDITURE—*Continued.*

Name of Work.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
HARBOURS AND RIVERS—*Con.*	$ cts	$ cts.	$ cts.	$ cts.	$ cts.
Brought forward	5,000 57	41,063 50	9,736 58		55,800 65
Quebec—Continued.					
Iberville Wharf		2,098 94			2,098 94
Ile aux Coudres			50 09		50 09
Ile Perrot	896 00		165 81		1,061 81
Ile aux Grues, northshore		436 44			436 44
Ile Verte			500 93		500 93
Kamouraska Wharf		2,029 76			2,029 76
Knowlton Landing			714 12		714 12
Lake St. John Piers—					
Peribonka $ 118 92					
Rivière à la Pipe 2,499 06					
Generally 6 23					
St. Filician 343 07					
St. Gédéon 3,006 80					
St. Jérôme 4,999 79					
Roberval 406 79					
	200 00	10,912 50	268 22		11,380 72
Lake St. John—placing buoys—					
Ashonapmouchouan $ 68 22					
Grand Décharge 5 68					
Mistassini 3 42					
Peribonka 28 43					
Roberval Harbour 1,293 40					
	1,487 73			250 00	1,737 73
Lanoraie			884 92		884 92
Lévis Graving Dock		21,441 94		5,599 48	27,041 42
Les Eboulements			3,613 51		3,613 51
Les Ecureuils			841 73		841 73
L'Islet			1,149 99		1,149 99
Longueuil Wharf			2,017 21		2,017 21
Lotbinière	1,798 04				1,798 04
Lower St. Lawrence		608 82			608 82
Magdalen		3,409 27			3,409 27
Magog			530 07		530 07
Matane		239 70			239 70
Montreal Harb. Improvements		1,196 51			1,196 51
New Carlisle			2,000 07		2,000 07
Newport Breakwater		1,460 67			1,460 67
Nicolet	3,230 15				3,230 15
Percé		217 25			217 25
Piers below Quebec				1,682 54	1,682 54
Pointe aux Esquimaux		491 81			491 81
Pointe Claire	2,074 00			150 00	2 224 00
Pointe Claire wharf		665 25			665 25
Port au Persil			394 48		394 48
Rimonski			2,499 67		2,499 67
River Batiscan	10 00				10 00
Rivière du Lièvre	9,433 50			804 63	10,238 13
" " " lock and dam				1,579 85	1,579 85
River Cap de Chatte				1,999 08	1,999 08
" Chateaugnay	3,737 00				3,737 00
Rivière du Loup (en bas)			3,241 79		3,241 79
" " (en haut)	5,267 50				5 267 50
Carried forward	33,134 49	86,272 36	28,609 19	6,466 10	154,482 14

PART II.—STATEMENT A.—EXPENDITURE—*Continued.*

Name of Work.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
HARBOURS AND RIVERS—*Con.*	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Brought forward	33,134 49	86,272 36	28,609 19	6,466 10	154,482 14
Quebec—Concluded.					
Rivière Ouelle (St. Denis)			827 63		827 63
" au Renards			2,850 10		2,850 10
" Richelieu (Belœil channel)	2,369 41	3,073 43		154 50	5,597 34
" Ste Anne de la Pérade			24 00		24 00
" St. Francis	2,145 01				2,145 01
" St. Lawrence ship channel*	413,138 69				413,138 69
" St. Louis head gates				120 00	120 00
" St Maurice, at mouth	3,461 30				3,461 30
" St. Maurice, Grandes Piles to Latuque	2,830 00				2,830 00
St. Alexis Baie des Ha Ha		4,086 16			4,086 16
St. Alphonse (Bagotville)			599 60		599 60
St. André de Kamouraska		7,000 00			7,000 00
Ste. Anne de Belleville		2,152 00			2,152 00
Ste. Anne de Sorel, ice pier		1,009 19			1,009 19
Ste. Anne du Saguenay		1,580 14			1,580 14
St. Antoine de Tilly			305 31		305 31
Ste. Emilie de Lotbinière		299 35			299 35
St. Fulgence		1,497 81			1,497 81
Ste. Geneviève			605 73		605 73
St. Irenée	55 20	1,200 75			1,255 95
St. Jean, Ile d'Orléans			254 51		254 51
St. Johns	1,153 60				1,153 60
St. Laurent	81 82		4,092 81		4,174 63
St. Michael	6,972 22		400 84		7,373 06
St. Nicholas	1,721 56				1,721 56
St. Jean des Chaillons		1,418 48			1,418 48
St. Roch des Aulnaies		3,864 80			3,864 80
St. Timothée			801 45		801 45
Sabrevois		4,482 94			4,482 94
Saguenay River				25 00	25 00
Sillery Cove		4,077 28			4,077 28
Verdun wharf		2,353 23			2,353 23
Trois Pistoles			299 38		299 38
Valleyfield	510 00				510 00
Woburn			1,060 92		1,060 92
Yamaska	453 00		47 83	751 21	1,252 04
Generally	6,079 97			3,313 67	9,393 64
Totals, Quebec	474,086 27	124,367 92	40,779 35	16,429 96	655,663 50
Ontario.					
Amherstburg			364 95		364 95
Bayfield Harbour		3,176 72			3,176 72
Beaverton			194 77		194 77
Belleville	444 27				444 27
Bowmanville		5,013 07			5,013 07
Bruce Mines Wharf		1,939 85			1,939 85
Carried forward	444 27	10,129 64	559 72		11,133 63

* This expenditure covers improvements and repairs of plant as well as working expenses.

PART II.—STATEMENT A.—EXPENDITURE—*Continued.*

Name of Work.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
HARBOURS AND RIVERS.—*Con.*	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Brought forward.....	444 27	10,129 64	559 72	.....	11 133 63
Ontario.—Con.					
Burlington Channel and Bridge	.....	.....	1,842 41	1,868 48	3,710 89
Cobourg	548 25	.....	.....	.....	548 25
Collingwood	430 63	41,616 99	.....	.....	42,047 62
Dyer's Bay	.....	.....	63 83	.....	63 83
Goderich	10,377 04	19,740 00	3,546 27	.....	33,663 31
Hawkesbury	3,091 25	.....	.....	.....	3 091 25
Hawkstone's new wharf	.....	835 26	.....	.....	835 26
Honora Bay wharf	.....	4 00	.....	.....	4 00
Jordan	254 88	.....	.....	.....	254 88
Kaministiquia	11,148 46	.....	.....	.....	11,148 46
Keen (head of Indian River)	.....	598 55	.....	.....	598 55
Kincardine	5,982 00	.....	1,595 32	.....	7 577 32
Kingston graving dock	.....	1,947 94	.....	6,102 32	8 050 26
Kingston Harbour	4,891 90	.....	.....	.....	4,891 90
Lakes Simcoe and Couchiching	.....	.....	28 50	.....	28 50
L'Orignal	.....	.....	59 95	.....	59 95
Little Current	.....	2,099 77	.....	.....	2,099 77
Meaford	1,000 72	.....	.....	.....	1 000 72
Midland	2,311 10	.....	.....	.....	2,311 10
Newcastle	211 19	.....	.....	.....	211 19
North Bay pile wharf	.....	6,982 78	.....	.....	6,982 78
Oakville	761 87	.....	3,833 79	.....	4,595 66
Oshawa	351 51	.....	.....	.....	351 51
Otonabee River	.....	1,975 10	.....	.....	1,975 10
Owen Sound Harbour	10,897 12	.....	.....	.....	10 897 12
Picton	4,814 76	.....	.....	.....	4,814 76
Pointe Pelee Island	.....	20 24	.....	.....	20 24
Port Burwell	12,918 01	31,659 96	.....	.....	44,577 97
Port Colborne	.....	340 25	.....	.....	340 25
Port Dover	25,000 00	.....	.....	.....	25 000 00
Port Elgin	.....	833 16	.....	.....	833 16
Port Findlay	.....	1,953 25	.....	.....	1 953 25
Port Hope	1,481 61	.....	499 31	.....	1,980 92
Port Stanley	.....	13,007 43	.....	.....	13,007 43
Portsmouth	.....	2,018 20	.....	.....	2,018 20
Providence Bay	.....	254 66	.....	.....	254 66
Rainy River (Long Sault Rapids)	.....	.....	15 00	.....	15 00
Rockland	1,040 00	.....	.....	.....	1,040 00
River Thames	156 87	.....	.....	.....	156 87
Rondeau Harbour	3 989 75	.....	6,356 50	.....	10,346 25
Sarnia	1 49	.....	.....	.....	1 49
Saugeen River	3,088 00	.....	.....	.....	3,088 00
Sault Ste. Marie Wharf	.....	.....	872 25	.....	872 25
Scugog River	3,137 65	.....	.....	.....	3,137 65
Sheguindah	.....	132 80	.....	.....	132 80
Southampton	71 82	.....	199 64	.....	271 46
South Nation River	700 21	.....	.....	.....	700 21
Tobermory	.....	.....	15 75	.....	15 75
Thornbury	2,411 13	.....	.....	.....	2,411 13
Toronto Harbour	16,893 73	4,365 16	.....	.....	21 258 89
Toronto, diversion of Don	.....	41 45	.....	.....	41 45
Carried forward.....	128,407 22	140,556 59	19,488 24	7,970 80	296,422 85

PART II.—STATEMENT A.—EXPENDITURE—*Continued.*

Name of Work.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
HARBOURS AND RIVERS—*Con.*	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Brought forward	128,407 22	140,556 59	19,488 24	7,970 80	296,422 85
Ontario.—Continued.					
Whitby	2,286 82				2,286 82
Wolfe Island	1,014 40				1,014 40
Washago Falls			7 50		7 50
Generally Ont	2,320 67			6,412 45	8,733 12
Totals, Ontario	122,880 65	151,705 05	19,495 74	14,383 25	308,464 69
Manitoba.					
Gimli wharf		9,000 55			9,000 55
Harbours generally, Man				1,627 76	1,627 76
Lake Manitoba		8,122 65			8,122 65
Red River, mouth	8,032 22				8,032 22
" St. Andrews Rapids		6,501 21			6,501 21
Totals, Manitoba	8,032 22	23,624 41		1 627 76	33 284 39
North West Territories.					
Harbours, Rivers and Bridges generally				1,805 10	1,805 10
Totals, North West Terr				1,805 10	1,805 10
British Columbia.					
Columbia River, improvements above Golden	3,047 27				3,047 27
Columbia River in narrows between upper and lower Arrow Lakes		6,991 02			6,991 02
" protection of banks at Revelstoke		10,500 00			10,500 00
" removal of rocks above Revelstoke		2,449 42			2,449 42
Duncan River improvement		2,820 40			2,820 40
Esquimalt graving dock				13,262 07	13,262 07
Fraser River, protection work		24,921 00			24,921 00
" " snagging	8,716 00				8,716 00
Kootenay River below Fort Steel		2,703 37			2,703 37
Nanaimo Harbour (south channel)	9,759 99				9,759 99
Serpentine River	177 05				177 05
Skeena River		3,456 06			3,456 06
Somas River			14 00		14 00
Victoria Harbour	5,270 50		21 50		5,292 00
William's Head, quarantine station			1,652 10		1,652 10
Generally				2,360 88	2,360 88
Totals, British Columbia	26,970 81	53,931 27	1,687 60	15,622 95	98,212 63

PART II.—STATEMENT A.—EXPENDITURE—*Continued.*

Name of Work.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
HARBOURS AND RIVERS.—*Con.*	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Yukon Territory.					
Lewis and Yukon Rivers		61,750 96			61,750 96
Totals, Yukon		61,750 96			61,750 96
Harbours and Rivers generally, general expenses of staffs, &c	3,194 15			5,148 36	8,342 51

PART II.—STATEMENT A.—EXPENDITURE—*Continued.*

Name of Work.	Construction and Improvements.	Repairs and Furniture	Staff and Maintenance.	Total.
	$ cts.	$ cts	$ cts.	$ cts.
DREDGES AND DREDGING PLANT.				
Maritime provinces	5,791 54	6,999 19	.....	12,790 73
Ontario and Quebec	23,799 51	17,131 23	.....	40,930 74
Manitoba	.....	3,687 82	.....	3,687 82
British Columbia	150 00	1,985 53	.....	2,135 53
Totals, Dredges	29,741 05	28,803 77	.....	59,544 82
SLIDES AND BOOMS.				
St. Maurice district	30,393 46	13,330 02	12,957 87	56,681 35
Ottawa "	.....	.....	22,366 88	22,366 88
Ottawa River	.....	5,538 30	.....	5,538 30
Cheneaux boom, allowance to improvement Co	.....	.....	1,304 46	1,304 46
Gatineau River, Quebec	.....	755 48	.....	755 48
Coulonge "	.....	4,082 50	.....	4,082 50
Black "	.....	556 18	.....	556 18
Dumoine "	.....	231 10	.....	231 10
Madawaska, River Ont	.....	1,362 66	.....	1,362 66
Petawawa "	.....	2,017 86	.....	2,017 86
Trent (or Newcastle district) works	1,596 67	903 93	1,700 72	4,201 32
Collection of slide and boom dues	.....	.....	1,897 58	1,897 58
Totals, Slides and Booms	31,990 13	28,778 03	40,227 51	100,995 67
ROADS AND BRIDGES.				
Quebec.				
Chambly, Yule bridge, (Richelieu River)	.....	.....	172 55	172 55
Ontario.				
Des Joachims bridge (Ottawa River)	553 52	.....	.....	553 52
Ottawa, Maria street bridge	10,505 71	.....	.....	10,505 71
" Sappers' bridge	910 37	.....	.....	910 37
" Chaudière bridges, reconstruction	3,181 00	.....	.....	3,181 00
" City streets and bridges, repaired and maintained by Government	.....	7,139 79	2,823 11	9,962 90
Portage du Fort bridge	1,909 09	.....	.....	1,909 09
York bridge (Grand River)	.....	748 00	50 00	798 00
North West Territories				
Battleford bridge (Battle River)	.....	400 53	.....	400 53
Banff bridge (Spray River)	912 68	.....	.....	912 68
Calgary bridge (Bow River)	.....	647 88	.....	647 88
Edmonton bridge (Saskatchewan)	16,102 25	.....	.....	16,102 25
Macleod bridge (Old Man's River)	.....	496 50	.....	496 50
Swan River Road	2,000 00	.....	.....	2,000 00
Trail, from Edmonton toward Yukon Territory	9,386 02	.....	.....	9,386 02
Yukon Territory.				
Trails and Roads generally	102,749 01	.....	.....	102,749 01
Totals, Roads and Bridges	148,209 65	9,432 70	3,045 66	160,688 01

PART II.—STATEMENT A.—EXPENDITURE—*Continued.*

Name of Work.	Construction and Improvements.	Repairs and Furniture	Staff and Maintenance.	Total.
TELEGRAPH LINES.	$ cts.	$ cts.	$ cts.	$ cts.
Newfoundland.				
Cape Ray line (subsidy)			250 00	250 00
Nova Scotia.				
Cape Sable line			25 00	25 00
Chéticamp "	5,291 35	2,036 89	1,138 72	8,466 96
Low Point "			50 00	50 00
Meat Cove			2,090 19	2,090 19
Prince Edward Island.				
Prince Edward Island and Mainland Cable (sub.)			1,946 66	1,946 66
New Brunswick.				
Escuminac line			497 71	497 71
Bay of Fundy line			1,891 54	1,891 54
Quebec.				
Anticosti-Gaspé line			4,593 73	4,593 73
Grosse Isle quarantine line			933 92	933 92
Magdalen Island line			2,571 12	2,571 12
North shore St. Lawrence lines				
East of Bersimis	41,405 95	2,425 00	6,054 25	49,885 20
West of Bersimis			4,493 45	4,493 45
St. Flavie to Quebec	4,783 13			4,783 13
Maritime Provinces and Gulf Generally.				
General Expenses			5,227 73	5,227 73
Ontario.				
Pelee Island line		1,252 59	248 62	1,501 21
North West Territories.				
Generally			15,277 55	15,277 55
British Columbia.				
Alberni Cape Beale line	2,401 52		1,165 65	3,567 17
Ashcroft Barkerville "			3 629 36	3,629 36
Nanaimo Comox "	698 00		4,244 64	4,942 64
Kamloops Nicola "	4,301 40			4,301 40
Quesnelle Atlin "	223,044 77			223,044 77
Victoria Cape Beale "			4,494 02	4,494 02
Yukon Territory.				
Bennett-Dawson-Atlin line	157,209 34		15,639 43	172,848 77
Generally.				
Telegraph Service generally			1,196 24	1,196 24
Totals, Telegraphs	439,135 46	5,714 48	77,659 53	522,509 47

PART II.—STATEMENT A.—EXPENDITURE—*Continued.*

Name of Work	Construction and Improvements.	Repairs and Furniture	Staff and Maintenance.	Total.
MISCELLANEOUS.	$ cts	$ cts.	$ cts.	$ cts.
Statue of Her Majesty the Queen in commemoration of the Diamond Jubilee	6,000 00			6,000 00
Gratuity to Joseph Vallière, for damages received on Coulonge works			350 00	350 00
Gratuity to widow of late Emery Lafontaine, C. E			333 33	333 33
Fire of 26th April, 1900—cost of bringing fire brigades from Montreal, Brockville and Peterboro'			450 00	450 00
Surveys and Inspections			18,623 28	18,623 28
Public Works Agency, B.C			2,090 96	2,090 96
Departmental Technical Library	20 64			20 64
Temporary employees—				
Secretary and Accountant's staffs			24,999 81	24,999 81
Chief architect's staff			19,985 63	19,985 63
Chief engineer's staff			41,988 75	41,988 75
Supt. telegraph service and staff			2,899 92	2,899 92
Departmental photographer			700 00	700 00
Totals, Miscellaneous	6,020 64		112,421 68	118,442 32

PART II. - STATEMENT A.—Expenditure—*Continued*

Name of Work.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
RECAPITULATION.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Totals, Public Buildings—					
Nova Scotia		79,327 75	3,991 34	19,759 47	103,078 56
Prince Edward Island			1,826 52	5,024 26	6,850 78
New Brunswick		22,094 19	6,128 67	20,659 03	49,781 89
Quebec		20,287 47	59,928 27	49,631 50	129,847 24
Ontario		233,392 56	159,644 87	184,429 74	577,467 17
Manitoba		1,545 56	6,071 19	15,652 25	23,269 00
North-West Territories		26,261 81	4,042 72	12,655 71	42,960 24
British Columbia		68,288 13	7,467 91	13,154 48	88,910 52
Yukon Territory		72,439 73	13,432 05	41,153 66	127,025 44
Public Buildings generally				13,614 58	13,614 58
Totals, Harbours and Rivers—					
Nova Scotia	27,218 12	80,003 85	44,667 25	11,654 25	163,543 47
Prince Edward Island	16,046 61	7,548 59	9,268 68	929 41	33,793 29
New Brunswick	25,513 57	6,981 44	39,030 82	1,654 26	73,180 09
Quebec	474,086 27	124,367 92	40,779 35	16,429 96	655,663 50
Ontario	122,880 65	151,705 05	19,495 74	14,383 25	308,464 69
Manitoba	8,032 22	23,624 41		1,627 76	33,284 39
North-West Territories				1,805 10	1,805 10
British Columbia	26,970 81	53,031 27	1,687 60	15,622 95	98,212 63
Yukon Territory		61,750 96			61,750 96
Harbours and Rivers generally	3,194 15			5,148 36	8,342 51
Totals, dredges and dredging plant		29,741 05	29,803 77		59,544 82
" slides and booms		31,990 13	28,778 03	40,227 51	100,995 67
" roads and bridges		148,209 65	9,432 70	3,045 66	160,688 01
" telegraph lines		439,135 46	5,714 48	77,659 53	522,509 47
" miscellaneous		6,020 64		112,421 68	118,442 32
	703,942 40	1,689,547 62	491,191 96	678,344 36	3,563,026 34

(*End of Statement A.*)

STATEMENT B.—Showing the cost of the following services for each Public Building, viz :—

Rent ; Salaries of, and Supplies for, Caretakers, Engineers, &c. ; Heating ; Lighting ; Water ; the total for each province being carried into Statement "A."

Name of Building.	Rents.	Salaries of engineers &c	Heating.	Lighting	Water.	Total.
Nova Scotia	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Amherst post office		402 23	226 10	269 45	20 00	917 78
Annapolis "		412 97	163 72	146 96	40 00	763 65
Antigonish "		401 78	75 04	62 80	10 00	549 62
Arichat custom house			39 00			39 00
" post office		2 60	74 00			76 60
" savings bank			35 00			35 00
Baddeck post office		217 25	108 00	21 96		347 21
Dartmouth "		250 00	53 35	96 60	22 10	422 05
Halifax Asst Receiver General's Office	1,200 00			45 65	17 40	1,263 05
Halifax, Dominion building	1,968 00	13 50	505 09	2,231 80		4,718 39
" drill shed	600 00	1 50	112 10			713 60
" engineer's office	362 00					362 00
" examining wareh's.	1,000 00	405 20	140 70	53 60	38 39	1,637 94
" immigrant shed		600 00	241 30	335 74		1,177 04
Liverpool post office, &c			38 75			38 75
Lunenburg " &c		315 40	178 00	106 15	59 00	658 55
New Glasgow "		306 50	132 42	276 61	100 00	815 53
North Sydney post office		355 81	121 00	249 95	22 00	748 76
Pictou custom house		4 27	112 57	10 35		127 19
" post office		359 39	92 72	197 63	20 30	670 04
Sydney post office		358 08	121 00	137 16	15 00	631 24
Truro custom house				10 68		10 68
" examining warehouse				7 01		7 01
" post office		359 01	139 00	260 94	75 00	833 95
Windsor post office		425 79	195 32	148 43	75 00	844 54
Yarmouth " &c		399 98	264 15	561 40	72 00	1,297 53
Totals, Nova Scotia, carried to statement A, page 3	2,562 00	8,159 26	3,168 38	5,230 87	586 19	19,706 70
Prince Edward Island.						
Charlottetown Dominion B'g		1,762 04	363 80	892 23	225 00	3,243 07
" engineers office	200 00					200 00
Montague post office		164 44	55 95	13 34		233 73
Summerside "		429 85	319 15	98 46		847 46
Totals, Prince Edw. Island, carried to statement A, page 3	200 00	2,356 33	738 90	1,004 03	225 00	4,524 26
New Brunswick.						
Bathurst post office, &c		458 02	314 37	24 50		796 89
Carleton, St. John, P. O., &c		100 00	54 43	75 00		229 43
Chatham post office, &c		315 11	312 38	125 25		752 74
Dalhousie " &c		414 22	200 63	2 70		617 55
Fredericton " &c		400 00	277 01	611 79	48 00	1,336 80
Moncton " &c		400 00	188 48	264 12	134 00	986 60
Newcastle " &c		411 30	299 78	130 20		841 28
Carried forward		2,498 65	1,647 08	1,233 56	182 00	5,561 29

PART II.—STATEMENT B.—Showing the cost of the following services for each Public Building, &c. – *Continued.*

Name of Building.	Rents.	Salaries of engineers &c.	Heating.	Lighting.	Water	Total.
New Brunswick—Con.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Brought forward		2,498 65	1,647 08	1 233 56	182 00	5,561 29
Portland, St. John, post office	130 90		4 25			135 15
St John custom house	22 00	1,825 80	1,441 65	472 57	495 06	4,257 08
" post office		1,369 10	528 41	4,343 14	686 15	6,926 80
" savings bank			216 41	105 76	17 52	339 69
Tracadie, lazaretto		187 50	1,091 79			1,279 29
St. Stephen's, post office, &c.		400 00	87 18	272 70	64 00	823 88
Sussex " "		204 63	225 60	84 10		514 39
Woodstock " "		477 32	189 88	120 25	34 00	821 46
Totals, New Brunswick, carried to Statement A, page 4	152 90	6,963 00	5,432 32	6,632 08	1,478 73	20,659 03
Quebec.						
Aylmer post office		62 40	147 08	41 11	33 00	283 51
Berthierville "		8 75	88 07	13 84	11 00	121 66
Coaticook "		412 15	158 30	242 61	40 00	853 06
Dundee custom house			36 25			36 25
Hull post office, etc., (old)		285 20	250 23	222 42	92 02	849 87
" " temporary	60 00					60 00
Joliette " etc.		387 79	138 52	56 05	108 00	690 36
Lachine "		103 80	134 03	64 30	29 52	331 65
Laprairie "		53 43	129 11	32 57	40 00	255 11
Lévis immigrant building			54 90			54 90
Montreal, custom house		1,147 86	670 35	309 58	319 13	2,446 92
" public buildings, generally		1,700 00				1,700 00
" drill hall		742 50				742 50
" examining warehouse		1,896 36	2,015 23	544 56	483 67	4,939 82
" immigration office	500 00				20 37	520 37
" inland revenue office		606 70	205 50	125 82	99 91	1,037 93
" post office		4,900 03	803 95	3,932 61	702 77	10,339 36
Farnham "		14 46	64 50			78 96
" civil service exam '99	100 00					100 00
Quebec Citadel buildings		43 20	267 02	215 07		525 29
" cullers' office		540 00	179 46			719 46
" custom house		576 05	614 06	100 89	800 00	2,091 00
" engineers office	144 00					144 00
" examining warehouse		1,522 40	555 60	94 33	450 00	2,622 33
" immigrant building			321 94	12 50		334 44
" observatory					50 00	50 00
" post office		1,380 75	625 08	762 38	750 00	3,518 21
" Queen's wharf building			371 07		750 00	1,121 07
Richmond post office		263 50	303 03	151 53		718 06
Rimouski "		181 49	26 00	13 59	25 00	246 08
Carried forward	804 00	16,818 82	8,159 20	6,936 76	4,814 39	37,533 17

PART II.- STATEMENT B.—Showing the cost of the following services for each Public Building, &c.—*Continued.*

Name of Building.	Rents.	Salaries of engineers &c.	Heating.	Lighting.	Water.	Total.
Quebec.—Concluded	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Brought forward.....	804 00	16,818 82	8,159 20	6,936 76	4,814 39	37,533 17
Rivière du Loup (Fraserville) post office.....	.....	277 41	281 77	91 98	.....	651 16
Sherbrooke post office, &c..	.....	461 07	356 81	632 11	50 00	1,499 99
Sorel "	.....	457 86	328 10	355 90	250 00	1,391 86
St. Henri "	.....	1 40	158 20	75 42	29 28	264 30
St. Hyacinthe "	.....	437 68	234 49	345 33	150 00	1,167 50
St. Jérôme "	.....	75 00	187 76	192 00	57 00	511 76
St. John's "	.....	356 66	46 00	187 50	120 00	710 16
St. Lin (Laurentides).....	300 00	.....	.....	.....	.....	300 00
St. Roch post office.....	.....	.....	57 20	43 24	.....	100 44
St. Thomas de Montmagny, post office.....	.....	2 08	43 00	34 65	.....	79 73
St. Vincent de Paul p't'y....	.....	.....	120 00	.....	.....	120 00
Three Rivers custom house..	.....	322 37	303 05	93 02	84 00	802 44
" post office.....	.....	433 39	241 50	94 17	62 00	831 06
Valleyfield "	329 70	.....	56 74	43 05	.....	429 49
West Farnham "	.....	.....	1 00	50 00	10 00	61 00
Totals Quebec, carried to Statement A, page 5...	1,433 70	19,643 74	10,574 82	9,174 13	5,626 67	46,443 06
Ontario.						
Almonte, post office, &c..	.....	405 04	156 50	32 21	75 00	668 75
Amherstburg " &c....	.....	415 86	138 17	162 00	35 00	751 03
Arnprior. "	.....	412 60	205 48	157 12	25 00	800 20
Barrie "	.....	412 35	259 00	158 21	50 00	879 56
Belleville "	.....	624 06	530 70	357 76	83 25	1,595 77
Berlin "	.....	521 74	156 38	325 12	56 71	1,059 95
Brampton "	.....	411 15	137 40	131 70	31 25	711 50
Brantford "	.....	611 33	306 88	245 96	34 20	1,198 37
Brockville "	.....	410 60	304 50	472 60	170 00	1,357 70
Carleton Place "	.....	310 95	128 00	55 00	.....	493 95
Cayuga "	.....	57 45	95 94	54 38	.....	207 77
Chatham "	.....	423 14	186 43	222 60	40 00	872 17
Cobourg "	.....	400 00	178 00	176 25	45 50	799 75
Cornwall "	.....	475 00	257 00	377 45	75 00	1,184 45
Dundas "	500 00	50 00	16 75	52 00	.....	618 75
Galt "	.....	414 80	190 25	224 81	32 50	862 36
Gananoque, custom house..	.....	.....	108 60	94 00	.....	202 60
" post office.....	.....	17 07	86 47	141 00	.....	244 54
Goderich "	.....	364 00	190 64	91 80	60 00	706 44
Guelph "	.....	418 09	180 91	174 82	37 44	811 26
Hamilton drill shed.....	.....	450 00	.....	.....	.....	450 00
" post office, &c....	.....	1,634 43	844 22	869 52	1,020 30	4,368 47
Ingersoll "	.....	.....	30 00	.....	.....	30 00
Kingston custom house.....	.....	137 35	216 00	46 10	63 35	462 80
" exam. warehouse.....	.....	.....	25 50	.....	12 95	38 45
" inland revenue office.	.....	.....	.....	53 00	77 49	130 49
" military college.....	.....	1,456 50	.....	.....	.....	1,456 50
" post office	.....	108 90	215 75	398 85	48 78	772 28
Lindsay "	.....	400 00	143 31	75 00	20 00	638 31
Carried forward.....	500 00	11,342 41	5,288 78	5,149 26	2,093 72	24,374 17

PART II.—STATEMENT B.—Showing the cost of the following services for each Public Building, &c.—*Continued.*

Name of Building.	Rents.	Salaries of engineers &c.	Heating.	Lighting	Water.	Total.
Ontario.—Continued.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Brought forward	500 00	11,342 41	5,288 78	5,149 26	2,093 72	24,374 17
London custom house		1,102 83	575 16	467 97	140 00	2,285 96
" post office		722 55	506 13	1,691 05	80 00	2,999 73
Napanee post office		496 66	211 75	136 20	75 04	919 65
Niagara Falls post office, &c.		347 80	158 62	325 00	57 50	888 92
Orangeville post office		444 11	111 88	149 15	20 00	725 14
Orillia "		195 00	125 23	108 77	29 25	458 25
Ottawa experimental farm			1,055 51	69 80	102 00	1,227 31
" geological museum		744 00	727 80	240 85		1,712 65
" national art gallery and fisher. museum		540 00	106 95	6 09		653 04
" North west mounted police stores			60 45			60 45
" parliamentary and dept buildings	5 00	25,355 27	23,924 58	12,944 99	3,196 67	65,426 51
" post office		1,008 00	650 30	963 45		2,621 75
" printing bureau		3,694 15	4,592 80	797 13		9,084 08
" supreme court		1,270 28	448 88	266 83		1,985 99
Ottawa rented buildings:—						
Bank of Ottawa (Dept. Interior)				105 37		105 37
Boundary commission offices	1,100 00			51 40		1,151 40
coal shed (canal basin)	400 00					400 00
Duries Chamb. (Militia)	323 50					323 50
examining warehouse	850 00			5 55		855 55
French translator's off's	420 00		32 02	195 45		647 47
Gas inspector's office				4 95		4 95
Geolog. museum annex.	600 00					600 00
Molson's Bank (Fisheries department)	240 00			6 18		246 18
Observatory				21 67		21 67
Slater's Chamb. (model room)	2,125 00			6 39		2,131 39
Slater's Chambers (P.O. department)	45 00					45 00
Workshops and lumber yard of department public works	901 64	662 50	1,125 75	651 95		3,341 84
Pembroke post office		455 31	197 53	148 50	28 00	829 34
Peterboro' custom house		330 00	157 62	122 50	72 75	682 87
" post office		343 95	167 85	322 50	56 25	890 55
Petrolea "		448 09	151 98	38 55	37 20	675 82
Port Arthur "		354 70	154 00	100 85		609 55
Port Colborne "		275 60	31 25	100 75	10 00	417 60
Port Hope "		469 76	176 67	226 00		872 43
Prescott custom house			89 80		140 00	229 80
" post office		447 52	179 95	45 07		672 54
Rat Portage post office		64 42				64 42
Smith's Falls post office, &c.		335 50	146 80	122 20	85 00	689 50
Stratford post office, &c		734 50	321 76	183 94	65 67	1,305 87
Strathroy "		450 54	167 85	50 36	3 00	671 75
St. Catharines post office		452 01	173 52	168 05	62 70	856 28
Carried forward	7,510 14	53,087 46	41,819 17	25,994 72	6,354 75	134,766 24

PART II.—STATEMENT B.—Showing the cost of the following services for each Public Building, etc.—*Continued.*

Name of Building.	Rents.	Salaries of engineers &c.	Heating.	Lighting.	Water.	Total.
Ontario.—Concluded.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Brought forward.....	7,510 14	53,087 46	41,819 17	25,994 72	6,354 75	134,766 24
St. Thomas post office.....	.....	462 86	254 50	644 70	71 52	1,433 58
Toronto civil service examination office	47 00	.....	.....	.....	.....	47 00
Toronto custom house.....	.....	716 00	411 57	73 80	116 19	1,317 56
" Dominion Public Buildings generally.....	.....	29 69	.....	.....	.....	29 69
Toronto drill shed.....	.....	1,215 90	.....	.....	.....	1,215 90
" engineers office.....	300 00	.....	.....	.....	.....	300 00
" exam. warehouse ...	.....	4,894 98	1,037 18	59 67	101 55	6,093 38
" inland revenue office	.....	660 00	280 74	133 40	26 18	1,100 32
" post office.....	.....	2,415 73	942 77	3,133 31	333 82	6,825 63
" " Union station	871 20	.....	.....	198 65	.....	1,069 85
Trenton post office	.....	541 66	176 60	157 50	75 00	950 76
Walkerton "	.....	442 91	188 25	211 80	23 25	866 21
Windsor "	.....	837 49	430 14	936 97	96 00	2,300 60
Totals Ontario, carried to Statement A, page 7..	8,728 34	65,314 68	45,540 92	31,544 52	7,197 26	158,325 72
Manitoba.	.....	.....	.....	.....	.....	.....
Brandon Dominion lands office...	.....	47 30	.....	.....	76 00	123 30
Brandon experimental farm.	.....	.....	199 54	.....	.....	199 54
" post office, &c.....	.....	660 00	691 80	516 10	.....	1,867 90
Dauphin Dominion lands office.....	180 00	.....	99 75	.....	.....	279 75
Deloraine Dominion lands office.....	210 00	.....	.....	.....	.....	210 00
Minnedosa Dominion lands office.....	.....	.....	122 25	.....	.....	122 25
Portage LaPrairie post office.	.....	455 22	433 97	205 30	.....	1,094 49
Winnipeg custom house....	.....	280 35	735 99	300 97	101 10	1,418 41
" Dominion lands office	.....	.....	192 50	26 10	31 58	250 18
" engineers office.....	318 25	.....	.....	.....	.....	318 25
" exam. warehouse....	.....	3 45	256 50	10 35	.....	270 30
" immigrant shed.....	.....	1 50	835 00	246 52	131 62	1,214 64
" post office.....	.....	3,125 14	2,969 94	1,719 41	458 75	8,273 24
Selkirk (East.) immig. shed.	10 00	.....	.....	.....	.....	10 00
Totals Manitoba, carried to Statement A, page 7..	718 25	4,572 96	6,537 24	3,024 75	799 05	15,652 25
North West Territories.	.....	.....	.....	.....	.....	.....
Alameda Dominion lands office.	195 00	.....	.....	.....	.....	195 00
Calgary court house, &c....	.....	632 25	261 39	53 80	300 00	1,247 44
" immigrant building.	.....	.....	152 62	.....	.....	152 62
" land and reg. off ...	.....	76 10	48 90	.....	.....	125 00
" post office.....	.....	530 00	449 36	364 50	340 00	1,683 86
Brought forward.....	195 00	1,238 35	912 27	418 30	640 00	3,403 92

PART II.—STATEMENT B.—Showing the cost of the following services for each Public Building, &c.—*Continued.*

Name of Building.	Rents.	Salaries of engineers, etc,	Heating.	Lighting.	Water.	Total.
North-West Terr.—Con.	$ cts.	$ cts.	$ cts.	$ cts	$ cts	$ cts.
Brought forward	195 00	1,238 35	912 27	418 30	640 00	3,403 92
Edmonton Dominion Lands office	144 00					144 00
Edmonton immigrant shed.			5 00			5 00
" registry office		449 21	162 50	130 05		741 76
Indian head experimental farm			250 00			250 00
Lethbridge court house and custom house		486 24	124 50	18 06	60 00	688 80
Lethbridge post office		25 25	37 50	50 83		113 58
Macleod custom house			89 94			89 94
" court house	250 00	189 58	40 67			480 25
Moose Jaw court house		441 66	83 25			524 91
Moosomin court house		621 05	373 36			994 41
Prince Albert court house, etc	65 00	64 50				129 50
Prince Albert immigrant shed			10 00			10 00
Prince Albert registry office.		442 74	162 50			605 24
Red Deer Dominion Lands office	24 00		70 75			94 75
Red Deer immigrant shed	116 00					116 00
Regina clerk of works office.	90 00					90 00
" court house		463 20	812 50	72 74		1,348 44
" Dominion Lands office	600 00		106 00			706 00
" post office		439 10	274 00			713 10
" registry office	135 00	5 00	204 00			344 00
Strathcona immigrant shed.			75 60			75 60
Wolseley court house		594 00	240 06			834 06
" post office				15 65		15 65
Yorkton Dominion Lands office	136 80					136 80
Totals, N. W. T., carried to Statement A, page 8	1,755 80	5,459 88	4,034 40	705 63	700 00	12,655 71
British Columbia.						
Agassiz experimental farm.			92 47			92 47
Kamloops Dominion Lands office	150 00					150 00
Nanaimo post office		679 55	188 42	187 35	27 00	1,082 32
" officers' quarters			32 62			32 62
New Westminster engineer's office	910 83		21 80	22 77	8 13	963 53
New Westminster post office		660 00	99 75	92 00	28 00	879 75
Vancouver drill hall			28 26			28 26
" examining warehouse	330 00			479 21		809 21
" post office		545 79	278 36	1,493 08	91 91	2,409 14
Victoria drill hall			134 72			134 72
" Indian office			10 90			10 90
Carried forward	1,330 83	1,885 34	887 30	2,274 41	155 04	6,592 92

PART II.—STATEMENT B.—Showing the cost of the following services for each Public Building, etc.—*Concluded.*

Name of Building.	Rents.	Salaries of engineers, etc.	Heating.	Lighting	Water.	Total.
British Columbia—Con.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Brought forward	1,390 83	1,885 34	887 30	2,274 41	155 04	6,592 92
Victoria military store			90 05			90 05
" old custom house			52 23	8 75	41 65	102 63
" old post office					46 95	46 95
" post office		2,233 25	377 28	1,683 01	66 70	4,360 24
William's Head quarantine station			1,555 49			1,555 49
Totals, British Columbia carried to Statement A, page 9	1,390 83	4,118 59	2,962 35	3,966 17	310 34	12,748 28
Yukon Territory.						
Yukon public blildings	28,818 14		9,942 57	2,392 95		41,153 66
Totals, Yukon Terr., carried to Statement A, page 9	28,818 14		9,942 57	2,392 95		41,153 66

(*End of Statement B.*)

STATEMENT C.—Showing amount loaned by Government under the authority of special Acts of Parliament and upon the recommendation of the Minister of Public Works, during the fiscal year 1899-1900.

Loaned to Harbour Commissioners of Montreal, for improvement of Harbour. (Acts 59 Vict., Ch. 10, and 61 Vict., Ch. 47) $400,000 00

A. G. KINGSTON,

Accountant

DEPARTMENT OF PUBLIC WORKS,
ACCOUNTANT'S OFFICE,
OTTAWA, 20th December, 1900.

PART III.

REPORT ON PUBLIC BUILDINGS

THROUGHOUT THE DOMINION

FOR THE FISCAL YEAR ENDED 30TH JUNE, 1900

BY THE

CHIEF ARCHITECT

REPORT OF THE CHIEF ARCHITECT

DEPARTMENT OF PUBLIC WORKS, CANADA,
CHIEF ARCHITECT'S OFFICE,
OTTAWA, 10th December, 1900.

SIR,—I beg to transmit to you, herewith, my annual report on works in connection with the Dominion Public Buildings, that were executed during the fiscal year ended 30th June, 1900.

I have the honour to be,
Sir,
Your obedient servant,

D. EWART,
Chief Architect.

JOS. R. ROY,
Acting Secretary,
Dept. Public Works,
Ottawa.

PROVINCE OF PRINCE EDWARD ISLAND.

CHARLOTTETOWN.

PUBLIC BUILDING.

A raised platform to facilitate reception and dispatch of mails was built at the mail entrance in the rear. The entire plumbing was removed from this building and replaced by a new system. There are 8 water-closets, 2 urinals, 1 wash tub, 11 lavatory basins, 1 bath and 2 sinks. The drain now connects with the city sewer.

MONTAGUE.

POST OFFICE.

Two stone steps were provided at principal entrance, and a plank sidewalk as well.

SUMMERSIDE.

PUBLIC BUILDING.

The original plumbing being unserviceable and obsolete, was removed, excepting cistern and tanks.

The original soil pipe was replaced by a new 4-in. cast iron soil pipe, vent pipes, traps for existing fixtures, etc., etc. A lavatory basin was fitted up in post office. The well in yard was cleaned, drilled 4 inches diameter for a depth of 40 feet, and lined with a 3-in. casing tube. A force pump was fitted up and connected with well and cistern in attic.

A concrete floor was laid in basement, the attic walls and ceilings were whitewashed, 23 window blinds were furnished and also new yard gates.

PROVINCE OF NOVA SCOTIA.

ANNAPOLIS.

PUBLIC BUILDING.

All the exterior and interior wood-work and metal work was cleaned and painted, the interior walls and ceilings cleaned and kalsomined and the radiators bronzed ; some articles of furniture were supplied to the post office and repairs effected to sidewalk around and about building.

ANTIGONISH.

POST OFFICE.

The office of the public works engineer was re-floored and supplied with blinds, fittings and furniture, and also a photographer's dark closet, a lavatory basin and sink.

HALIFAX.

DOMINION BUILDINGS.

A new heating coil was fitted up in Customs parcels office, the stonework of gable and the brickwork of boilers were repaired, a partition in dead letter office was altered in position, the janitor's quarters were cleaned and kalsomined, and repairs were effected to heating, plumbing, furniture, lock-boxes, etc.

Work supervised by C. E. W. Dodwell, resident engineer and inspector of public buildings, Nova Scotia, Halifax.

HALIFAX.

DRILL HALL.

This building is completed and fitted up ready for occupation.

HALIFAX.

EXAMINING WAREHOUSE.

Repairs were made to plumbing and goods hoist, and a new lavatory basin fitted up under the supervision of C. E. W. Dodwell, resident engineer and inspector of public buildings, Nova Scotia, Halifax.

HALIFAX.

IMMIGRATION BUILDING.

A new water closet with iron grated floor was built on east end of building; two chimneys were taken down and made good; the Matron's rooms were tinted; additions were made to the electric light system and repairs to plumbing, heating, windows, doors, etc., under the supervision of C. E. W. Dodwell, resident engineer and inspector of public buildings, Nova Scotia, Halifax.

KENTVILLE.

PUBLIC BUILDING.

A contract for the construction of this building which was described in my report of last year, was entered into Aug. 28th, 1899, and works are in progress. Plans for a hot water heating apparatus are prepared.

Plans, etc., prepared by this department.
Clerk of works, L. C. Dodge.
Contractor, James Reid.

LAWLOR'S ISLAND.

QUARANTINE STATION.

A concrete tank 26 feet diameter by 12 feet deep, for storage of salt water for flushing purposes, was constructed. The ground around third-class building was graded, levelled and gravelled, and a new roadway constructed leading therefrom to south end of disinfection building. The third-class temporary detention building referred to in my report of last year was converted into a permanent detention building for second class, containing 21 rooms, baths, water closets, etc., and had new kitchens 6 x 30 feet, with two rooms over added in rear.

The small-pox hospitals were repaired and enclosed by fences and converted into wards of detention. A 4-in. pipe was laid from pump in disinfection building on wharf to first, second and third class buildings, hospital and storage tank. Tile drains were laid, one 500 feet long and cesspit from water closet, sinks and baths of first class detention building and another from foundation of tank. Water supply services for baths, water closets and sinks was laid in first and second class buildings and hospital connected with the pump on wharf.

Works carried out under the supervision of C. E. W. Dodwell, resident engineer and inspector of public buildings, Nova Scotia, Halifax, N.S.

Superintendent of building construction, J. E. Ellis, of this department, Ottawa.

Mechanical superintendent, John Cowan, of this department, Ottawa.

LIVERPOOL.

POST OFFICE.

This building has been completed, fitted up and furnished.
Plans, etc., prepared by this department.
Clerk of works, J. H. Dexter, Liverpool.
Contractors for building and fittings, Rhodes, Curry & Co., Amherst, N.S.
Contractor for heating apparatus, Frank Powers, Lunenburg, N.S.

NEW GLASGOW.

POST OFFICE, ETC., BUILDING.

The urinals on ground floor were removed from this building. A portion of the Inland Revenue long room on first floor was partitioned off for use as two water closet rooms, and a portion of the attic hallway partitioned off for a bath-room and closet. A new cast iron soil pipe was put in, and to this all the existing wash basins as well as the bath and closet basin in attic and the two closet basins on first floor were connected. A number of fittings, some articles of furniture, locks, etc., were supplied to the post office.

NORTH SYDNEY.

POST OFFICE, ETC., BUILDING.

The floor of post office was re-laid in hardwood, the interior walls and ceilings were kalsomined, a number of the floors were painted, repairs were made to woodwork, a book case and some chairs furnished, one of the yard gates was renewed and some repairs made to plastering, glazing, etc.

PICTOU.

CUSTOM HOUSE.

The footpaths were laid in coal cinders.

SYDNEY

POST OFFICE, ETC., BUILDING.

The post office fittings were altered and largely added to.

TRURO.

PUBLIC BUILDING.

The sloping roofs of the main building throughout were covered with slate, and the decks of the main building with copper. A new flagpole was erected. A new supply pipe from town service was put in; the furnace was re-painted; a wire screen dividing the public lobby from the post office was put in, extending from the top of the box screen to the ceiling, and a platform scales supplied.

PROVINCE OF NEW BRUNSWICK.

BATHURST.

PUBLIC BUILDING.

The plastered ceiling was boarded and ceiled with sheet steel and repairs made to the post office floor and doors.

CARLETON (ST. JOHN)

POST OFFICE

The plastering was repaired and the entrance and vestibule hardwood finish rubbed down, filled and varnished, under the supervision of W. J. McCordock of this department, St. John, N. B.

DALHOUSIE.

PUBLIC BUILDING.

A wire screen was put in between the public lobby and the post office, extending from the letter box screen to the ceiling. The roof covering was removed and replaced on the slopes with slate and on the deck with copper.

FREDERICTON.

PUBLIC BUILDING.

The brick arch supporting the stone platforms and steps in the rear of the building having become unsafe and dangerous, was repaired and made good.

NEWCASTLE.

PUBLIC BUILDING

Some new letter box fronts were put in ; the Customs offices were cleaned, painted, and kalsomined, and some carpet was supplied.

PARTRIGE ISLAND, (ST. JOHN).

QUARANTINE STATION.

On November 7th, 1899, a contract was entered into for the construction of three wooden buildings on stone foundations, viz :—(1) an hospital, (2) a detention building for immigrants, and (3) a detention building for ship's officers.

The hospital is to be one story, and consists of an administrative block 46 feet long by 36 feet broad with a ward 45 feet long by 25 feet broad adjoining. The administrative block is to have a kitchen and 4 other rooms besides linen closet, pantry, closet, corridor, &c. The ward is to have 2 bath rooms, 3 water closet rooms and a sink room in addition to the dormitory.

The detention building for ship's officers is to consist of a main portion 32 feet by 36 feet and two adjuncts on opposite sides, one 26 feet by 16 feet to contain a wash-house with 4 laundry tubs and a kitchen with a sink—and the other, 26 feet by 38 feet being a dormitory to contain 48 ship berths—the main portion to have 4 offices, a pantry, a water closet room with 4 stalls and a bath room and lavatory with 2 baths and 4 wash basins.

The detention building for immigrants is to be a two story building, 111 feet long by 41 feet 8 inches broad, exclusive of two projecting stairways at the extremities, each 16 feet 8 inches by 11 feet 3 inches, a projection in the front 31 feet by 11 feet 6 inches, and in the rear two adjuncts, one a two story bath and water closet building 49 feet by 21 feet and the other a one story kitchen and laundry building, 27 feet by 30 feet. The main portion of the ground floor is to be undivided and to contain 320 ship berths, the corresponding space on first floor

being divided into dormotories of various sizes, containing from 6 to 66 berths each, aggregating 246 ship berths. The closet and bath adjunct is to contain on each floor 6 baths, 8 water closets, 12 lavatories and a battery of 5 urinals.

Plans, &c., prepared by the department.

Clerk of Works, George Beatty.

Contractor, John Duffy, St. John, N. B.

Repairs were effected to the dwelling of the medical superintendent and the dioxide blast furnace of the quarantine tug was sheeted with asbestos under the supervision of W. J. McCordock, of this department, St. John, N. B.

PORTLAND, (ST. JOHN).

Post Office.

A hardwood floor was laid in post office and hall to dwelling apartments, an iron protective railing was placed on counter, some brickwork was repointed, a window screen and a fire extinguisher were supplied, and repairs were done to locks, stove, pipes, letter boxes, safe, &c., under the supervision of W. J. McCordock, of this department, St. John.

ST. JOHN.

CUSTOM HOUSE.

Stairs and floors were put in the north and south towers and in the dome. The offices and apartments of the Marine and Fisheries department in south wing, the meteorological offices in north wing, also the caretaker's apartments were cleaned, whitewashed and painted and the hardwood filled and varnished. Repairs were made to pointing, plumbing, bells, tile-work, roof covering, glazing and ironmongery and some linoleum and a few articles of furniture supplied. All the foregoing under the supervision of W. J. McCordock, of this department, St. John, N. B.

ST. JOHN.

POST OFFICE.

Stone-work of front elevation was cleaned from birds nests and had brass wire screens placed over apertures to prevent doves nesting and a portion of the stone-work was pointed. A room formerly devoted to custom postal parcels was added to the newspaper mail room, and fitted up and furnished, 8 offices and corridor on first floor were cleaned, painted and varnished, a 3 stand pipe was fitted up from basement to roof with hydrant and hose on each floor, fire extinguishers were supplied, repairs were effected to plumbing, bells, speaking tubes, glazing, roof covering, elevator, clocks, &c., and some furniture and carpets were supplied. All the foregoing under the supervision of W. J. McCordock, of this department, St. John, N. B.

ST. JOHN.

SAVINGS BANK.

Several of the window sashes were re-hung, the vault was fitted with gas, fire extinguishers were supplied and the coal bins repaired, under the supervision of W. J. McCordock, of this department, St. John, N. B.

SUSSEX.

PUBLIC BUILDING.

A glazed screen dividing the public lobby from the post office was put in, extending from the letter box screen to the ceiling and repairs were made to roof and plastering and a number of the offices kalsomined.

The original hot air heating apparatus, which had become unserviceable, was removed and a hot water heating apparatus substituted.

Plans, etc., prepared by this department. Contractor, H. H. Dryden.

TRACADIE.

LAZARETTO.

The original brick oven being unserviceable was replaced by a steel Oxford Portable Oven, and a new ice house was erected.

WOODSTOCK.

PUBLIC BUILDING.

The post office floor was re-laid in birch. The entrance door being too heavy for constant use, an additional pair of light doors was provided. A part of the plaster cornice in the Collector of Customs office which had loosened and was dangerous, was taken down and replaced by new.

PROVINCE OF QUEBEC.

AYLMER.

POST OFFICE.

The building was wired for incandescent electric light ; the boundary wall was re-pointed, a portion on the east side re-built and the whole coped with wood and galvanized iron ; window blinds were provided for first floor and attic ; the window frames and sashes were painted ; some trees were planted in the grounds ; a plank walk was laid in yard and a step ladder supplied.

COATICOOK.

PUBLIC BUILDING.

The building was wired for incandescent electric light : the sewer pipe was extended and the roof repaired.

DUNDEE.

CUSTOM HOUSE.

The beams supporting the joists being decayed were removed and replaced by new beams supported by new stone piers ; the floors on the lower flat were renovated partially in pine and the customs office in maple ; the roof was re-shingled ; the kitchen was sheeted with boards ; repairs were made to the flashing, dormers, steps and fence, and the outside of the building was painted.

FARNHAM.

POST OFFICE.

A new mail entrance doorway with porch steps, also gate and fence were provided.

FRASERVILLE.

PUBLIC BUILDING.

Repairs were made to roof, the drain was connected with the sewer, and the porch painted.

JOLIETTE.

PUBLIC BUILDING.

A new shed for the caretaker was constructed and some repairs done to the roof of the main building.

LACHINE.

POST OFFICE.

The stone-work was re-pointed and a coal stove provided.

LAPRAIRIE.

POST OFFICE.

The basement floor was laid in concrete; two new steps were set at front entrance; the joints of the stone-work were pointed and the eaves troughs were repaired.

SHERBROOKE.

PUBLIC BUILDING.

A wood and glass screen dividing the public lobby from the post office was put in, extending from the top of the box screen to the ceiling; the roof of main building and examining warehouse were repaired; some carpet and rugs and a quantity of rope matting were supplied. The sidewalks on street line were laid with mastic.

ST. HYACINTHE.

PUBLIC BUILDING.

The stone work was repointed; the outside and inside wood work were cleaned and repainted; the inside walls of ground and first floors were kalsomined and the heating coils and pipes bronzed; the ground and first floor ceilings were sheeted with boarding and sheet metal; a granolithic sidewalk was laid on the street line; the drain was overhauled and some articles of furniture supplied.

ST. HENRY.

POST OFFICE.

The interior wood work was painted; the walls and ceilings were cleaned and kalsomined and the post office locks repaired.

SOREL.

PUBLIC BUILDING.

The unfinished portion of the attic was finished as rooms, some electric bells were wired, and a portion of the boundary fence renewed.

VICTORIAVILLE.

PUBLIC BUILDING.

A contract was entered into on 16th January 1900, for the erection of this building on cadastral lot No. 329, Ste. Victoire d'Arthabaska, said lot having a frontage of 60 ft. on north east side of Grand Trunk Street.

The building is to measure 40 feet 6 inches by 36 feet 6 inches and consist of a stone basement, two brick stories and a wooden mansard attic. There are to be wooden floors and partitions, the slope of roof covered with galvanized iron and the deck with tar and gravel. There are to be wash basins, sinks, bath and w. c., and drainage to the Grand Trunk drain.

The ground floor is to contain a post office, post master's office, customs long room, examining warehouse and an armoury. The upper floors are to be living apartements.

The heating is to be by hot water.

Clerk of works.—Thomas Baril.

Contractors.—Paquet & Godbout.

PROVINCE OF ONTARIO.

ALMONTE.

PUBLIC BUILDING.

The glazing was repaired.

AMHERSTBURG.

PUBLIC BUILDING.

The original brass letter box fronts were removed and 332 new pattern boxes substituted ; the walls and ceilings were cleaned and kalsomined and the interior wood work painted ; a fire escape from the attic was provided ; new sanitary plumbing was put in and some minor general repairs effected.

ARNPRIOR.

PUBLIC BUILDING.

The grounds were graded and some additional furniture supplied.

BELLEVILLE.

PUBLIC BUILDING.

A portion of the woodwork and some letter boxes were painted, a new expansion tank was supplied and repairs were made to locks, glazing, roof, plaster and plumbing.

BERLIN.

PUBLIC BUILDING.

The original hot water furnaces having become unservicable were taken out and replaced by 2 cast iron furnaces of the Buffalo pattern. A number of rooms were painted and papered and minor repairs were made to furniture, glazing, fittings, &c.

BRAMPTON.

PUBLIC BUILDING.

A new stamp vendor's wicket was constructed, and repairs were effected to tank, roof and ceiling of attic.

BROCKVILLE.

DRILL HALL.

On 29th, June, 1900 a contract was entered into for the construction of this building upon a site bounded on the north by Pine street, the west by East avenue, the south by King street and the east by private property. At the rear, abutting on Pine street is to be the main hall, 150 feet by 75 feet by a mean height of 40 feet, inside dimensions. Along the side facing King street is to be a two story leanto 135 feet long by 32 feet broad, the ground floor for commanding officer's room, armouries, band room and entrance hall and the first floor for mess rooms, shooting gallery, lecture room and caretaker's apartments. That portion of the basement under the five compartments towards East avenue to be excavated for heating apparatus and fuel rooms. The walls are to be of stone and the partitions principally brick. The framing of the hall roof is to be iron with wooden purlius and boarding covered with galvanized iron ; the leanto roof of wood covered with felt, tar and gravel composition.

Plans, &c., prepared by this department.

Local architect and clerk of works.—B. Dillon, Brockville, Ont.

Contractor.—D. S. Booth, Brockville, Ont.

BROCKVILLE.

PUBLIC BUILDING.

A new brass rail was fitted up in front of the general delivery and some window awnings provided.

BRANTFORD.

PUBLIC BUILDING.

A new letter distributing frame was supplied. A new maple floor was put in

lobby as well as new outside steps, a new wash basin, new partitions, a stamp vendor's office and new screens were supplied ; the counters were altered and repairs made to plumbing.

CAYUGA.

POST OFFICE.

The building was piped for gas.

CHATHAM.

PUBLIC BUILDING.

A new heating coil and expansion tank were provided, repairs were made to eaves troughs, platform, gates and painting.

CORNWALL.

PUBLIC BUILDING.

Tie rods were put in to overcome the bulging of the rear wall of examining warehouse and the wall was pointed.

GALT.

PUBLIC BUILDING.

The post office distributing case was repaired.

GODERICH.

POST OFFICE.

The inside and outside wood-work and metal work throughout was cleaned and painted, the glazing repaired and the walls and ceilings were cleaned and kalsomined ; some of the letter boxes were altered ; repairs done to wood-work and furniture and a tile drain laid to town sewer.

GUELPH.

POST OFFICE.

Some alteration of the fittings were made, some window awnings supplied and repairs were effected to plumbing, wood-work and outside steps.

HAMILTON.

PUBLIC BUILDING.

The building was wired for incandescent electric lighting ; the electric bells were repaired ; the caretaker's quarters were kalsomined and painted , a new sink and some venetian blinds were provided ; the roof of the warehouse was repaired ; the sewer and drain was overhauled and the yard laid with tar macadam.

INGERSOLL.

PUBLIC BUILDING.

This building is completed and in process of fitting up for occupation.

Plans, etc., prepared by this department.

Clerks of works, Wm. Watterworth, to 31 Dec., 1899, when he was succeeded by Wm. C. Bell.

Contractor for construction of building and fittings, McCarrol and McKnight, Ingersoll, Ont.

Contractor for heating apparatus, Purdy, Mansell & Co., Toronto, Ont.

KINGSTON.

DRILL HALL.

The construction of this building, which was described in my report of last year, is nearly completed. A hot water heating apparatus is being put in and plans are prepared for the fittings and furniture of the armouries, etc.

Plans, etc., prepared and work superintended by this department.

Resident architect and clerk of works, Arthur Ellis, Kingston, Ont.

Contractors for construction of building. Sullivan & Langdon, Kingston, Ont.

Contractors for heating apparatus, McKelvey & Birch, Kingston, Ont.

KINGSTON.

POST OFFICE.

Repairs were made to plumbing and glazing and a few articles of furniture supplied.

LINDSAY.

PUBLIC BUILDING.

A granolithic street sidewalk was laid and the plumbing of the water closets repaired.

LONDON.

CUSTOM HOUSE.

Repairs were made to vault, glazing, &c., and an ensign supplied.

LONDON—Post Office.

A new one story stone and brick wing 30 feet by 20 feet was built in rear for a newspaper distribution office. A newspaper bag rack was supplied. The brick furnace setting was repaired.

NAPANEE.

PUBLIC BUILDING.

Some minor repairs were made to roof, heating coils, pump, glazing, etc.

NIAGARA FALLS.

POST OFFICE.

Two unservicable water-closet basins were replaced.

ORANGEVILLE.

POST OFFICE.

A granolithic pavement was laid along the street line; two new "Buffalo" hot water heating furnaces were furnished to replace the original furnace which had become unserviceable, and repairs were made to water tank, locks, letter boxes, etc.

The position of the box screen was altered and some minor repairs effected.

ORILLIA.

PUBLIC BUILDING.

Some alterations of plumbing were effected.

OTTAWA.

CENTRAL EXPERIMENTAL FARM.

The house of the Director and that of the Farm Superintendent were cleaned, tinted, papered and painted. Some carpets, oilcloth, curtains, etc., were supplied the Director's house. The laboratory heating apparatus as well as the addition to the museum apparatus was completed. An acetylene gas apparatus and 8 sinks were fitted up in the new laboratory building. A new bath was fitted up in the director's quarters, a new water-closet in the entomologist's quarters and 2 tanks in the dairy were lined, one with copper and the other with galvanized iron.

Mechanical engineer, Wm. King; clerk of works, F. Breton.

EASTERN BLOCK—DEPARTMENTAL BUILDING.

Cleaning, tinting and painting were done of a portion of the corridors, 4 offices in the Auditor General's, 12 in the Indian and 3 in the Finance departments. New furniture and fittings were supplied; cupboards and pigeon hole cases, 2 to the Indian department and one each to the Privy Council and Auditor General departments; chairs—8 to Justice, 6 to Auditor General and 1 each to Privy Council and Secretary of State departments; carpets, 3 to Finance, 1 to Justice and 2 to Indian departments; window blinds, 5 to Indian and 1 to Secretary of State departments; window ventilators, 2 to Finance and 3 to Secretary of State departments; book cases, 1 to the Finance department; tables, 3 to the Indian department; mirrors, 2 to Indian department; the Auditor General's department was supplied with 6 filing cabinets, some office shelving, 2 mats, 4 awnings, 1 filter, 3 floors and one cupboard repainted and had repairs made to furniture and glazing. The Finance department was supplied with one clock and 3 chair cushions as well as repairs to office furniture. The Justice department was supplied with 3 clocks, 28 keys, 1 set newspaper files, 1 map rack, 1 set of portable shelving and had one room fitted up with shelving complete. The Privy Council was supplied with 1 map case, 1 clock, 1 screen, 1 deflector, 1 type case, 6 cupboard locks and some minor articles of furniture. A number of panes were reglazed. A portion of one of the rooms in basement west of the westerly stack of W. C.'s was walled off in brick and a brick incinerator for the use of the Comptroller of Currency was constructed and its smoke outlet joined to one of the smoke stacks of the heating system. The roof and skylights were repaired and kept free from snow by the departmental staff. The primary wires of the electric lighting circuit were carried outside the building from the duct to the transformer room.

Additional electric lamps were installed as follows:—8 in the Finance department, 6 in the Justice department, 3 in the Secretary of State department and 3 in the Auditor's department. An additional lavatory basin was fitted in the department of Indian Affairs and another in the Auditor's department. Electric bells were hung in the Prime Minister's office, the Auditor's department and Indian department.

GOVERNMENT PRINTING BUREAU.

A room for the linotypes was cleaned, tinted, painted and fitted up with partitions, floors, shelving, furniture, etc.

The brick setting of 3 boilers was rebuilt, brick walls were repaired and repointed, 17 lavatory basins were taken out and replaced, the drains were overhauled and in part relaid; the connections of 3 boilers were re-arranged; 65 additional electric lights were installed and a number of others re-arranged. Gas pipes were fitted to 10 linotype machines and a number of ventilation pipes put in.

Mechanical engineer,—Wm. King.

Clerks of Works,—F. Breton.

GEOLOGICAL MUSEUM.

A large quantity of drawers, shelving and other fittings were supplied, a French drain was put in along the north wall, the sewer drains were overhauled and some trees planted. Alterations of two heating coils were made, a thermometer was placed on hot water pipe, 5 argand burners with shades, etc.

were supplied and the copper still in assay room covered with non-conducting material.

Mechanical engineer—Wm. King,
Clerk of Works—F. Breton.

OTTAWA.

GOVERNMENT HOUSE.

The new wing described in my last year's report is finished and has had the heating, water, lighting and bell services of the main building extended to it and a hot water service for the baths and lavatories put in. All the drains of the house and cottage were tested, overhauled, altered, re-arranged and vented. To replace one of the green-houses which had to be removed in order to furnish the site for the new wing, a new green-house 80 feet by 19 feet 6 inches was built and furnished with a hot water heating apparatus—also was built a cold glass-house 26 by 14 ft. To furnish the site for the green-house a cold glass-house 32 feet by 12 feet had to be removed. The grating of over pit in old conservatory was renewed and the tables therein as well as those of stove-house. A skylight was inserted in roof of main building to light 2 of the water closets. A concrete floor was laid in boiler room. Distempering was done to ceilings of boudoir, studio, passages, ante-room, work-room, pantries, water closets, sink room and 16 bed-rooms in main building; also walls tinted and ceiling distempered of 19 rooms and 3 passages in new wing, as well as the rooms and passages of kitchen wing. The walls of the billiard room, the 'phone room, 8 bedrooms, the still room, 8 other rooms and the staircase hall on 3 floors, domestic wing, were papered. Painting was done to the walls and wood-work of boudoir, studio, studio passage, the wood-work of billiard and 'phone rooms, ante-room, pantry, ground floor, 5 bedrooms and stairs first floor, 3 rooms and passages, attic floor, 8 rooms, pantry, sink, 2 water closets and passages in domestic wing, the walls of stairway, 3 bath-rooms, 3 water closets and the iron stair in new wing, the external walls of cloak room, chapel and passage as well as to cow stable, store-house, ice-house, dairy, dairyman's house, shelter, curling rink, parapet at rink, driving track and cow shed. A large quantity of broken glass was renewed throughout the house, cottage, stables, laundry, green-houses, curling rink, &c.

The cloak-room walls were sheeted with paper and boarding, and the passage therein divided by a glazed screen with doors. A part of the basement passage at the house was wainscotted. The back wall of the cowshed and cellar walls of store-house were resheeted. All the rooms of the new wing were supplied with new furniture, carpets, curtains, blinds, matresses, &c., complete.

For the main building there were supplied 14 easy chairs, 1 couch, 19 sets curtains, 15 rugs, linoleum for water closet and carpet for 2 bedrooms. To the cottage were supplied some matting, a wool square and 2 cocoa mats.

A large glazed gun and rifle case with door, drawers, &c., &c., was fitted up. Six new folding screens were made and repairs and renewals effected to a large number of chairs, sofas, bedsteads, tables, &c., &c. as well as to the stage and scenery. Loose covers for chairs were provided, the carpets, rugs, &c., were lifted and re-laid, a large quantity of crockery, china, glassware, kitchen utensils and some napery were supplied. All the ranges, cook and other stoves throughout the various buildings were cleaned and in part renewed.

The flower garden was improved, re-arranged, the stock of shrubs, plants, bulbs, &c., largely added to and a large quantity of implements supplied thereto and to the kitchen garden.

Some unserviceable sidewalk was taken up and replaced by new and a large

quantity of fencing, as well as a number of gates similarly treated. The tobaggan slide was overhauled and repaired and a large amount of minor repairs effected throughout the several buildings and the grounds. The main avenue from the corner of Sussex and Pine Streets to the back entrance gate was macadamed 5 inches deep, blended with sand and gravel and rolled. The ice-houses were packed with ice. The roofs, paths, slides, rinks, etc., were cleared of snow by the departmental staff by whom the grounds, lawns, gardens and plant houses were maintained.

The usual periodical cleaning and the packing and unpacking were done; arrangements for and attendance on entertainments were furnished and the rinks, slides, etc., etc., kept in order.

Work carried out and maintained under the supervision of this department by the departmental staff.

Clerk of works, Wm. M. Hutchison.

LANGEVIN BLOCK.

The outside steps were resurfaced and repairs were made to cesspool and drain.

The following quantities of furniture were supplied. Tables, 11 to the Interior department, 54 to the Post Office department and 1 to the Agriculture department; chairs, 34 to the Agriculture department, 31 to the Interior department and 15 to the Post Office department; carpets, 5 to the Interior department and 1 to the Agriculture department; book cases and cabinets, 2 to the Interior department and one to the Agriculture department; blinds, 3 to the Agriculture department and 7 to the Interior department; desks, 2 to the Agriculture department and one to the Post Office department; cupboards, 3 to the Interior department; carpets, one to the Agriculture department and 5 to the Interior department; filing cabinets, 1 to the Agriculture department and 1 to the Post Office department; deflectors, 14 to the Post Office department. The Interior department had the geographer's room fitted up with cupboards, pigeon holes, plan cases, tables, etc., complete and was supplied with 2 chests, 1 plan case, 6 chair cushions; 3 curtains, 1 rug, 8 tin door signs, 1 mirror, 1 printing frame, 3 window awnings, 2 door springs, 2 mats, 2 trucks and had the furniture cleaned, repaired and varnished. Cleaning, tinting and painting was done to 17 offices and a portion of the corridors and 93 panes were reglazed. Steel shelving was put in vault, a partition in one Agriculture department office and a large number of repairs to furniture made as well as minor articles, such as chair cushions, stepladders, etc., etc., supplied

35 large packing cases were supplied for the Paris Exhibit to the Agriculture department. The roof was kept in repair and free from snow during the winter. The brick setting of two heating furnaces was rebuilt.

Additional electric lights were installed as follows:—19 in the Post Office department, 20 in the department of the Interior and 16 in the department of Agriculture; a large number of shades and other fixtures were supplied and alterations made to the wiring generally. A new lavatory basin was set up in Post Office department and some additions made to the electric bell service. Two additional heating coils were fitted up for the department of Agriculture.

Mechanical engineer.—Wm. King.

Clerk of works.—F. Breton.

OTTAWA MILITARY STORE BUILDING

On the 11th April, 1900, a contract was entered into for the construction of this building on the Government property, at the rear of the Ottawa drill shed.

It will comprise a main portion, consisting of basement, ground floor, first floor, second floor and attic, 131 long by 75 feet broad and at one end a one story adjunct 30 feet long by 44 feet broad. The basement walls are to be of stone and the remaining walls, including the partitions, brick ; the floor beams and posts are to be iron ; the joisting, rafters, floor and roof boards of wood, and the roof covering of copper. Each floor will have one large storeroom, 95 feet long by 66 feet wide, and the remaining space divided into offices. There will be an elevator in the centre of the storerooms.

Plans, etc. prepared and work superintended by this department.

Contractors.—James Bourque & Charles Lemoine.

MAJOR'S HILL PARK.

The greenhouse floor was laid in cement, the furnace and chimney repaired, new brick flues were built and general repairs made to brick walls, plastering, etc., of greenhouse.

PARLIAMENT BUILDING.

Cleaning, tinting and painting were done in the translator's office, House of Commons Distribution Offices, as well as 6 other offices of the House of Commons and 5 of the Senate. A portion of the corridors were painted, 400 panes were glazed, repairs done to the painting generally and the rooms of the Deputy Speaker of the House of Commons were papered. A large quantity of shelving and other carpentry was supplied to the House of Commons together with some furniture and carpets including a new Speaker's Chair. A new cement floor was laid in House of Commons engine room and one in that of the Senate, the cement floors of Commons and Senate were repaired ; the boiler house ceiling was re-plastered and some of the boiler setting taken down and rebuilt. Repairs were done to plastering, masonry, etc., throughout. The electric wiring of library building was taken out and the building rewired for 416-16 c.p. and 76-32 c.p. lamps with new switchboard, &c. Additional electric lamps were installed, 2 in reporter's room, 4 in room 42, 3 each in Nos. 10 and 11 and in each of the two debates offices and one each in rooms 42, 28, 23 and 13. A new lavatory slab and fittings were supplied room 21, an electric fan for Minister of Railway's room, a set of gas logs for the House of Commons Speaker's dining room, a gas stove for the Senate housekeeper's apartments and a gas heater for the restaurant.

Mechanical engineer, Wm. King.

Clerk of works, F. Breton.

PARLIAMENT GROUNDS.

Ten cesspools were repaired and furnished with covers, the Lovers' Walk was improved, involving the construction of a large quantity of dry stone wall and some masonry.

OTTAWA.

POST OFFICE.

Eight rooms were cleaned, tinted and painted, 83 post office boxes painted, some of the furniture was cleaned and re-varnished and 23 panes re-glazed.

OTTAWA.

REPAIRING STREETS, &c.

All the sidewalk about the Printing Bureau was repaired.

Wellington street from Elgin street to Dufferin bridge was repaired. Scraping, cleaning and minor repairs were done to the various roadways and streets under the control of the department. Rubbish, scrapings and ashes were removed from the east block, west block, the workshops, printing bureau, the museums and the various streets and deposited at Nepean Point ; the grass at geological museum was kept clipped and the ashes removed from the boiler houses ; the roadways, sidewalks, footpaths, roofs and yards were kept clear of snow during the winter.

Work done by the departmental staff.

C. Leblanc, foreman.

WESTERN BLOCK.

DEPARTMENTAL BUILDING.

A portion of the basement corridor wooden floor was re-laid in cement concrete ; one of the rooms of the Customs department was fitted up as a sugar testing laboratory and furnished.

The photographic studio of the Public Works and Railways departments was fitted up and furnished. The Chief Architect's drawing office was fitted up and partly re-furnished. The cement testing rooms in basement were fitted up. The Chief Engineer's draughting office was divided by partitions with door of communication, and a glazed partition with door was put in on first floor to enclose a portion of the corridor. Nine offices were re-floored in hard wood ; 47 rooms were cleaned, tinted and painted ; 39 rooms were carpeted ; 4 rooms were fitted up with shelving for storage, and the mail room of the Public Works department fitted up with box screen, counter, etc. A large quantity of furniture was supplied, among which were 115 chairs and stools, 75 window blinds, 23 tables, 11 desks, 12 cupboards and 20 toilet cupboards, 10 clocks, 20 mirrors, 11 plan and file cases, 6 book-cases, 3 lounges, 3 screens, 57 chests and boxes, 3 stepladders, 3 deflectors, 12 chair cushions, 4 water coolers, 5 steel filing cabinets, 26 window awnings, 1 filter, 2 rugs, 1 umbrella stand, 1 washstand, and innumerable minor articles, such as door signs, etc. ; 262 window panes were glazed ; the roofs were repaired and kept clear of snow by the departmental staff.

The three locomotive heating boilers were removed from the boiler house and replaced by four tubular boilers set in brickwork.

The following additional electric lights were installed, viz.: 49 in the Mounted Police department, 41 in the Public Works department, 25 in the Marine department, 4 in the Militia department, 6 in the Railway and Canal department, 10 in the Inland Revenue department, with a large number of shades, switches, etc. A lavatory basin for the Public Works department and one in the Marine department ; 2 sinks in the Marine department and one in the Militia department; two electric fans were supplied to the Militia department ; a gas heater each to the department of Customs and Public Works and a Bunsen burner to the Customs. Two electric bell connections were made in Public Works department. The sugar testing table in Customs was covered with lead, and a steam coil fitted up in Public Works department.

Mechanical engineer, Wm. King.

Clerk of works, F. Breton.

OTTAWA.

SUPREME AND EXCHEQUER COURT BUILDINGS.

Some wooden partitions were painted ; a large pigeon-hole case, 2 bookcases, 3 additional electric lights and 60 boxes were supplied, as well as some repairs done to furniture and 28 panes glazed.

Mechanical engineer, Wm. King.

Clerk of works, F. Breton.

OTTAWA.

BUILDINGS AND GROUNDS GENERALLY.

In addition to the works mentioned in connection with the various buildings, the property of the Government, there are similar works of repair, painting, furnishing, tinting, etc., in connection with a number of rented buildings, as well as works of a general character, such as the erection and taking down of porches, the winter boarding of outside steps, the moving of furniture, the putting up and taking down of summer blinds and winter sashes, the beating of carpets, minor repairs to glazing, painting, woodwork, furniture, etc. ; the supplying of packing cases, the removal of the snow from the ground buildings, roads, footpaths, which work was done this year by the departmental staff.

PETROLIA.

PUBLIC BUILDING.

A sidewalk on the street line was laid.

PETERBOROUGH.

CUSTOM HOUSE.

All the outside and inside wood-work and iron-work were cleaned and painted ; and all the inside walls and ceilings cleaned and kalsomined, the heating coils and pipes were bronzed and the fittings and furniture oiled. The attic apartments were wired for electric lighting. A new pantry was constructed for the caretaker's use. Repairs were made to gates, chimneys, sashes, heating apparatus and water pipes and some hose was supplied.

PETERBOROUGH.

POST OFFICE.

The offices, rooms and tower clock which were formerly lighted by gas were wired for lighting by incandescent electric light.

Cobble stone gully drains were laid to drain yard. Repairs were done to lock boxes.

PORT ARTHUR.

PUBLIC BUILDING.

The inclosure fence was painted ; the custom house steps were re-set and a new pump for water supply provided.

PORT HOPE.

PUBLIC BUILDING.

The brick-work of fence wall and building was repaired and pointed ; galvanized iron drips were put to all stringcourses ; the stone copings and outside steps were re-set ; the slating and flashing of roof were in part renovated ; an additional granolithic walk was laid ; some sodding was laid, the wooden fence was repaired ; the sashes were re-hung ; some window shades were provided ; the baize doors of post office re-covered and some doors and window frames rendered air-tight.

PRESCOTT.

CUSTOM HOUSE.

A portion of the chimney was taken down and re-built.

PRESCOTT.

POST OFFICE.

The brick-work of chimney and front gable were repaired.

RAT PORTAGE.

PUBLIC BUILDING.

This building is nearly completed and is being fitted up for occupation.
Plans, &c., prepared by this department.
Clerk of Works, F. A. Hudson.
Contractor for the construction, Wm. Grierson.
Contractor for the hot water heating apparatus, Purdy, Mansell & Co.

STRATFORD.

PUBLIC BUILDING.

The clock dials were painted and new furnace doors provided.

STRATHROY

PUBLIC BUILDING.

The building was wired for incandescent lighting.

ST. THOMAS.

PUBLIC BUILDING

The interior wood-work was cleaned and painted; a brick street pavement was laid; some sodding was done and repairs made to floor, door spring, flag staff, and chandeliers.

ST. CATHARINES.

PUBLIC BUILDING

As the large double doors of the main entrance were inadequate the small windows flanking them were altered to doors; a wooden porch constructed on the stone landing outside; fire escapes leading from attic were provided; some additions to and alterations of heating surface were made; repairs were made to slate and iron covering of roof, attic W. C., brickwork of external walls and the sidewalks.

TORONTO

DRILL HALL

The galvanized iron roof covering was coated with roofing cement.

WINDSOR.

DRILL SHED.

Plans and specifications are prepared for this building which is to have frontages on London Street, Cartier Place and an alleyway. There is to be a main hall 175 ft. by 75 ft. by a mean height of 40 ft. inside dimensions, and a 2 story leanto 200 ft. long by 20 ft. broad along Cartier Place and terminating at London Street in an octagonal turret 3 stories high. The leanto is to contain Commanding Officer's room, band-room, armouries, stairs and lavatories on ground floor and non-commissioned officers' room, shooting gallery and Caretaker's apartments on the first floor.

That portion of the basement under the 5 compartments towards London St. is to be excavated for furnace and fuel rooms.

The walls of the building are to be brick with heavy stone dressings and on stone foundations, and the partitions principally brick. The framing of the roof of hall is to be iron with wooden purlins and boarding covered with galvanized iron; the leanto roof of wood covered with felt, tar and gravel composition.

Plans, &c., prepared by this department.

WINDSOR.

PUBLIC BUILDING

The roof covering was painted and lock boxes were repaired.

WOODSTOCK

PUBLIC BUILDING

This building for the construction of which a contract was entered into on October the 9th 1899, is to be erected on the corner of Dundas and Reeve streets. It is to consist of a main building 2 stories, basement and attic, 70 ft. by 64 ft. and a two story adjunct 36 ft. 6. by 30 ft. 6. The ground floor of the main building is the post office, the first floor the customs and inland revenue offices and the attic is to be divided into living apartments. The adjunct is to contain on the ground floor, the examining warehouse and gas inspection office. There is a brick vault for the post office and one for the customs offices. There is to be a water closet, urinal and sink room on ground floor, a water closet and lavatory room on first floor and a water closet and bath room on attic floor. The external walls are to be stone, the partitions, roofs and floors, except that of basement which is to be of concrete, are to be of wood. On the street corner is to be a square tower one story higher than the main building.

Plans, &c., prepared and work superintended by this department.

Local Architect and Clerk of Works, Alexander White.

Contractor, Jos. A. DesRivières.

PROVINCE OF MANITOBA.

BRANDON.

POST OFFICE

Minor repairs were effected to the heating apparatus.

WINNIPEG.

CROWN TIMBER OFFICE

Shelving and furniture were supplied for the offices and the plumbing was repaired.

WINNIPEG.

CUSTOM HOUSE

The walls of a number of the rooms were papered, some furniture and heaters were supplied, the gas fitting was altered and extended and repairs were effected to plumbing, chimneys, fittings, &c.

WINNIPEG.

IMMIGRATION HALL.

An additional stairs was constructed, the hospital wards were lime washed, some articles of furniture were supplied and repairs effected to heating, plumbing and carpentry.

WINNIPEG.

POST OFFICE.

A brick vault was constructed on first floor for the use of inland revenue offices.

Some further alterations of post office screen and fittings were carried out; the elevator machinery was overhauled and repaired; McDermott Street was paved with macadam and Post Office lane with cedar block paving; a safe was supplied the savings bank, a bag rack, pigeon hole cases and articles of furniture to the post office, and repairs effected to plumbing, fittings, furniture, glazing, &c., throughout the building.

NORTH-WEST TERRITORIES.

CALGARY, ALTA.

IMMIGRATION HALL.

A cooking range and accessories were supplied and the floors of this building painted.

MEDICINE HAT, ASSA. WEST.

COURT HOUSE

On 2nd August, 1899; a contract was entered into for the construction of this building to replace that destroyed by fire, June 1897. It is to be a 2 story wooden building on a stone basement, 51 feet by 28 feet. On the ground floor are to be 5 offices, a stairway, hall and 2 cells for prisoners. The first floor will have a court room, a barristers room, a jury room, a judge's room and one extra office. The basement is for fuel, stores, &c. The latrines are to be in a detached building in rear.

Plans, &c., prepared by this department.

Clerk of works, Wm. Knox.

Contractor, Charles Purmal.

REGINA, ASSA. WEST.

COURT HOUSE.

Some automatic ventilators were supplied and minor repairs effected to electric bells, and hot water pipes.

MOOSE JAW, ASSA. WEST.

COURT HOUSE.

An additional 5 feet was added to the length of the building, the cells were taken out, a private stair for the judge was put in and the judge's platform altered ; the walls and ceilings were kalsomined, a counter, a desk, some chairs and a lamp supplied, also some repairs effected to windows and plaster.

REGINA.

POST OFFICE.

A stove was supplied and some repairs effected to fittings and pump.

REGINA.

DOMINION LANDS AND REGISTRAR OFFICE.

On the 14th. Aug. 1899, a contract was entered into for the construction of this building.

It is to measure 54 ft. by 51 ft. 8" on plan, have two stories of brick on a stone basement and a wooden mansard attic. The partitions and floors, excepting cellar and vaults which are to be brick and cement respectively, are to be wood. There are to be brick vaults each 16 x 18 ft. on the ground and first floors. The basement is to be divided into furnace and fuel room, and 3 storerooms ; the ground floor is to be divided into registration office, registrar's office, Public Works office, and lavatory room ; the first floor into one large office, 2 small offices and 2 lavatories, and the attic floor into 5 rooms.

Plans, etc. prepared and work superintended by this department.

Clerk of works.—John Morrison.

Contractors.—Willoughby & Wallis.

REGINA.

REGISTRY OFFICE.

The stoves were repaired.

WOLSELEY, ASSA., EAST.

COURT HOUSE.

An additional heating coil was fitted up in Court room, the ceiling was lined with mineral wool to render it air tight and the eaves troughs were repaired.

PROVINCE OF BRITISH COLUMBIA.

NEW WESTMINSTER.

PUBLIC BUILDING.

The public building on the corner of Columbia and Sixth streets was destroyed by fire September 10th, 1898, and a contract was entered into, 13th February, 1900, for the construction of a new building on the original site. There is to be a main building 51 ft. by 81 ft. 9", 3 stories, basement and attic, a projecting mail entrance 6 ft. by 16 ft. 9", in rear and a one story detached examining warehouse in yard 39 ft by 24 ft. The exterior walls of the basement and ground floor of the main building, the main cornice and the string courses, pilasters, lintels, etc., of the first and second floor, also the exterior walls of the examining warehouse up to the window sills are of stone. The walls of the first and second stories, the piers in basement and the vaults of the main building, also the walls of the examining warehouse from the window sills up are to be brick. All the partitions, floors and roofs are to be wood excepting the basement floors which are to be concrete.

The ground floor is to be devoted to the local post office service and the upper floors to the customs, inland revenue, caretaker, etc. In the basement are to be the heating furnaces, fuel, etc.

VANCOUVER.

DRILL HALL.

On the 17th day of July, 1899, a contract was entered into for the construction of this building on the corner of Beatty and Dunsmuir Streets with frontage of 186 ft. and 120 ft. respectively. The walls and partitions are to be brick on a stone foundation and having stone string courses, copings, lintels, etc. The roof framing is to be of iron. The floor of the armouries is to be wood, that of the drill hall is to be wood-block on concrete and that of the water closet and lavatory rooms, tiles on concrete and iron.

The drill hall is to measure 74 ft. by 149 ft. inside, 32 ft. from floor to eave and 51 ft. from floor to ridge. Along the front is a leanto 26 ft. broad by the full length of the building; having, in the middle, the main entrance to the building flanked by 2 semi-circular bastions; this middle portion of 3 bays having 3 stories and an excavated basement for heating and fuel, while the remaining basement of the leanto is to be unexcavated. The rear basement of the drill hall is to be excavated along its entire length and finished for a bowling alley and a shooting alley each 15 ft. wide by the full length less 18 ft. at the end devoted to a stairway hall. These alleys are to be divided by a brick wall. The stone outside wall is to be brick-lined and the floor is to be concreted. The ground floor of leanto is to be used as armouries, officers rooms, recreation rooms and closet room and the first floor as mess rooms, band room and closet room.

Plans, etc., prepared and work supervised by this department.

Clerk of works, Thos. McKinnon.

Contractors, Vian & Lachance.

GENERALLY.

Repairs and alterations have been executed and sundry articles of furniture, etc., provided, and cleaning, painting and other improvements carried out in connection with a number of buildings, not herein reported.

D. EWART,
Chief Architect.

CHIEF ARCHITECT'S OFFICE,
OTTAWA, 15th December, 1900.

DOMINION PUBLIC BUILDINGS.

30TH JUNE, 1900.

N. B.—This does not include the Mounted Police Barracks, and such drill sheds as were erected by other than Dominion Government.

PROVINCE OF NOVA SCOTIA.

Amherst	Public Building.
Annapolis	do
Antigonish	do
Arichat	Post Office.
Baddeck	Public Building.
Dartmouth	Post Office.
Halifax	Dominion Building.
do	Drill Hall.
do	Examining Warehouse (a rented building)
do	Immigration Building.
do	Quarantine. (Lawlor's Island.)
Kentville	Public Building (in progress.)
Liverpool	Post Office.
Lunenburg	Marine Hospital.
do	Public Building.
Nappan	Experimental Farm.
New Glasgow	Public Building.
North Sydney	do
Pictou	Custom House.
do	Marine Hospital.
do	Post Office.
do	Quarantine Station.
Sydney	Marine Hospital.
do	Public Building.
do	Quarantine Station.
Truro	Public Building.
Windsor	do
Windsor	Drill Hall.
Yarmouth	Public Building.

PROVINCE OF PRINCE EDWARD ISLAND.

Charlottetown	Dominion Building.
do	Quarantine Station (South Port.)
Montague	Post Office.
Souris	Marine Hospital.
Summerside	Public Building.

PROVINCE OF NEW BRUNSWICK.

Bathurst	Public Building.
Carleton	Post Office.
Chatham	Public Building.

Dalhousie	Post Office.
Dorchester	Penitentiary.
Douglastown	Marine Hospital
Fredericton	Infantry School.
do	Public Building.
Kingston	Marine Hospital.
Middle Island	Quarantine
Moncton	Public Building.
Newcastle	do
do	Custom House.
Portland	Post Office.
Sackville	Marine Hospital.
St. Andrew	do
St. John	Custom House.
do	Drill Hall.
do	Marine Hospital.
do	Post Office.
do	Quarantine, (Partridge Island.)
do	Savings Bank.
St. Stephen	Public Building.
Sussex	do
Tracadie	Lazaretto.
Woodstock	Public Building.

PROVINCE OF QUEBEC.

Aylmer	Post Office.
Berthierville	do
Coaticook	Public Building.
Chicoutimi	Marine Hospital.
Dundee	Custom House.
Fraserville	Public Building.
Farnham	Post Office.
Grosse Ile	Quarantine Station
Hull	Post Office.
Joliette	Public Building.
Lachiue	Post Office.
Laprairie	do
Lévis	Immigration Shed
Montmagny	Post Office.
Montreal	Custom House.
do	Drill Hall.
do	Examining Warehouse.
do	Inland Revenue Building.
do	Immigrant Shed.
do	Post Office.
Quebec	Cartridge Factory.
do	Citadel.
do	Custom House.
do	Drill Hall.
do	Examining Warehouse.
do	Imigration Building.
do	Marine Agency.
do	Observatory.
do	Post Office.

Richmond ..... Public Building.
Rimouski ..... do
St. Henri ..... Post Office.
St. Hyacinthe ..... Public Building.
St. Jérome ..... do
St. Johns ..... Infantry School.
do ..... Public Building.
St. Regis ..... Custom House.
St. Vincent de Paul ..... Penitentiary.
Sherbrooke ..... Public Building.
Sorel ..... do
Three Rivers ..... Custom House.
do ..... Post Office.
Valleyfield ..... do (rented building).
Victoriaville ..... Public Building (in progress).

PROVINCE OF ONTARIO.

Almonte ..... Public Building.
Amherstburg ..... do
Arnprior ..... do
Barrie ..... do
Berlin ..... do
Belleville ..... do
Brampton ..... do
Brantford ..... do
Brockville ..... do
do ..... Drill Hall (in progress).
Carleton Place ..... Public Building.
Cayuga ..... Post Office.
Chatham ..... Public Building.
Cobourg ..... do
Cornwall ..... do
Dundas ..... Post Office (rented building).
Galt ..... Public Building.
Gananoque ..... Custom House.
do ..... Post Office.
Goderich ..... Public Building.
Guelph ..... do
Hamilton ..... do
do ..... Drill Hall.
do ..... Immigrant Shed.
do ..... Post Office (old).
do ..... Custom House (old).
Ingersoll ..... Public Building.
Kingston ..... Custom House.
do ..... Drill Hall.
do ..... Immigrant Shed.
do ..... Military College.
do ..... Penitentiary.
do ..... Post Office.
Lindsay ..... Public Building.
London ..... Custom House.
do ..... Infantry School.
do ..... Immigration Station.
do ..... Post Office.

Napanee	Public Building.
Niagara Falls	do
Orangeville	Post Office.
Orillia	Public Building.
Ottawa	Central Experimental Farm.
do	Drill Hall.
do	Eastern Departmental Block.
do	Fisheries Museum and Art Gallery.
do	Geological Museum.
do	Government House.
do	Langevin Block.
do	Military Store Building.
do	Observatory.
do	Parliament Building.
do	Printing Bureau.
do	Post Office, Customs and Inland Rev.
do	Supreme and Exchequer Courts.
do	Western Departmental Block.
Pembroke	Public Building.
Petrolia	do
Peterborough	Custom House.
do	Post Office.
Port Arthur	Public Building.
Port Colborne	do
Port Dalhousie	Custom House.
Port Hope	Public Building.
Prescott	Custom House.
do	Fort Wellington.
do	Post Office.
Rat Portage	Public Building.
Sarnia	Immigrant Building.
Smiths Falls	Public Building.
St. Catherines	do
St. Thomas	do
Strathroy	do
Stratford	do
Toronto	Custom House.
do	Drill Hall.
do	Examining Warehouse.
do	Infantry School and Drill Shed.
do	Immigration Station.
do	Inland Revenue Building.
do	Observatory.
do	Post Office.
Trenton	Public Building.
Walkerton	do
Windsor	do
Woodstock	do (in progress).

PROVINCE OF MANITOBA.

Brandon	Experimental Farm.
do	Immigration Building.
do	Public Building.

Birtle	Immigration Station.
Dauphin	do
Elkhorn	Industrial School.
Fort Osborne	Infantry School.
Minnedosa	Immigration Shed.
Portage la Prairie	Public Building.
St. Paul	Industrial School.
Stony Mountain	Penitentiary.
Winnipeg	Custom House.
do	Examining Warehouse.
do	Government House.
do	Immigration Building.
do	Lands Office.
do	Parliament Building.
do	Post Office.

NORTH-WEST TERRITORIES.

ALBERTA.

Calgary	Court House.
do	Immigrant Shed.
do	Public Building.
Edmonton	Immigrant Shed.
do	Registry Office.
Lethbridge	Public Building.
Macleod	Custom House.
do	Court House.
Red Deer	Industrial School.
St. Mary's	Custom House.

ASSINIBOIA EAST.

Indian Head	Experimental Farm.
Moosomin	Court House.
Qu'Appelle	Immigrant Shed.
Wolseley	Court House.

ASSINIBOIA WEST.

Medicine Hat	Court House.
do	Immigration Shed.
Moose Jaw	Court House.
Regina	do
do	Council Chamber.
do	Government House.
do	Government Offices.
do	Industrial School.
do	Immigrant Shed.
do	Jail and Asylum.
do	Lands and Registrar's Office (in progress)
do	Post Office.
do	Drill Shed and Riding School.

SASKATCHEWAN.

Battleford	Commandant's Residence.
do	Government House.
do	Immigrant Shed.
do	Magistrate's Residence.
do	Registrar's Residence.
do	Registry Office.
Prince Albert	Court House and Jail.
do	Immigrant Shed.
do	Land and Registry Office.

BRITISH COLUMBIA.

Agassiz	Experimental Farm.
Kamloops	Industrial School.
Kuper	do
Nauaimo	Public Building.
New Westminster	Drill Hall.
do	Penitentiary.
do	Public Building.
Vancouver	Immigrant Building.
do	Drill Hall (in progress).
do	Gun Shed.
do	Public Building.
Victoria	Artillery Barracks.
do	Drill Hall.
do	Marine Hospital.
do	Custom House (old).
do	Military Storehouse.
do	Powder Magazine.
do	Public Building.
William's Head	Quarantine Station.

PART IV

CHIEF ENGINEER'S REPORT

ON

HARBOUR AND RIVER WORKS,
INCLUSIVE OF GRAVING DOCKS AND DREDGING
OPERATIONS. ALSO ROADS, BRIDGES
AND SURVEYS THROUGHOUT
THE DOMINION

Report of the Chief Engineer.

DEPARTMENT OF PUBLIC WORKS OF CANADA,
CHIEF ENGINEER'S OFFICE,
OTTAWA, 22nd. Dec., 1900.

J. R. Roy, Esq., Acting Secretary,
Department of Public Works.

SIR,—I have the honour to submit my report on the various works under my charge during the fiscal year ended June 30, 1900.

These works comprise the construction and repair of wharfs, piers, breakwaters, dams, weirs, bank and beach protection works; the improvement of harbours and rivers by dredging; the construction, maintenance and operation of Government dredging plant; the construction and maintenance of graving docks; the construction, maintenance and working of slides and booms; the construction and maintenance of interprovincial bridges and approaches thereto, and of bridges on highways, of federal importance in the North-west Territories and the maintenance of military roads; also hydrographic and ordinary surveys and examinations, inclusive of precision levelling and geodetic measurements which are required for the preparation of plans, reports and estimates, the testing of cements, &c.

I have the honour to be, sir,

Your obedient servant,

EUGENE D. LAFLEUR,

Acting Chief Engineer.

During the year surveys, examinations or inspections were made at the following places.

PRINCE EDWARD ISLAND.

Alberton Prince Co.
Bay View Pier Queens Co.
Chapel Pier Kings Co.
Cape Traverse Wharf Prince Co.
Campbells Cove Kings Co.
China Point Pier Queens Co.
Hurds Point Wharf Prince Co.
Kiers Shore Pier Prince Co.
McGees Pier Prince Co.
North Cardigan Pier Kings Co.
Pinette Pier Queens Co.
Rocky Point Prince Co.
Rustico Breakwater Queens Co.
Souris Breakwater Kings Co.
South Rustico Pier Queens Co.
Tignish Harbour Prince Co.
West Point Wharf Prince Co.
Victoria Wharf (Crapaud) Prince Co. (east).

NOVA SCOTIA.

Abbotts Harbour....Yarmouth.
Argyle Sound....do
Avonport....Kings.
Arcadia....Yarmouth.
Bass Pond....Antigonish.
Bayfield....do
Beaver River....Digby.
Bell Brook....Yarmouth.
Belleviews....Digby.
Bay Pond, Little Narrows....Victoria.
Birch Hill Cove....Antigonish.
Black Rock....Victoria.
Blue Rock....Antigonish.
Boularderie Centre....Victoria.
Brulé....Colchester.
Burlington....Hants.
Burying Island, Canso....Guysboro.
Chebogue Harbour....Yarmouth.
Chebogue Town Point....do
Clementsport....Annapolis.
Comeau Hill....Yarmouth.
Cow Bay....Cape Breton.
Cheverie....Hants.
Chipmans Brook....Kings.
Canada Creek....do
Cape Cove....Digby.
Church Point....do
Comeauville....do
Chegoggin....Yarmouth.
Chester....Lunenburg.
Devils Island....Halifax.
Digby....Digby.
Ecum Secum....Guysboro.
Eskasoni....Cape Breton.
Gabarus....do
Georgeville....Antigonish.
Grand Etang....Inverness.
Great Village....Colchester.

Half Island Cove	Guysboro.
Halls Harbour	Kings.
Harbourvillle	do
Irish Cove	Cape Breton.
Isaacs Harbour	Guysboro.
Jamesville	Victoria.
Kelleys Cove	Yarmouth.
Little Brook	Digby.
Little Narrows	Victoria.
Livingstone Cove	Antigonish.
Lunenburg	Lunenburg.
Malignant Cove	Antigonish.
Margaree Harbour	Inverness.
Margaret Island	do
Meat Cove	Victoria.
Monks Head	Antigonish.
Maitland	Hants.
Morden	Kings.
Mill Creek	do
Meteghan	Digby.
Meteghan River	do
McNairs Cove	Antigonish.
New Harbour	Guysboro.
Noel	Hants.
Oyster Pond	Antigonish.
Ogilvie's	Kings.
Parrsboro Pier	Cumberland.
Parrsboro (New Wharf)	do
Pereaux	Kings.
Pictou Bar	Pictou.
Plaster Mines	Victoria.
Pickets	Kings.
Parkers Cove	Annapolis.
Plympton	Digby.
Port George	Annapolis.
Port Lorne	do
Port Maitland	Yarmouth.
Ragged Pond	Guysboro.
River John	Pictou.
Ross' Wharf (Englishtown)	Victoria.
Scotts Bay	Kings.
Salmon River	Digby.
Saulnierville	do
Sandford	Yarmouth.
Saw Pit	Lunenburg.
Sheet Harbour	Halifax.
Somerville	Hants.
do	Annapolis.
Spindlers Cove (Cross Island)	Lunenburg.
Sydney River	Cape Breton.
Tatamagouche	Colchester.
Tancook	Lunenburg.
Tittle Passage	Guysboro.
Trout Cove	Digby.
Tracadie	Antigonish.
Victoria	Kings.

Walton.....Hants.
West Pubnico.....Yarmouth.
Windsor.....Hants.
Wolfville.....Kings.
Whitehaven Wharf.....Guysboro.
do Canal..... do
Yarmouth Bar.....Yarmouth.
do Harbour..... do
Youngs Landing.....Lunenburg.

NEW BRUNSWICK.

Anderson Hollow.....Albert.
Bay du Vin.....Northnmberland.
Barker's Landing (Riv. St. John).....Sunbury.
Belleisle Bay (Riv. St. John).....Kings.
Black Brook.....Northumberland.
Black River.....St. John.
Buctouche.....Kent.
Burnt Church.....Northumberland.
Campbellton.....Restigouche.
Cape Tormentine.....Westmoreland.
Caraquet.....Gloucester.
Chance Harbour.....St. John.
Chatham.....Northumberland.
Chipman (Riv. St. John).....Kings.
Chockfish.....Kent.
Clifton.....Gloucester.
Cocagne.....Kent.
Curley's Shoal (Riv. St. John).....Kings.
Dalhousie.....Restigouche.
Dipper Harbour.....St. John.
Edgett's Landing.....Albert.
Fort Dufferin.....St. John.
Gardner's Creek..... do
Gilbert's Shoal (Riv. St. John).....York.
Grande Anse.....Gloucester.
Grand Lake (Riv. St. John).....Queens.
Grand River do .....Madawaska.
Hartland do .....Carleton.
Herring Cove.....Albert.
Hopewell Cape..... do
Hopewell Hill..... do
Lameque.....Gloucester.
L'Etang.....Charlotte.
Letite..... do
Main River.....Kent.
Marysville.....York.
Mispec.....St. John.
Negropoint..... do
Neguac.....Northumberland.
Oak Point.....Bonaventure. P. Q.
Oromocto (Riv. St. John).....Sunbury.
Ox Island..... do
Point du Chene.....Westmoreland.
Point Wolfe.....Albert.

Quaco.....St. John.
Quaco West..... do
Rapid de femme (Riv. St. John).....Victoria.
Richibucto.....Kent.
St. Andrew.....Charlotte.
St. Francis (Riv. St. John).....Madawaska.
St. John Harbour.....St. John.
St. Louis.....Kent.
St. Nicholas River..... do
Shippegan.....Gloucester.
Southampton (Riv. St. John).....York.
Springhill do .....do
Tobique do .....Victoria.
Tracadie.....Gloucester.
Two Rivers.....Albert.
Tynemouth Creek.....St. John.
Upper Salmon River.....Albert.
Wilsons Beach.....Charlotte.
Windsor.....Hants.

QUEBEC.

River St. Lawrence (Crane Island).
" " " (Hyd'c Survey) Montreal to Quebec.
" " " " " Prescott to Kingston.

Coteau Landing, Nicolet River, Gatineau River, Petite Rivière St. François, St. André, St. Lambert, St. Mathias, Pointe à Côte, Bic, Rivière Blanche, Lake Témiscouata, Graces Point, Rimouski.

ONTARIO.

Burlington Channel.—Examination, plan and report on proposed repairs to piers.
Collingwood.....Examination, plan and report on a proposed channel to Meat Packing Co's wharfs.
Gordon Bay.....Muskoka lake, St. Joseph, survey, plan and estimate for a wharf.
Hailebury.....Examination and survey, with plan and estimate for a wharf.
Kettle Point.....Survey, examination with report, plan and estimate for construction of a wharf.
Lake Muskoka.....Examination with plan and report on extension of wharf.
Midland.....Survey, examination, with plan and report for deepening harbour in front of Canada Iron and Furnace Company's wharfs.
Niagara River.....Location of wharfs ; plan and report.
Port Elgin.....Examination for extension of breakwater, plan and report.
Port Stanley.....Survey and examination with plan, report and estimate to divert river.
Portsmouth.....Examination, and estimate for repairs to pier, &c.
Rondeau.....Survey, examination with plan and estimate for dredging harbour.
St. Joseph's.....Survey, examination, with report, plan and estimate for a wharf.
Saugeen River.....Examination, plan and estimate to repair north pier.
Severn River.....Sparrow Lake, survey and examination for lowering water to decrease and prevent floods, plan, report and estimate of cost.

NOVA SCOTIA.

ABERCOMBIE.

Abercombie Point, is in Pictou County, N. S., on the south side of Pictou harbour, between the entrances to the East and Middle Rivers, and nearly opposite the town of Pictou.

A wharf was built at this place in 1889 by the Harbour Commissioners, to take the place of an old ferry wharf. It is a block and span structure 666½ feet in length and 21 feet in width, with a T head, on flats dry at extreme low water to within 167 feet of the outer end. The depth at the outer end at extreme high water is 2 feet. Spring tides rise 6 feet, neaps rise 4 feet.

When taken in charge by the department, it consisted of 14 blocks (two being in the T head), roughly constructed of round spruce or hemlock timber, 9 inches in diameter at the small end, and only partially ballasted. The blocks are from 21 to 24 feet in length on line of work, and from 13½ to 21 feet apart. Three of them near the inner end had been moved out of place, and had a great deal of unsound timber in them. There were floor stringers over the blocks, and openings from the fifth block to the outer end, but no covering.

During the year ended 30th June, 1892, the sum of $864.22 was expended in repairs and renewals, viz., a brush and stone approach 41 feet in length and 4 feet in height was built. The inner block was reconstructed, and the 2nd and 4th blocks from the inner end were placed in position and repaired. Five stringers were placed from the inner end to the 5th block and one central stringer from this to the outer end. The whole of the block and span work was covered with 3-inch plank and provided with guard rails. A small quantity of ballast was placed in 3 of the inner blocks and the ballast was adjusted in some of the other blocks. A small slip was made between the two blocks forming the T head and 12 piles were driven against the outer face of these blocks. Fifty feet out from the head of the work, 3 piles were driven together on each side of the approach to the slip.

No important works of repair were made since 1892.

Total expenditure to 30th June, 1900, is $864.22.

ARCADIA.

Arcadia, Yarmouth County, is a thrifty farming village of about 400 people, situated at the head of the Chebogue River and harbour, about three miles east of Yarmouth. The river, though very narrow at the village, widens out immediately below, and is navigable for small schooners right up to the village; the channel however, is only navigable at high water, and is excessively crooked. To facilitate the approach of schooners, and the shipping and landing of small quantities of coal and general merchandise, the Department, in 1899-1900, spent the sum of $696.34, in digging away by hand two or three projecting points in the channel, and in blasting and removing a number of large boulders that obstructed the entrance of schooners. The work is of considerable benefit to the trade of the place.

Total expenditure to 30th June, 1900, is $696.34.

ARISAIG.

Arisaig, Antigonish county, is on the Northumberland Strait, 15 miles to the eastward of Merigomish, the nearest harbour.

The works at this place consists of a pier, built by the provincial government prior to confederation, which came under the charge of the federal government in 1870; and a breakwater constructed in 1896-8.

The breakwater is 300 feet in length and 20 feet wide on top, with an L at

the outer end 40 feet in length. The depth of water at its outer end, at low water springs, is 5 feet.

The pier originally consisted of an approach 245 feet in length, and an outer portion 174 feet long varying from 40 to 44 feet in width. Repairs and improvements have been made from time to time, including the construction during 1889-91 of an extension 100 feet in length. In 1896-7-8, the outer end of the seaward face of the pier was strengthened and a block 24 x 24 feet on top was placed on the seaward side of the outer end, to strengthen the face-work and to secure and retain a proposed extension of the stone talus, in which some 250 cubic yards of large stone were placed.

The total expenditure up to and including the fiscal year 1897-8 was $30,697.73. Of this $27,913.39 was expended in the construction and maintenance of the pier and breakwater, including a refund of $541.41 made in 1887 to the Nova Scotia government and $2,784.34 in dredging.

During the fiscal year 1898-9 the sum of $599.82 was expended in completing the stone talus on the seaward side of the pier by placing 482 cubic yards of large stone, and in renewing 58 superficial feet of 5 inch plank and three fenders.

The depth of water at the outer end of the pier, at low water springs, is 10 feet. Spring tides rise 5 feet.

Total expenditure to 30th June, 1900, including refund of $541.41 to Provincial Government and about $6,500 for dredging, $33,736.88.

ASPY BAY.

Aspy Bay, Victoria County, is near the northern extremity of Cape Breton Island between White Point and Cape North.

At the head of the bay there are three extensive sheets of water, known as the North, Middle and South Aspy ponds, or harbours, inclosed by a beach of sand 4½ miles in length. The entrances to these ponds are shoal and intricate, the best being that of the North Aspy pond.

During the fiscal year 1891-92, the sum of $200 was expended in repairs to a small wharf on the west side of the North harbour.

The wharf is a lightly constructed block and span structure, 11 feet wide, extending 107 feet to a depth of 8 feet 8 inches at low water. It is the joint property of Zephirin Charron and Ronald McIssac. by whom an agreement was signed, permitting the public the use of it free of charge or hindrance. The road leading from the wharf to the highway is free to the public.

The wharf was strengthened and improved by the addition of 59 fenders, 4 mooring posts. 218 lineal feet of cap timber and 2 ring bolts. The outer block was levelled up, and it and the central block were partially ballasted.

No important repairs have been made since 1892.

Total expenditure to 30th June, 1900, is $1,482.55.

AVONPORT.

Avonport, King's County, is a small farming village with a population of about 250, situated at the mouth of the Avon River (at this point nearly two miles wide) and on the Dominion Atlantic Ry. 12 miles N. W. from Windsor the county town of Hants, and 13 miles E. from Kentville the county town of King's. Some two or three millions of bricks are made here during the year.

A small wharf of ordinary round log, stone filled cribwork was built here before Confederation by the inhabitants, aided by the Provincial Government. It is 300 feet long, 22 to 25 feet wide on top, and 17 feet high at the outer end which is dry at L. W. O. S. T. In 1886 the department having assumed control of the wharf some little time previously, spent $1.200 in extensive general repairs.

During the year 1896-97 the sum of $500 was expended in rebuilding the top of the shoreward half of the work, the covering, floor stringers, and upper two or three logs in height being renewed. The outer end is still in a dilapidated condition, but the wharf is now in better condition than it has been for some years, and shipments can be made from it.

Total expenditure to 30th June, 1900, including refund of $816.00 paid Provincial Government, $1,899.75.

This work was transferred to control of Department of Marine & Fisheries on 12th June, 1888.

BABIN'S COVE.

Babin's Cove, Richmond County, is on the northern side of Arichat Harbour, Isle Madame, and nearly opposite its western entrance.

In December, 1893, a contract was entered into for the construction of a wharf at this place for winter service, which included the grading of a road and rock cutting 410 feet in length; an embankment of stone 12 feet in length; and a block and span structure consisting of an inner block 20 by 20 feet on top, and an outer one 25 by 40 feet on top, with an opening or span of seventeen and one-half feet.

At the close of the year 1893-94 the road embankment and rock cutting were about one-half completed; the stone embankment was finished, and the inner block was in place, and built up to half tide and ballasted.

During the fiscal year 1894-95, the work under contract was completed.

The depth at the outer end of the wharf at extreme low water is 11 feet. Spring tides rise 5 feet.

No important repairs have been made since 1895.

Total expenditure to 30th June 1900 is $3.155.04.

This wharf was transferred to control of Department of Marine & Fisheries on 29th March, 1897.

BARRINGTON.

Barrington, Shelburne county, is distant 45 miles to the south-east of Yarmouth, and 30 miles south-west from the town of Shelburne, and is within 10 miles of Cape Sable; the most southerly point of Nova Scotia. The settlement is a straggling one and covers a distance of about 3 miles; the upper part being known as "the Head," and the lower the "Passage." It is a port of call for the line of steamers running between Halifax and Yarmouth, and is the terminus of the steam ferry to Cape Sable Island.

There being no wharfs in the district having a greater depth than 2 or 3 feet at their outer ends at low water, and the need of greater shipping facilities being much felt, the department began the construction of the present wharf in 1888-9, completing it in 1890-1, at the cost of $7,410.97.

This wharf extends over mud flats, bare at low water to Sherrow's Channel (so-called), and is 944 feet long, 20 feet wide and has 12 feet of water at its outer end at low water ordinary spring tides. The seaward end for 138 feet is built of round log, stone filled cribwork, all the remaining portion of the work being of pile bents. There is a gradual rise in the floor from the shore to the end of 3½ feet where the top of the planking is 6 feet above high water ordinary spring tides. At the outer end there is an L 32 feet wide and with a face length of 72 feet on the channel, on which stands a freight shed 35 feet by 20 feet and a drop landing.

In the fiscal year 1892-3, the sum of $673 56 was expended in constructing a triangular piece of pile wharfing, to fill up the angle between the L and the main portion of the work; the object being to afford more accommodation for the landing of goods as well as for the movement of trucks and teams. The total cost of construction was thus increased to $8,084.53.

In 1888-9-90-2 a further sum of $8,105.38 was applied in dredging a basin at the wharf, improving the approach to the same in Sherrow's Channel by removing points and deepening the channel to 11 feet, also opening a literal passage from the main channel to Sargent's wharf.

During the fiscal year 1898-9 the sum of $398.79 was expended in repairing portions of the wharf. Thirty piles were replaced at the south-west corner and new planks, stringers and guard rails put on where found absolutely necessary. The piles were driven 15 feet in the mud, secured to the old piles, and to the new stringers with screw bolts besides being well braced, and walings were placed along the whole of them.

Total expenditure to 30th June, 1900, is $21,352,90.

This work was transferred to control of Department of Marine and Fisheries on 5th August, 1891.

BASS POND.

Bass Pond, (Irving Pond on the chart) Antigonish Co., on the west side of the Strait of Canso near its northern entrance, is a deep water pond half a mile in length and a quarter of a mile in width.

During the year the amount appropriated for expenditure in 1899-1900, (viz. $650.-) was expended in opening a channel for boats through the beach separating the pond from the Strait, and in closing an outlet into Auld's Cove at its northern extremity.

A cutting 40 feet in width at the bottom and 190 feet in length, was made down to from 2 feet at the outer and to 1 foot at the inner end, below the level of low water outside. The stones and boulders removed in making the cutting were utilized in constructing a stone wall on each side 35 feet from the centre line extending in, 145 feet from low water outside.

BASS RIVER.

Bass River, Colchester County, is a thriving farming and manufacturing village of some 500 people, situated on the north side of Cobequid Bay, the eastern arm of the Bay of Fundy. It is halfway between Truro and Parrsboro', or about 28 miles from each place.

In December, 1894, a contract was awarded to Mr. John McMillan, of Port Hood, C. B., for the construction of a pile wharf, for the purpose of shipping lumber and landing general merchandise, at a cost of $2,840. It was finished in August 1895. The work is 210 feet long and 40 feet wide, with an L at the outer end 55 feet long and 40 feet wide. At the outer end of the L it was found necessary to build a small block of cribwork containing 8,000 cubic feet, on account of the hard nature of the bottom preventing the piles from being driven to a proper depth. This was built at a cost of $400.00.

Total expenditure to 30th June, 1900, is $3,549.34.

This wharf was transferred to control of Department of Marine and Fisheries on 18th November, 1897.

BATTY ISLAND.

Batty Island, Pictou County, is situated in Merigomish Harbour, near the entrance. Its length is 1½ miles and its greatest width half a mile, and its southern shore is distant from the mainland about three-quarters of a mile, and is sheltered from all outside winds

During the year 1889, a small wharf was constructed on the south side of the Island. It extends 60 feet to flats covered only with a few inches at extreme low water, is 12 feet in width, and consists of two blocks, each 15 feet by 12 feet,

with openings of 15 feet. Spring tides rise 5 feet 3 inches; neaps rise 3 feet 3 inches.

No important repairs were made on this wharf since 1889.

Total expenditure to 30th June, 1900, is $499 80.

BAYFIELD HARBOUR.

Bayfield, Antigonish County, is on the south shore of St. George's Bay, 8 miles east of Antigonish Harbour and 15 miles west from the entrance to the Straits of Canso. The harbour or road-stead is sheltered by Pomquet Island, lying 1,900 feet to the eastward of Pomquet Point, and by outlying reefs, from all directions, excepting between north-east by north and west.

A breakwater 400 feet in length was constructed at Pomquet Point in 1879, and extended 310 feet in 1888. The work consisted of a crib core 18 feet in average width, covered with stone sloping on the seaward side three to one, and on the inner side one and one-half to one. It continued undisturbed until the occurrence of the great gale of 1st December, 1890, when the stone covering was stripped off nearly to high water level, to within 160 feet of the inner end.

During the years 1892-93, 1893-94 and 1895-96 the breakwater was repaired and extended. The work done included an extension 70 feet in length with an L or return at the outer end 40 feet in length.

During the fiscal year 1897-98, the sum of $999.73 was expended in reconstructing the stone covering of the breakwater in places where it had been disturbed. About 4,000 superficial feet of surface was reconstructed with 263 cubic yards of large stone, 163 cubic yards of which was old stone displaced and 200 cubic yards of new stone brought one mile to the public wharf, thence by scow a quarter of a mile to the breakwater.

Total expenditure to 30th June, 1900, including refund of $4,244.24 to Provincial Government and dredging, $36,701.83.

BAYFIELD WHARF.

In 1857, the construction of a wharf was commenced by a joint stock company on the west side of the harbour, a quarter of a mile south from Pomquet Point. It was handed over to the provincial government and completed in 1873. When it came under the charge of the Federal Government in 1887, it was a block and span structure 402 feet in length, extending to 9 feet at extreme low water. In 1887-88 the two outer and adjoining blocks were raised, repaired and close piled; the central block and the shore block were cut down to low water; and a continuous work was constructed between the outer blocks and the shore.

By the great gale of the 1st December, 1890, the work was carried away down to from 6 feet below low water at the outer end, to 3 feet above low water 112 feet from the inner end.

In 1892-93 a contract was entered into for the construction of a new wharf. The work under contract was completed, and the approach to it was improved by one of the departmental dredges, in 1893-94.

The new wharf is 442 feet in length, including 33 feet of rubble masonry, 319 feet of block and span open-faced cribwork 25 feet wide, and 90 feet of close-faced cribwork in two blocks each 60 by 30 feet, placed at right angles. The substructure of the open-faced cribwork and of the outer close-faced cribwork is of creosoted North Carolina yellow pine, and the superstructure of native timber. The depth at extreme low water at the outer end is 11 feet. Spring tides rise 4 feet.

Since its completion the blocks of both open and closed-faced work have settled considerably, principally on the northern side.

In May and June, 1896, the sum of $348.37 was expended in levelling up 127 feet of the block and span work and in slight repairs to the covering between the two outer close-faced blocks.

Total expenditure to 30th June, 1900, $26,274.18.

This wharf was transferred to control of Department of Marine & Fisheries on 12th June, 1888.

BAY ST. LAWRENCE.

Bay St. Lawrence, Victoria County, is at the northern extremity of Cape Breton Island, between Capes North and St. Lawrence.

Near the head of the bay there is a small lake enclosed by a beach of sand and gravel.

In 1887 a channel was opened through the beach to admit of the passage of boats at high water. Shortly after its completion it was filled in from the outside, over a distance of about 100 feet, and during 1888-89 the channel, which had been alternately opened during freshets and closed during northerly gales, was re-opened and protected by a pier extending 53 feet beyond high water and by a work of brush and stone, 30 feet in length, inside of it.

The channel remained open for a while after the completion of the protection work, but is now closed by a short bar opposite the inner end of the pier.

This shoaling is due to the travel of sand and gravel across the beach, inside the protection work, during northerly gales.

Spring tides rise, 4 feet.

No important repairs have been made since 1889.

Total expenditure to 30th June, 1900, is $3,992.17.

BEAVER RIVER.

Beaver River is a prosperous fishing and farming village of some 400 people, situated on the coast of St. Mary's Bay, 13 miles north of Yarmouth, on the county line between Digby and Yarmouth. The little stream of the same name which issues here, discharges through a gravel beach, which formerly, when the stream was low, obstructed the mouth and ultimately closed it altogether so that the water had to find an exit by soakage through the gravel. In the year 1886-87 operations were begun by the Department to improve the river mouth, and to remedy this defect. A passage was cut through the gravel bank and sea wall, and a short breakwater was built on the south side of the mouth to catch the gravel and prevent the bank reforming. The expenditure this year was $1,000. This work proving satisfactory, the sum of $1,500 was expended by the Department in 1888-89 in further improvement: this consisted of extending the breakwater 100 feet, sheet piling the northern face of the same, which was exposed to the action of the river and was in danger of being undermined, and extending the short pier on the northern side of the mouth, it being found that storms from the north at times threw in a considerable quantity of gravel and made it difficult for fishing boats to enter. The breakwater on the south side, besides protecting the river mouth, forms a good though short loading pier for vessels during the summer months. In 1891-92 the rush of water during the freshets having begun to undermine the work, the sum of $450 was expended in close piling a portion of the river face of the work, and in levelling up and repairing the top, which was leaning over into the stream. In 1899-1900 the sum of $732.35 was expended

in rebuilding the whole top of the work for a height of from 3 to 5 feet, new fenders being also placed around the whole block ; the appropriation being $1,000, the unexpended balance is $267.65.

Total expenditure to 30th June, 1900, $2,697.26.

BELLIVEAU'S COVE.

Belliveau's Cove, Digby County, is situated on the eastern shore of St. Mary's Bay, about 4 miles south-west of Weymouth. It has a population of from 200 to 300 people, and is one of the most important shipping and fishing ports on the coast of Digby County. The harbour, which is dry at low water, is formed by two piers or breakwaters, the northern built in 1825, and the southern in 1853, both at the joint expense of the inhabitants and the Provincial Government. They are built of round log, stone-filled cribwork of the usual type, and they enclose an area of about three acres, over the greater part of which is a depth of 12 feet of water at H. W. O. S. T. In 1878 the department expended the sum of $3,000.00 in putting this structure in proper repair, and in the construction of an additianal length to the northern pier. In 1892-93 a further sum of $500.00 was expended in repairs to the south breakwater, the work done consisting of the rebuilding of the top of the work for a length of 360 feet and to a depth of from 3 to 6 feet ; the placing of 4 tiers of new timbers on the inner, and 2 and 3 tiers on the outer face, with new cross-ties every ten feet ; 82 fender piles were driven along the inner and 16 along the outer face ; 8 mooring posts were placed, and the whole filled up with ballast and levelled with earth and gravel. The northern breakwater is 500 feet long with an ell on the outer end 70 feet long ; it is from 20 to 35 feet wide on top, and 17 feet high along the outer face of the ell, where, at H. W. O. S. T., there is 13 feet of water. The southern breakwater is 350 feet long with an ell on the outer end 35 feet long ; it is from 20 to 35 feet wide and 16 feet high along the outer face of the work, where, at H. W. O. S. T., there is about 12 feet of water. Spring tides rise 22 feet, neaps 18 feet. In 1895-96 the sum of $500 was expended in taking down and rebuilding the inner or south side of the shoreward end of the north breakwater 150 feet long, 10 to 14 feet wide, and 12 feet high, and a portion also on the north or outer side 40 feet long and 5 feet high. In 1898-99 the sum of $1,999.93 was expended in rebuilding 280 feet in length of the middle portion of the northern breakwater from 8 to 14 feet in height, the new work adjoining that built in 1895-96. In the fiscal year 1899-1900 the sum of $1,996.47 was expended in extensive repairs and renewals to both breakwaters as follows : on the north breakwater the outer 60 feet in length of the main work was taken down and rebuilt six logs high, the whole of the L being rebuilt two logs high and thoroughly ballasted. New sills and bed pieces were also placed beneath the lighthouse standing on the end of the breakwater ; in the angle at the north end the work was faced with a new piece of cribwork 65 ft. long, 10 ft. wide and from 6 to 9 feet high. Along the whole north side, or for a length of 380 feet, a new break 4½ feet high of two inch hemlock plank, was built to keep the spray from flying over the work. On the south breakwater the shoreward end of the north side was taken down and rebuilt 205 ft. long, 10 ft. wide, and from 6 to 8 ft. high. The outer north corner was rebuilt from the ground, the new pieces being 40 ft. x 40 ft. x 16 feet high. Seven new mooring posts were also placed in position.

These two breakwaters are now in good condition, and will want no further repairs for several years.

Total expenditure to June 30th, 1900, including re-fund of $1,120.52 to Provincial Government, $9,115.57.

This work was transferred to control of Department of Marine and Fisheries on 12th June, 1888.

BIG BRAS D'OR.

Big Bras d'Or, Victoria county, is on the south side of the channel of the same name, near the entrance into the Atlantic Ocean.

With a view of enabling the residents of this locality to avail themselves of the advantages to be derived from the steamers which ply between Sydney and the terminus of the Intercolonial Railway at Port Mulgrave on the Strait of Canso, a public wharf has been built in Livingston's Cove situated on the northern side of Boularderie Island four miles from its head and opposite Kelly's Cove on the north side of the Big Bras d'Or Passage, here a mile in width.

Boularderie Island lies as it were at the northern end of Bras d'Or Lake, Cape Breton, between it and the Atlantic, and the channel on its northern side is the only one now navigable by steamers and sailing craft; the channel on its southern side, which is narrow and of intricate navigation, being practically closed by a highway bridge.

The wharf at this place was completed in 1888-9. It is a block and span structure 150 feet in length, consisting of a shore block 40 feet in length by 20 feet, and an outer block or head 60 feet in length, along the channel face, by 20 feet.

The depth at the outer end at extreme low water is 11 feet. Spring tides rise 2.

The sum of $3,299.98 was expended in construction. There was no further expenditure up to the end of the fiscal year 1897-8.

The sum of $20.43 was expended in September, 1898, in temporary repairs to the covering to render the wharf safe for traffic during the season.

Total expenditure to 30th. June 1900, is $3,320 41.

BIRCH HILL COVE.

Birch Hill Cove, Antigonish Co., is on the Northumberland Strait, a mile and a quarter to the eastward of Arisaig.

During the fiscal year 1899-1900, the sum of $299.88 was expended in removing some dangerous boulders at the entrance to the Cove, and in improving the landing over a distance of about 120 feet by blasting and removing portions of the ledge rock.

About 70 cubic yds. of boulders and ledge rock were removed; of which 40 cubic yds. were above, and 30 cubic yds. below low water. The material was deposited between the ledges on the western side of the Cove; thus increasing the protection during westerly winds.

BLACK ROCK.

Black Rock, Victoria Co., is a fishing station on that part of the East or Atlantic coast of Cape Breton Island, known as "the North Shore," and nearly midway between the harbours of St. Ann and South Ingonish.

During the year, the sum of $500 was expended in reconstructing and protecting a road leading from the landing place on the beach to the top of a clay bank. The road was reconstructed for the convenience of the fishermen whose fish-houses are on top of the bank, and to give them a place on which to haul up their boats during the rough weather.

The new road is 8 feet in width, benched in the face of the bank, and rising, from 5 feet above high water at the beach to the top of the bank 75 feet above high water, in a distance of 300 feet. The lower end of the road is protected by stone retaining walls for a distance of 25 feet; and the top of the slope by a rough work of brush and stone 80 feet in length.

BLANCHE HARBOUR.

Blanche is a small scattered fishing peninsula of about 130 people situated on the southern extremity of the peninsula forming the western side of Negro Harbour, about 18 miles nearly due south of Shelburne, the county town

The only harbour for fishing boats in the neighbourhood is a small tidal pond, nearly dry at L. W. O. S T. with a narrow and exposed channel leading into it, and an area at H. W. O. S. T. of some two or three acres. The sides of the entrance channel being composed of fine gravel constantly shifting under the action of the waves, it became necessary, for the permanence of the harbour to protect it. and in 1892, the department built a groyne 72 feet, in length, on its eastern or exposed side.

During the year 1895 the sum of $300 was expended in building an extension to this groyne 50 feet in length.

The work is 10 feet wide on top and abont 7 feet high, built of round cribwork and filled with ballast.

No important repairs have been made since 1895.

Total expenditure to 30th, June, 1900, is $299.76.

BLUE ROCK.

Blue Rock, Antigonish Co., is situated on the southern coast of St. George's Bay, about 2½ miles to the eastward of the entrance into Tracadie Harbor, and 6 miles to the westward of the northern entrance into the Gut of Canso.

A breakwater, extending 316 feet in a south-westerly direction from Blue Cape, for the protection of a boat-landing and to make a shelter for fishing boats, was commenced by the Department in 1886 and completed in 1889. It is from 16½ to 17 feet wide on top, with a sloping face on the seaward side, sloping 1 to 1, from the top of the work to one foot below high water. It was strongly constructed with faces of squared native timber and fully ballasted. The depth at the outer end, at low water springs, was 12 feet, and over the area sheltered from the north and east, from 11 to 5 feet. Spring tides rise 4 feet.

The face-timbers below the line of low water, having become weakened, and in places destroyed by the teredo, and the ballast in the work having settled, during 1892-93-94, the work was re-ballasted where necessary, the outer end and seaward face, and for a distance of 15 feet on the inside face, the work was close-fendered and stone protection was placed along the seaward face, the outer end and on 40 feet of the inside face, sloping 1½ to 1 from one foot below high water mark, on the seaward face and outer end, and 1 to 1 from high water mark on the inside face.

During the year 1899-1900 the sum of $391.28 was expended in reballasting and placing new floor stringers, covering and cap-timbers for a distance of 50 feet at the outer end. in placing new timbers in the sloping face where required, in sheathing 54 feet of the sloping face and in placing additional stone in the talus on the seaward side.

Total expenditure to 30th June, 1900, is $10,064.49.

BOULARDERIE (NORTH SIDE).

Boularderie, Cape Breton, is on the north side of Boularderie Island, Great Bras d'Or, and 12 miles south-east from Baddeck.

A public wharf, 134 feet in length, 20 feet wide, with a head 50 by 20 feet has been built at this place. It has an average depth of 13 feet at its outer end, and will, when the grading of the approach is completed, be of great benefit to the residents of the north side of the island.

Total expenditure to 30th June, 1900, is $2,000.00.

This wharf was transferred to control of Department of Marine and Fisheries in November 1897.

BOULARDERIE (ROSS FERRY)

Ross Ferry Landing, Victoria county, is on the northern side of Boularderie Island, 13 miles to the westward of the principal entrance to the Great Bras d'Or Lake. The public wharf built in 1884-85, a mile and a quarter to the eastward of Ross Ferry Landing having fallen out of repair, a new wharf was constructed in 1895-96 and 1896 97 about midway between the old wharf and the ferry landing

During the fiscal year 1897-98 the sum of $499.97 was expended in contructing a road from the wharf to the highway, a distance of about 320 feet; and $25 in repairing and strengthening the corners of the wharf.

Total expenditure to 30th June, 1900, is $3,730.54.

BROAD COVE MARSH

Broad Cove Marsh, Inverness county, is on the Gulf of St. Lawrence, 12 miles to the southward of Margaree Harbour.

A wharf, 400 feet in length, constructed in 1888, was seriously damaged in 1893 and 1894, being subsequently carried away to within 207 feet of the inner end. In 1894-95 the inner 207 feet was reconstructed and protected by close fendering.

The reconstructed work was examined on the 17th December, 1897, when it was found that ballast, for a length of 56 feet had gone out of the face-chambers on the seaward side, through openings at the bottom.

During the months of December, 1897, and January, March and April, 1898, the sum of $199 84 was expeuded in reballasting the empty face-chambers, raising the outer seaward corner one foot 6 inches and in renewing floor stringers and cap timbers.

Total expenditure to 30th June, 1900, including refund of $1,000 paid to Provincial Government, $19,795.25.

This work was transferred to control of Department of Marine & Fisheries on 26th February 1890.

BRULÉ

Brulé is a scattered settlement of about 500 people situated in the north-west corner of Colchester County, on the shore of Northumberland Strait. It is about midway between River John to the east and Tatamagouche to the west, being five miles from the former and seven from the latter, and it is about a mile to the north of Denmark Road station on the Oxford and New Glasgow loop of the I. C. R. Some few years before Confederation a public wharf was built at the joint expense of the Government of Nova Scotia and P. E. Island, and the inhabitants, the respective amounts contributed, it is said, being $1,200, $800 and $400. Prior to 1884 the Department had spent $500, in occasional repairs; in 1886 the sum of $500 was spent in general repairs; in 1888 a further sum of $542.09 in repairing damage done by ice and heavy seas, and in protecting the outer end of the work with close piling, which was carried to a distance of 30 feet on each side shoreward from the outer end, In 1891 a further sum of $626.57 was expended in general repairs, the work done being for the most part necessary to replace a portion of the top of the structure and make good other minor damage caused by an exceptionally high tide and heavy sea on September 1st, 1890. The outer end is 366 feet long, 24 feet wide and 14 feet high at the outer end, where at

L. W. O. S. T. there is a depth of 3 ft. of water. It is built wholly of round log cribwork, the cap, top face timbers and floor stringers only being of square timber. The shoreward half of the top of the work is gravel on top of the ballast, the outer half is plank. Spring tides rise 8 feet, neaps 6½ ft. During the fiscal year 1899-1900 the sum of $1,097.73 was expended in renewing the whole top of the wharf for a height of 2 to 5 ft. and placing new fenders and mooring posts all around.

Total expenditure to 30th June, 1900, including refund to Provincial Government, $3,824.06.

This work was transferred to control of Marine & Fisheries on 12th June, 1888.

Burying Island (Canso).

Canso Harbor, Guysborough Co., is a place of much historical as well as nautical interest. It was visited by French fishermen and fur traders as early as the 16th century. In 1578, the number of fishing vessels on the coast was 330, of which 150 were French, 130 Spaniards and Biscayans, and 50 English. During the next two hundred years it was the scene of frequent conflicts between the French and British colonists and the Indians, falling alternately under the power of France and England until 1759, when the contest was finally terminated. The remains of a large fort which commanded the approach from the Atlantic may still be seen on Grassey Island.

Canso lies at the southern entrance of Chedabucto Bay through which all vessels entering or leaving the Gulf of St. Lawrence by the Gut of Canso must pass, and near the point where the general trend of the coast of Nova Scotia changes from south to west.

It has two entrances—the northern leading from Chedabucto Bay and the southern from the Atlantic. There is also a narrow boat channel called the "Tickle" between Durell Island and the mainland. Many vessels pass through the harbour in order to avoid going round the dangerous rocks and ledges which lie outside of it. It is also much frequented by Canadian and American fishing vessels which run in here for shelter or to await a change of wind. The cod and lobster fisheries are followed extensively in the vicinity.

The harbour is formed by Piscatiqui, George and Grassey Islands on the east, and by Durell Island and the mainland on the west. Cutler Island and the shoals between it and Durell Island protect it from the north, and Burying Island and the bar uniting it with Lanigan Point from the south-east.

The clay banks of Burying Island have been gradually wasting away until only a very small portion of it remains above high water. Its destructon would have transformed it into a dangerous reef, and have left the harbor exposed to the swell from the Atlantic. It became necessery therefere to protect the remains of the island by a breakwater. This work was begun in 1880 and finished in 1882. It is 290 feet long and formed of strongly framed crib-work packed with stone and protected on the ends and seaward side by slopes of heavy stone. Its cost has been $9,000. Spring tides rise 6½ feet, and neaps, 4½ feet.

No important repairs have been made since 1882.

Total expenditure to 30th June, 1900, is $9,000 00.

Canada Creek.

Canada Creek, also called Black Rock, is a small fishing and farming settlement of about 150 people, situated on the south shore of the Bay of Fundy, 60 miles east of Digby Gut, 8 miles west of Hall's Harbour and nearly opposite Cape d'Or on the Cumberland Coast, The harbour, which is dry at low water (spring tides rise 39 feet, neaps 33 feet) is formed by two piers or breakwaters built on either side of the mouth of a small stream; that on the eastern side,

which is entirely detached from the shore, serves, merely as a breakwater, and was built by the Department in 1878-79 at a cost of $3,000. It is 150 feet long, 25 feet wide on top and from 12 to 15 feet high, built throughout in a substantial manner of square timber, close faced cribwork, well ballasted and floored with 3-inch plank. The work on the western side, originally 248 feet long and serving both as a breakwater and loading pier, was built many years ago at the joint expense of the inhabitants and the Provincial Government. It is constructed of round log cribwork, and the seaward face is protected by a close sheathing of flatted spars. In 1874 it was extensively repaired by the Department at a cost of $2,300. In 1884, having become very old and shaky, it was again repaired, and a new block, 57 feet long, by 10 feet wide, built on the eastern side of the shore end at a cost of $750. In 1885 and 1886 the respective amounts of $100 and $650 were expended in necessary repairs. In the winter of 1889-90 the outer 100 feet in length of the work was completely wrecked, and other minor damage caused by severe gales. In the autumn of 1891 the sum of $250 was spent in temporary repairs to save the work from further destruction. The shortening of the structure by the demolition of its outer end caused the gravel to wash round the breakwater, and fill up the berth for vessels in the bed of the stream on the eastern side. In June 1893 the Department built a new block of cribwork 50 feet long, 14 ft. wide on top and from 8 to 11 ft. high between the outer end of the existing work and the remains of the old. (This block together with the remains of the old structure lying beyond it, was totally destroyed in the great storm of November 12th and 13th, 1899.) In the fiscal year 1898-99 the sum of $1,506.79 was expended in rebuilding the whole eastern face of the western breakwater, the new work being 235 ft. long, from 10 to 14 ft. wide and of an average height of 12 ft. The eastern breakwater was also sheathed on the outer end and 100 tons of new ballast placed in it. Several hundred tons of rocks and boulders were also removed from the Creek alongside the western breakwater, so that vessels could approach and lie at it more easily. In 1899-1900 the sum of $607.88 was expended in rebuilding the lower two outside courses of longitudinal face logs and fenders along the eastern or shoreward side of the work, in close sheathing and fendering the outer end, and for purchasing the materials for the construction of a new outer block.

Total expenditure to 30th June, 1900, including refund of $550.00 to Provincial Government, $10,754.71.

This work was transferred to control of Department of Marine & Fisheries on the 12th June, 1888.

CAPE SABLE ISLAND (DONALD'S HEAD).

Donald's Head, Shelburne County, is situated on the eastern side of Cape Sable Island, about six miles south of Barrington.

Some years ago the inhabitants built a small wharf or breakwater to protect the entrance to a small tidal pond forming a convenient shelter for a numerous fishing fleet.

In 1891-92 the department spent the sum of $300 in putting the work in repair and building it up to its present height.

On the 16th December, 1892, a contract was entered into between the department and George Wilson, of Barrington, to build an extension to the present work, 90 feet long 18 feet wide and 14 feet high, of stone filled cribwork, at a cost of $1,628 80. The work was satisfactorily completed in June, 1893.

In 1894 a sum of $828.80 was expended.

Total expenditure to 30th June, 1900, is $2,099.04.

CAPE ST. MARY.

Cape St. Mary, Digby County, is the southern point of the entrance to St. Mary's Bay. It is one of the best fishing stations on the coast; cod, haddock, pollock and herrings being caught in abundance.

A breakwater now 310 feet long, was begun about 1846, and has been built in sections by the inhabitants, assisted from time to time by small grants from the Provincial Government, amounting in all to about $1,200. From age and the action of the sea and ice, the work had become much delapidated. It was partially rebuilt in 1881-82 by the Department at a cost of $2,000.

In 1883 these repairs were completed.

Repairs were made in 1895 at an expenditure of $439.88.

Total expenditure to 30th June, 1900, is $4,939.35.

CARIBOU.

Caribou Island, Pictou County, is on the Nothumberland Strait, 5 miles to the westward of the entrance to Pictou Harbour. It is about 4 miles in length and half a mile in average width.

Caribou Harbour, sheltered by Caribou Island and a smaller island lying to the eastward of it, is an extensive place 6 miles in length and 1 mile in width, but the water is shallow.

The principal entrance between the two islands has only a depth of 4 feet at extreme low water, and the flats between the mainland and the western extremity of Caribou Island are dry at extreme low water, except in a few small channels. Spring tides rise 6 feet, neaps 4 feet. A causeway of brush and stone 1330 feet in length and 18 feet in width on top, between the mainland and the western extremity of the island, commenced in 1890-91 and continued in 1892-93 and 1893-94 remained in an unfinished condition, being covered in places at half tide.

During the fiscal year 1894-95 the sum of $299.38 was expended in raising the work which is now up to about ordinary high water level over 560 feet of its length and about one and a half feet below that level over the remaining 770 feet.

Total expenditure to 30th June, 1900, is $1,580.60.

CHETICAMP.

Cheticamp, Inverness Co., is on the west coast of Cape Breton Island 18 miles north of Margaree. It is a secure harbour, being sheltered from the west and south by Cheticamp Island and a connecting beach. The entrance is from the north through a dredged channel.

A wharf built on the eastern side of the harbour in 1890 consisted of an approach 125 feet in length, and 30 feet in width over a distance of 60 feet from its outer end, with side walls and centre filling of stone, and an extension 80 feet in length in two blocks, a central block 20 x 20 feet, and an outer block or head 25 feet in width and 60 feet in length along the channel face, with openings of 17 feet 6 inches.

The expenditure up to the end of the fiscal year 1897-1898 amounted to $5,240.83 of which $5,190.75 was for construction.

In 1898-99 the sum of $1,639.80 was expended in procuring the materials, including creosoted timber, required in the reconstruction of the extension, which had been weakened by the ravages of the teredo and had settled considerably.

During the fiscal year 1899-1900, the sum of $977.41 was expended in reconstructing and enlarging the central block and in constructing a creosoted pile head

over the outer block with materials procured in 1898-99, and an over expenditure of $302.50 was incurred in improving the grade of the approach.

The extension, as reconstructed, is 90 feet in length including a central block 20 x 30 feet and a creosoted pile head 70 feet in length and from 33 to 37 feet in width, with openings of 18 and 16 feet. The depth at the outer end at low water is 13 feet. Spring tides rise 3½ feet.

Total expenditure to 30 June, 1900, on wharf is $7,908.04 and on dredging $43,925.51.

CHEVRIE.

The village of Chevrie, with a population of about 350, is situated on the right or east bank of the estuary of the River Avon, where it debouches into the Basin of Minas, some fifteen miles north of Windsor, the county town. It is a good farming district, but the principal trade of the place is the quarrying and shipment of gypsum to the United States. The quantity, which varies according to the prices ruling in the American market, ranges from 20,000 to 60,000 tons per annum. A wharf about 100 feet long was built here many years ago by the Provincial Government. In 1873-74 the Department of Public Works lengthened it 70 feet at a cost of $2,338.88 this extension being of open round log work like the old work. In 1882 a further extension of 183 feet was built at a cost of $5,000. This piece of work is of square timber, close faced, 25 feet high and 25 ft. wide on top, the same width as the former, and the sides batter 1 to 12. In 1885 the sum of $600, was expended in effecting some much needed repairs to the shoreward side of the wharf. In 1884 the department built a detached breakwater 300 feet distant from the outer end of the wharf for the purpose of protecting the latter from the sea to the northward, to which it was exposed. This piece of work consists of a solid piece of cribwork 130 feet long, 20 feet wide on top, 35 feet wide at the base, and about 23 feet high, built of square timber and close faced on all sides. The seaward side to a height of 10 feet below high water of spring tides has a slope of one to one, the sloping faces being covered with 6 inch plank. The block is provided with mooring posts to assist vessels in coming to a berth at the wharf as well as with ring bolts and ladders. In 1887-88 the sum of $500.05 and in 1896-97 the sum of $100, was expended in general repairs to the wharf. In the fiscal year 1899-1900 the sum of $903.27 was expended in extensive repairs to the wharf. On the outer 100 feet in length the flooring, guards and some of the fenders were renewed; on the next 80 feet the guards and a few fenders were renewed; on the next 105 feet the work received new ties, stringers, guards, flooring and fenders; on the next 50 feet shoreward most of the flooring was renewed; 205 feet in length of the wharf, included in the above lengths, was raised in height from one to three feet. In all, 69 new fenders were placed, and 250 tons of new ballast was put in.

Total expenditure to 30th June, 1900, is $19,486.39.

CHEBOGUE.

Chebogue Town Point, Lunenburg County, with a population of about 400 people is one of the oldest settlements in the county of Yarmouth. It is situated on the west side of Chebogue River and harbour, about five miles south of Yarmouth. The wharf (which was the first wharf in Yarmouth County and, excepting Arcadia at the extreme head, is the only landing place on the river), was built about one hundred years ago by the Provincial Government. It was repaired and extended a length of 67 feet by the same Government, about the year 1883; receiving no repairs or renewals since the latter date, it fell into a state of dilapidation and dissue. In 1899-1900 the sum of $856.74 was expended in renewing the works, with a pile structure on the site of the old. The new work is 110 feet in length, exclusive of the short earth and stone approach, from

24 to 33 feet wide, and 10½ feet high at the outer end. At low water the mud flats are bare a couple of hundred feet beyond the wharf, while at high tide there is about 8 feet of water.

Total expenditure to 30th June, 1900, is $856.74.

CHEGOGGIN.

Chegoggin, Yarmouth county, is a small fishing and farming village, with a population of a couple of hundred, situated on the Bay of Fundy coast, about four miles north of Yarmouth. The little bay of the same name is one-third of a mile north and south, and about the same in width east and west, fully exposed to the south-west, and sheltered from other quarters; it is dry at low water and at high tide has a depth of 12 to 14 feet (springs with a rise of 16 and neaps 13 feet). In the winter of 1895-96 the inhabitants, aided by a grant of $45 from the municipal council, built a small breakwater 80 feet long, 12½ feet in width and from 6 to 11 feet high, on the south side of the mouth of the stream outlet. The work was roughly built of round log cribwork, and filled with shingle and small boulders. Over half a century ago a breakwater was built here by the proprietors of the marsh, in a position immediately to the west of the present work. It was totally destroyed some 18 or 20 years ago, not a vestige of it being visible to-day. In 1899-1900 the sum of $598.12 was expended in lengthening the breakwater by the addition of a new block 60 feet long, 15 feet wide and from 10 to 13 feet high It is cheaply though substantially built of round log cribwork, of the ordinary type.

Total expenditure to 30th June, 1900, $598.12.

CHIPMAN BROOK.

This is a little settlement of about a dozen families engaged in fishing, farming and shipping of cordwood. The harbour at this place is formed by the mouth of a small stream issuing on the south shore of the Bay of Fundy half way between Hall's Harbour and Canada Creek, or about three miles distant from each place. The trade of the place, to an even greater extent than that of the numerous other similarly situated little ports on the shore of King's County, has, since the construction of the D. A. Railway dwindled to insignificant proportions. About the year 1857, a public wharf 175 feet long, 26 feet wide, was built at the joint expense of the inhabitants and the Provincial Government. Since the Public Works Department has had charge and control of the structure, numerous expenditures have been made in its repair and renewal. In the autumn of 1891 the sum of $200 was expended in close sheating 60 ft. in length of the west side, in placing 150 ft. of new longitudinal face timbers and a quantity of ballast. In the winter of 1892-93 about 100 feet in length of the middle portion of the work was totally destroyed by a violent gale. In October 1893 the sum of $50.00 was spent in protecting with close sheating the broken and exposed end of the shoreward remains of the work. A few years ago the outer block, which was left standing after the destruction of the middle 100 ft. of the work, was totally destroyed, since which time the work has been quite useless. In the fiscal year 1899-1900 the sum of $1,000 was expended in rebuilding the shoreward end of the work. The new work, which has been very solidly constructed, has a length of about 85 feet and a width at the shore end of about 50 feet, and at the outer end, which is 12 feet high, it has a width of 30½ feet. It is still too short to be of very much use, but it is a great improvement on the former condition of the work.

Total expenditure to the 30th June, 1900, including refund $1,620 to Provincial Government, $8,667.33.

This wharf was transferred to control of Department of Marine and Fisheries on 12th June, 1888.

CLIFTON (OLD BARNS).

Clifton, Colchester county, is at the head of Cobequid Bay, about 7 miles distant from Truro.

During the year 1888, a loading wharf, 237 feet long, was built at this place. Total expenditure to 30th June, 1900, is $1,496.48.

This work was transferred to control of Department of Marine and Fisheries on 20th June, 1895.

COFFIN'S ISLAND.

Coffin's Island, Queen's county, is situated on the north-east side of the mouth of Liverpool Bay, its nearest point being about three-quarters of a mile from the mainland.

This island, which is low and flat, is about one mile long, and has a width of from one-fifth to one-third of a mile. In the eastern side near the centre of the length of the island is a small lagoon or boat harbour, protected by a shingle beach, which forms a valuable haven of refuge as well as a convenient base of operations for a numerous fleet of fishing boats. On this shingle beach is a small fishing establishment consisting of two small wharfs and several fish houses and flake yards.

This beach, in 1882-83, was protected by a rough stone and boulder breakwater at the north-west point, a work which cost $2,099.95. This work proving insufficient to afford the protection required, the department had constructed in 1883-84, at an expense of $2,890.19, a stone-filled cribwork 12 feet wide on top and 7 feet high along the front and top of the beach for a length of 300 feet.

In 1884-85 the sum of $994.70 was expended in extending this cribwork a length of 200 feet. These last two works have served well the purpose for which they were undertaken, having formed a nucleus around which an accumulation of stone and gravel has taken place to the very top of the cribwork.

In 1898-99 the beach protection cribwork was thoroughly repaired and extended for a further distance of 120 feet at an expense of $939.62. The extension has a uniform width of 10 feet on top and an average height of from 6½ to 7 feet. The total expenditure incurred here for protection works up to June 30th, 1900, was $6,924.46.

COMEAUVILLE.

The wharf at Comeauville, Digby County, is on the southern shore of St. Mary's Bay, about 3 miles south and west from Church Point, and is one of those taken over by the Dominion from the Local Government.

Extensive repairs were made to the structure, and it was put in good order for traffic in 1882.

No important repairs were made on this work since 1888.

Total expenditure to 30th June, 1900, is $3.139.56.

CHURCH POINT.

Church Point, Digby County, is situated on the south-east side of St. Mary's Bay, 9 miles south-west from Weymouth, and directly opposite Petit Passage, between the extremity of Digby Neck and Long Island. It has a population of about 200 people engaged in fishing and farming, and is one of the most important

fishing points on the Digby coast of the bay. The works here, which consist of a wharf-retaining wall and a breakwater, appear to have been built between the years 1856-66, at the joint expense of the Provincial Government and the inhabitants, the expenditure of the Government having been $1,055.66. In 1875-76, the Department expended the sum of $2,000, the inhabitants contributing an equal amount, in repairing the northern face and in building an L 72 feet long, 20 feet high, at right angles to it, with the object of preventing the gravel from working round the outer end. In 1889-90 the sum of $32.69 was spent in placing some new fenders at the loading berth, and in other slight repairs. In 1890-91, the gravel having worked round the outer end of the breakwater and formed a bar across the entrance to the loading berth, the Department, at a cost of $100.81, built a spur or groyne 40 feet long and 24 feet wide, projecting at right angles from the outer or north-west corner of the breakwater. In 1891-92, the river, or east face, of the older portion of the work, having become very much decayed, and in places falling down into the dock, the Department expended the sum of $1,434.38 in repairing it and in removing the highest part of the gravel bar so that vessels could approach and lie alongside. The repairs extended over almost the entire length of the river face. The inner end, or oldest portion, was taken down and rebuilt in cribwork, and the remainder was close piled, small general repairs being also made to other parts of the work. In 1892-93 the Department spent the sum of $45.25 in removing the bar of gravel that had worked round the end of the groyne and the breakwater, and obstructed the approach of the loading berth. In 1894-95, the gravel continuing to work round the end of the groyne, an extension was built to it 30 feet long, 15 feet wide and 13 feet high, at a cost of $350 In 1896-97 the sum of $3,971.51 was expended in extending the groyne 120 feet long, 16 to 25 wide, and from 12 to 22 feet high. The dam and sluice gates at the head of the dock, where the fresh water stream makes exit, were rebuilt in order to command a stream for scouring away the gravel from alongside the wharf front, The sluice gate is 10 feet wide and 7 feet high, and is raised by means of a windlass. In 1899-1900 the sum of $130.77 was expended in close piling and planking about 60 feet in length of the face of the cribwork on the upper or landward side of the sluice-way in order to prevent the water impounded by the sluice gates from undermining the work.

Total expenditure to 30th June, 1900, including refund of $1,692.00 to Provincial Government, $10,310.36.

This work was transferred to control of Department of Marine and Fisheries on 12th June, 1888.

COW BAY (PORT MARIEN)

Cow Bay, Cape Breton Co , is on the eastern coast of Cape Breton Island, about 18 miles eastward of Sydney harbour. Extensive coal mines in the vicinity make it a place of considerable importance.

The Bay is two and a half miles wide at the mouth and, being open to the Atlantic from the east, affords no safe anchorage during gales from that quarter.

Prior to 1867, with some aid from the Government of Nova Scotia, a breakwater was built on the north side of the Bay by Messrs. Archibald & Co., proprietors of the Gowrie Mines.

The breakwater was 1,386 feet in length and was originally about 44 feet in width and had a depth, at the outer end, at low water, of 17 feet. The area of the basin enclosed between it and the loading pier of the Gowrie mines was 17 acres, 10 acres of which had originally a depth of from 9 to 17 feet at low water. Spring tides rise 5 feet.

In 1873, while repairs undertaken by the department were in progress, the breakwater was seriously damaged by the great gale of the 24th of August. After

the gale, operations were resumed, the balance of the amount appropriated being largely supplemented by Messrs. Archibald & Co.

In 1874, Messrs. Archibald & Co.'s interest in the breakwater was acquired by the Dominion Government, and a contract entered into in May, 1876, for repairing and strengthening the structure, was completed in July, 1877.

Extensive repairs and improvements were made nearly every year up to 1895 when the breakwater consisted of an inner work extending from within 220 feet of the shore end to the outer end, and of counterforts with connecting outer face works, from within 580 feet of the shore end to within 56 of the outer end. The outer and inner works were about 22 feet apart and were connected by tie walls. The spaces between them were filled with earth and stone ballast.

During heavy easterly gales, on the 3rd and 8th February, 1895, a breach was made through the breakwater near the outer end, 140 feet of the outer face work (including 70 feet recently reconstructed) was destroyed, and the work opposite to it was carried away, down to below low water ; about 25 feet of the outer work between the two outer counterforts was also destroyed ; ballast was washed out in several places and some close piling was carried away.

In 1895-96 the sum of $3,999.87 was expended in urgent repairs to the outer face works from 1128 feet from the shore end, inwards.

In October 1896, the outer portion, which withstood the gale of Feb. 1895, was carried away, and the outer face works from 1128 feet from the shore end inwards, were badly damaged.

During the years 1897-98 and 1898-99, the sum of $14,988.40 was expended in repairing, reconstructing and strengthening the outer face work.

During the fiscal year 1899-1900, the sum of $3,409.10 was expended in renewing the stringers and covering of 534 feet of the inner work (581 to 1115 feet from the shore end) and in repairing and strengthening the outer works. The repairs to the outer works included filling with concrete to half tide level and reballasting 143 feet of the narrow outer face work (277 to 420 feet from the shore end), and in placing concrete in the face-chambers, reballasting, and covering the inner 20 feet of the central counterfort, the outer 40 feet of which was destroyed after repairs were effected in 1898-99.

Total expenditure to 30th June, 1900, including $25,000.00 for purchase of breakwater, is $214,655.47.

This work was transferred to control of Department of Marine and Fisheries on 12th June, 1888.

CRIBBIN'S POINT.

Cribbin's Point, Antigonish Co., is on the west side of St. George's Bay, 8 miles to the southward of Cape George and 5 miles to the northward of the entrance to Antigonish harbour.

The wharf at this place, completed in 1891-92, extends 300 feet in a southerly direction from the point, and has an approach 195 feet in length. The wharf is 20 feet in width, on top, for a distance of 120 feet from the inner end, and 30 feet, for the remaining 180 feet ; the inner 50 feet being of stone and the outer 250 feet, of close-faced timber work, fully ballasted. The depth at extreme low water, at the outer end of the wharf, originally 11 feet, is now about 8 feet. Spring tides rise 4 feet.

The face-timbers having been weakened by the ravages of the teredo, the sum of $2,999.39 was expended during the fiscal years 1896-97-98, in strengthening and protecting the work. A talus of quarried stone was placed on the seaward side over a distance of 180 feet from the outer end, some empty face-chambers were re-ballasted and 80 pieces of creosoted timber were procured for close-pilling the outer end, and 63 of these were placed and secured.

During the year 1898-99, the sum of $390.00 was expended in completing

the close-piling, in placing additional stone on the slope, in re-ballasting empty face-chambers, and in removing a quantity of gravel which had been carried by the sea, over the covering at the inner end of the work.

During the last fiscal year the sum of $299.95 was expended in removing about 175 cubic yds. of sand from the top of the covering, near the inner end of the wharf, in constructing a timber "break," 100 feet in length and 2½ feet in height, at the inner end of the wharf, to prevent the sand from washing on to the work, and in placing about 120 cubic yds. of quarried stone in the talus on the seaward side.

A further sum of $1,000.00 was appropriated for expenditure in the construction of an extension, and the amount was expended in obtaining a portion of the creosoted timber required for the sub-structure of the proposed work.

Total expenditure to 30th June, 1900, is $13,546.17.

This wharf was transferred to control of Department of Marine and Fisheries on 2nd October, 1895.

DELAP'S COVE.

Delap's Cove, Annapolis county, is situated on the south shore of the Bay of Fundy, and is about 12 miles to the eastward of Digby Gut.

The breakwater is constructed immediately to the eastward of the mouth of a small pond which affords safe shelter for fishing boats and a convenient place for keeping small vessels during the stormy winter months. The breakwater itself affords a good loading place for coasters and small schooners, the pier breaking off all easterly storms, the formation of the coast on the opposite side of the stream forming a natural western breakwater.

This breakwater was built by the Department in 1878-79, at a cost of $2,150. It is 156 feet long and 25 feet 3 inches wide, and is constructed of round timber, with square timber faces, its easterly side being sheathed with 8 inch timber. It is provided with a "break" 4 feet 6 inches high along its seaward (easterly) side, and its covering is of 6-inch material.

In 1885, the sum of $50.00 was expended in repairing the foundation of the seaward face and depositing large stone along it, to prevent the gravel from washing away. The whole pier is in good order and is in need of no immediate repairs.

During the past year the sum of $1,000 was expended in protecting the entrance to the pond and in placing an anchor and buoy off the outer end of the pier to enable vessels to warp out and proceed to sea, and avoid the danger of going ashore on the western headland to which they were formerly exposed.

The opening into the pond was protected by extending the western face of the pier inwards 100 feet, along the face of the stream, or to where this latter opens out into the pond, and in raising the beach on the seaward side of the pier and preventing the stone and gravel from being thrown over the sea wall. The wharfing along the stream is of an average height of about 16 feet and 12 feet wide, and the entrance to the pond is now clear and unobstructed.

The warping anchor is a large rock, placed in position and fitted with proper chains and tackles, and during the summer months has a spar buoy attached, This latter is removed in winter, to avoid danger of drifting ice.

Total expenditure to 30th June, 1900, is $3,224.46.

This work was transferred to control of Department of Marine and Fisheries on 28th November, 1889.

D'ESCOUSSE.

D'Escousse Richmond county, is a thickly settled district of Isle Madame, on the southern side of Lennox Passage, a strait separating the island from the mainland, and connecting St. Peter's Bay with the Strait of Canso.

A contract entered into in 1893-94 for the construction of a wharf at Poulement ; about half a mile to the westward of the village of D'Escousse, was completed the following year. The work consists of an approach 315 feet in length, a stone embankment 107 feet in length, and a creoseted pile extension 120 feet in length. The depth at extreme low water at the outer end of the work, obtained by dredging in 1894-95, is 10 feet Spring tides rise 6 feet, neaps 4 feet.

During the year 1895-96 the sum of $236.54 was expended in constructing a slip on the west side of the pile extension, and in widening the approach at its intersection with the highway and with the stone embamkment.

Total expenditure to 30th June, 1900, including dredging, is $14,475.75.

DIGBY.

Digby, the capital of the County of Digby, with a population of about 1,500, is beautifully situated at the south-western end of the Annapolis Basin. It its an important station on the Dominion Atlantic Ralway, 70 miles north from Yarmouth, 150 miles from Halifax, 20 miles from Annapolis, and it is also a port of call for the daily steamer of the Dominion Atlantic Railway plying between Digby and St. John. The harbour is open at all seasons, and well protected from nearly all quarters : storms, however, from the north and north-east, drive a heavy sea against the pier and if at such times, there be much drift ice in the basin, the structure is liable to suffer damage.

The first pier was built by the Government of Nova Scotia some years before Confederation, and was nearly destroyed by the gales which swept the Bay of Fundy in 1866-67. In 1869, to aid in rebuilding the work, the sum of $2,920 was granted by parliament and transferred to be expended by the Provincial Government. The pier, as then built, was of pile-bents 12 feet apart, for 560 feet, next was a block of cribwork 80 feet long, 45 feet wide, the southern half of which was sloped to form an inclined slope rendered necessary by the great rise and fall of the tide (27 feet at springs). This incline was finished by a block 170 feet long by 22 feet wide, the northern half of this portion of the pier being all pile-bents 8 feet apart, The outer end of the pier consisted of a block 56 feet long, 45 feet wide and about 40 feet high. The whole of the northern face was close piled, the total length of the structure being 870 feet. In 1872 the sum of $1,650 was expended by the department in completing and repairiug the pier.

In 1874 a number of piles and braces were renewed, the outer block newly fendered, and new joists and planking laid for the total length, at a cost of $2,500. During the gale of February 22, 1879, a schooner loaded with produce for the West Indies, parted her cable and was swept bodily through the pier, carrying away a length of 130 feet, which was rebuilt at a cost of $2,367.73. In 1881-82 the sum of $888.57 was expended in renewing a few piles and other timbers that had been eaten away by the limnoria, making a total expenditure up to June, 1882, of $10,326.30.

In December, 1885, the outer end of the pier was destroyed by a severe gale and in 1885-6 the sum of $1,945.62 was expended in repairs. In 1886-7 a further amount of $767.62 was also spent on the same repairs. In 1887-8 the sum of $7,467.68 was expended in the construction of a block 40 x 40 feet on the site of the displaced outer block, of an inclined landing 26 feet wide and 80 feet long between the new outer block and the undestroyed inner portion of the pier together with a road-way on pile and frame bents connecting the whole work with the new outer block. In January, 1888, operations were begun towards rebuilding the pier to its original length, and the departmental report for the year 1888-9 shows an expenditure of $4,498.14. Up to June, 30th 1889, the new work consisted of a block 45 x 45 feet to replace the former one. It is built of round timber with double sets of face logs, and is fully ballasted ; it is 45 feet high, and connected with the older portions of the pier by a cribwork inclined landing,

over the top of which a deck wharf is carried on heavy frame bents. The inclined landing and its superstructure is 25 feet wide. The inshore or pile work section was strengthened and repaired in places, and parts of the worn and decayed plank covering were renewed. In 1889-90 the sum of $392-91 was expended in driving heavy piles along both the northern and southern sides of a centre block which was shifted and damaged by a storm of December, 1885, to prevent any further movement. In 1890-1 and again in 1891-2 small expenditures were made in general repairs.

In 1890 a contract was entered into for the construction of a landing pier to be built on a new site, viz,, on the north side of the "Racquet," about a mile to the northward of the present pier and the town of Digby. For this purpose a quantity of timber and iron had been procured by the contractor, Owing, however, to numerous delays, and the death of the contractor, the intention of building this new pier was abandoned, and it was decided instead to reconstruct and repair the present pier, utilizing as much as possible the timber and iron belonging to the estate of the deceased contractor. The work of reconstruction were carried out by day labour at a cost of $15,248.15 ; they consist of the following :

1st. The renewal of the whole of the pile work section from the shore to the head of the inclined landing, a distance of 560 feet ; the inner 430 feet being 30 feet wide on top, and the outer 110 feet, 45 feet wide. The bents are paced 10 feet apart ; the inner portion having six and the outer eigth bearing piles in each bent. Fenders or guard piles are placed on both sides of the work at each bent, and sheet piling 6 inches thick driven over the whole length of the northern face, two sets of walings each 12 inches square being placed on the inner and outer faces of the same

2nd. The removal of the cribwork block forming the head of the inclined landing down to the foundations and the construction of a new block 80 feet long and of an average width of 37 feet.

3rd. The sheet piling of the seaward face of the inclined landing from the end of the new block outwards for its entire length, and placing of new covering and floor stringers on the incline for a length of 78 feet.

4th. The removal of the old warehouse and office and erection of a new building 72 feet long and 20 feet wide, with a covered driveway along the whole south side, 15 feet wide.

In April, 1894, a length of 330 feet of the close-piling along the north side of the pier was destroyed by a violent gale, together with the caps and walings for the same distance, and about ninety of the main outside bearing or fender piles. In order to save the rest of the structure from the scouring action of the undertow set up by the sheet piling, the rest of it was immediately cut out, the sum of $141.69 being spent in effecting this work, and in saving the sheet piling and other timber that had been knocked adrift, and piling it up on the inner wharf. Subsequently, in May and June, 1894, the sum of $1,410.03 was expended in making good the damage done by the April storm The sheet-piling having proved a mistake, it was not replaced, but about ninety new heavy piles were driven and thoroughly braced and bolted.

In 1895-96 the sum of $4,341.99 was applied in filling with substantial, close-piled trestle work a space or recess on the north side of the pier near its outer end, 210 feet long by an average width of 17 feet, and in raising from two to three feet and renewing the entire floor of the outer 225 feet in length of the work.

In 1896-7 the sum of $3,132.89 was applied to the reconstruction of the southern half of the shore end of the pier for a length of 450 feet in substantial pile work ; the new work was covered with 6 inch plank and securely capped, fendered and braced.

In the year 1898-9 the sum of $579.80 was expended in the renewal and repair of the outer south corner of the pier which was damaged by being struck by the Dominion Atlantic Railway steamship *Prince Rupert* during the south-east

blow in April, 1899. In addition to this 40 feet in length of the inclined slope was replanked with 6-inch plank, and a couple of new fender piles were bolted in position

The importance of this work may be judged from the fact that the collections for wharfage during the year 1898 (January to December, inclusive), amounted to $2,221.05.

The total expenditure incurred by the department in connection with Digby Pier, up to June 30, 1900, amounts to $93,569.80, which may be subdivided as, follows :

Construction, including refund of $11,632 made to Provincial Government in 1887-8	$59,864 45
Repairs	29,513 33
Dredging	4,192 02
Total	$93,569 80

This work was transferred to control of Department of Marine & Fisheries on 12th June, 1888.

EAGLE HEAD.

Eagle Head is situated on the Atlanctic coast of Queen's County, about eight miles to the eastward of Liverpool.

Previous to 1883 a stone breakwater, 275 feet in length, was built at this place by the Local Government, and the amount appropriated has been expended in the construction of a further length of 125 feet, and repairing the old work.

No important repairs were made since 1883.

Total expenditure to 30th June, 1900, including refund of $1,344.67 paid to Provincial Government, is $3,843.92.

EAST BAY.

East Bay, Cape Breton County, is at the head of East Bay, an arm of the Great Bras d'Or Lake.

The original wharf at this place was built by the residents, aided by the Provincial Government ; it was a block and span structure 15 feet wide, with a T head (block and span) 70 feet in length and 18 feet wide. In 1882-83 a block 71 feet 6 inches by 22 feet was added to the outer end by the Federal Government, In 1888-9 and 1891-2 the blocks of the approach were reconstructed, and during the latter year the blocks of the original T head were renewed and the face and ends of the block built in 1882-3 were close piled.

The depth along the outer face of the head, at ordinary lake level, is 11 ft.

The expenditure up to the end of the fiscal year 1897-8 amounted to $3,452.80, of which $399.58 was for repairs and the balance for construction.

During the fiscal year 1898-9, the sum of $254.24 was expended in repairs and renewals. The covering, guard-rails, floor stringers and upper longitudinal timbers of the head (71 feet 6 inches x 22 feet), and the covering and floor stringers of 35 feet of the approach were renewed ; and the hand rail on each side of the approach was removed and replaced by a guard rail of 9 x 9 inches squared timber.

Total expenditure to 30th June 1900, is $3,707.04.

This work was transferred to control of Department of Marine and Fisheries on 28th February, 1884.

EAST BAY (NORTH SIDE).

In 1889-90 a wharf was constructed, in Cape Breton County, on the north side of East Bay, an arm of the Great Bras d'Or Lake, 5½ miles to the westward of the head of the bay. The distance to Sydney is 17½ miles, and to the nearest station on the Intercolonial Railway 10½ miles.

The wharf consists of an approach of brush and stone 50 feet in length and 20 feet in width, and a block and span cribwork extension 172 feet 7 inches in length, with an L at the outer end 20 x 30 feet. The depth at the outer end is 10 feet at low, or 11 feet 3 inches at high lake level.

The expenditure up to the end of the fiscal year 1898-99, including $50.00 expended during the year in repairs to the covering, amounted to $2,049.87.

During the fiscal year 1899-1900, the sum of $300.00 was expended in repairing the wharf. The repairs included: repairing and grading the approach; replacing nearly one half of the covering with new 3-inch plank; renewing unsound floor-stringers, guard rails and chocks, and in placing 6 new hardwood fenders and 4 new mooring posts.

Total expenditure to 30th June, 1900, is $2,348.87.

EAST JORDAN RIVER.

Jordan River is one of the largest and most important streams in Shelburne county, flowing for a great part of its length through valuable timber country.

It empties into the Atlantic about 3 miles east of Shelburne, the county town, and its mouth forms an estuary about 4 miles long, and from a mile to a mile and a half wide, with deep water for its whole area. At the head of the bay or estuary, which is called Jordan Bay, and on its east side 9 miles west of Lockeport, and 8 miles east of Shelburne, is a thrifty settlement of some two or three hundred people engaged in farming, lumbering, fishing and general trade. Two and a half miles farther up the river is another prosperous village called Jordan River, with a population of about 700. Here, as well as farther up the stream, are important lumber mills, where large quantities of sawn lumber are prepared for export.

The bay having straight shores and being exposed to the south and southeast, affords no shelter from gales from these quarters, and considerable risk and inconvenience was formerly experienced by the numerous large vessels that came to load lumber. In order to benefit this trade, therefore, and for the improvement of general shipping facilities, the department in 1875 constructed a breakwater on the east side of the mouth of the river, or the head of the bay, at the village of East Jordan.

This work which was substantially built of close-faced squared timber cribwork filled with stone, at a cost of $24.568.79, is 550 feet long and 30 feet wide, and at the outer end 23 feet high, when at high water ordinary spring tide, there is a depth of 19 to 20 feet of water (spring tides rise 7 feet, neaps 5½ feet).

In 1878 a quantity of heavy stone was deposited on the seaward face and end to protect the foundation from the scouring action of the waves and tidal currents.

In the spring of 1879 the upper portion of the outer end for a length of 100 feet was destroyed by a heavy gale to within 2 feet of low water mark. This damage was made good in 1882-3 by an expenditure of $5,046.12, when, owing to the settlement of the seaward or southern side of the work, the greater part of the top was rebuilt and straightened up, the seaward face, moreover, being thoroughly protected by a slope of stone reaching to high water mark. Width of breakwater at top as completed, 18 feet.

In 1883-84 slight repairs were made at a cost of $102.50.

In 1890-91, a portion of the plank covering and sheathing having been torn off during a heavy storm, it was replaced at a cost of $30.03.

In 1891-92 the inner end of the work which was damaged by a high tide and heavy sea, was repaired. The plank covering and floor stringers for a distance of 100 feet, as well as some of the face timbers, were carried away, and a considerable quantity of ballast was washed out All this was replaced by new work, and a large amount of stone was placed along the inner end of the slope, where this had in places been washed out. The cost of these repairs was $750.

During the fiscal year 1898-99, the following works of repair were carried out at a total cost of $2,348.32, viz. : from the head or outer end shorewards ; increasing the width of the breakwater 12 feet, by means of pile trestle bents placed every 5 feet, and putting on new stringers, new flooring and guard rails.

Whilst the repair work was being performed it was ascertained that the work was in a much more dilapidated state than was at first discernable, and that further repairs were required. The breakwater was, however, left in thoroughly safe condition. The excessive piling of large quantities of timber upon the breakwater in former years subjected the work to unnecessarily heavy and injurious strains. Strict orders have been issued to the present wharfinger to prevent the recurrence of such practices in the future.

The total expenditure incurred for construction up to June 30, 1900, is $29,792.24, and for repairs, $3,230.85.

This work was transferred to control of Department of Marine and Fisheries on 11th July, 1896.

ECONOMY.

Economy, Colchester County, is situated on the north side of the Basin of Minas, 17 miles west of Great Village and 21 east of Parrsboro.

A wharf was built by the department in 1887-88, 208 feet long and 25 feet wide, at a cost of $2,500.

In the summer of 1890, an extension was built 100 feet long and 25 feet wide with an L 25 feet long on the outer end, at a cost of $2,500. In the summer of 1891, a second extension was built 100 feet long of the same width as the rest of the structure, at a cost of $2,200. In the autumn of 1891, a third extension was built 55 feet in length, at a cost of $1,000

The whole structure was substantially built of round log cribwork, well ballasted and double fendered.

Its average height is about 18 feet and at the outer end, at high water ordinary spring tides, there is about 16 feet of water.

Spring tides, rise 46 feet, neaps 39 feet.

During the year 1896, the sum of $159.45 was spent in laying new plank flooring for 190 feet in length oi the shoreward portion, and in putting some new fenders on the outer block.

Total expenditure to 30th June, 1900, is $8,840,89.

ENGLISHTOWN.

Englishtown, Victoria Co., is situated on the southern shore of, and immediately within the entrance to St. Ann's Harbour, a fine basin, 7 miles in length, about 2 miles in width, and carrying a depth of about 50 feet, at the head of St. Ann's Bay on the north east coast of the Island of Cape Breton

A contract was entered into on the 23rd August for the construction of a wharf at this place. The work under contract being 236 feet in length, and consisting of an approach 27½ feet in length and 20 feet in width on top, and of 5 cribwork blocks each 20 x 20 feet on top and an outer block 20 x 40 feet on top, with openings of 17½ feet. The sub-structure of each block to be of creosoted timber, The depth at extreme low water, at the outer end will be 12 feet. Spring tides rise 5 feet.

Owing to the delay in obtaining the necessary creosoted timber, the work of construction could not be commenced until May 29th, but very good progress was made since, and up to the end of the fiscal year the sub-structure of all blocks, excepting the outer one, were in place and fully ballasted.

P.S.—The work was completed on August 11th, 1900.

Total expenditure to 30th June, 1900, is $3,761.31.

FIVE ISLAND.

Five Island, Colchester County, is a village situated on the northern side of the Basin of Minas, at the extreme western end of the county, and 15 miles to the eastward from Parrsboro.

During 1885, a wharf 75 feet long and 40 feet wide was built by the Department at "Narrow Beach" (so called). In July, 1893, the sum of $370.38 was expended in placing an entirely new floor, with stringers and guard timbers; the raising of the outer end of the wharf, about two feet which had settled to that extent; and the construction of an inclined ramp, or shoot, in the end of the wharf for the purpose of loading deals on the decks of schooners lying dry after the tide had fallen.

No important repairs have been made since 1894.

Total expenditure to 30th June, 1900, $2 870.32.

FOX ISLAND OR (LAURENCETON).

Fox Island or Laurenceton, Halifax County, is situated on the Atlantic coast of Nova Scotia, about 15 miles east of the city of Halifax and about 800 feet from the mainland. It is a very small island being only some 3 or 4 acres in extent, and no point on it is more than 6 feet above high water of ordinary spring tide. Without permanent inhabitants it is during the summer months used as a fishing station, being then occupied by fishermen and their families. Until 1879 it was connected with the mainland by a shingle and gravel bar, which being bare at all times of tide, was used as a road for carts hauling supplies of stores and fresh water to the fish houses on the island. Besides serving as a road, the beach with the island, formed a harbour for fishing boats.

During the early part of 1880 the sea broke through the beach, and the inroads continued until 1885 till the beach ceased to afford adequate shelter or to serve as a means of communication between the mainland and the island. To restore its usefulness the department in 1886-7 built beach protection work extending the whole length of the beach, a distance of 935 feet. This work, which was built by contract at a cost of $3,333 69, consisted of round timber cribwork battering one in four on the sides, 13 feet wide on top, from 3 to 6 feet high, and with a stone slope of 2 to 1 on each side, extending up to 2 feet below the top of the work. The whole cribwork was filled with stone to the level of the top timbers.

In 1891, a sum of $50 was applied in making repairs, and in 1892-3 the work was extended a distance of 252 feet in order to protect the main body of the island, at a cost, by day's work, of $650.98 In 1893-94 the sum of $412.96 was expended in rebuilding 120 feet in length of the old protection work at its junction with the new, and re-enforcing the toe of the rip-rap with some more stone. During the year 1898-9 the sum of $200 was expended in purchasing materials for the purpose of making some much needed repairs to the work.

Total expenditure incurred 1887 to 1889, $4,647,63, of which amount $250 was laid out for repairs and the balance, $4,397.63, for works of construction and improvement.

Total expenditure to 30th June, 1900, is $4,947.63.

FRENCH RIVER.

French River, Victoria County, is on that part of the east or Atlantic coast of Cape Breton Island, known as the "north shore," midway between the harbour of St. Ann's and South Ingonish.

A contract entered into in 1890-91 for the construction of an isolated breakwater 50 feet in length, 27 feet in width on top, in from six to seven feet at extreme low water, was completed the following year; it is of square timber, and is close fendered at the sides and at the outer end.

Shortly after the completion of the work, the ballast went out of the face chambers on the the east side, and subsequently the work setttled to within one foot of extreme high water, at the north-east angle, and the ballast went out of about half the face chambers on the west side.

During 1892-93 the work was reballasted and large stones were placed over brush on the eastern side, to prevent scouring.

Up to the 30th of June, 1894, the sum of $250.03 was expended in placing ballast in one pocket on the western side, and several in the eastern side of the work; and in replacing and bolting the cap timbers on the eastern side, and in placing boulders over brush at each end and over the stone placed in 1892-93.

Total expenditure to 30th June, 1900 is $3,504.93

GABARUS.

Gabarus Bay, on the Atlantic coast of Cape Breton Island, is 5 miles wide at the entrance between White Point and Gabarus, and extends inland 5 miles.

Under date of 14th April 1894, a report was submitted on a proposed breakwater at Harbour Point on the south side and near the head of the Bay, to protect the anchorage in Gabarus Cove which affords, during the summer months, a tolerably safe anchorage for vessels of moderate draught, but which is rendered unsafe in the autumn, during northerly and easterly gales. The estimated cost of the work proposed to protect the anchorage in Gabarus Cove was $50,000.

At the last session of Parliament the sum $8000, was granted towards the construction of a breakwater at this place. On Nov. 7, 1899 instructions were received to prepare plan and specification for as much work as could be constructed for the amount appropriated.

A survey of the site was made during the winter and on March 7th, 1900, plan and specification for a length of 190 ft. of work, were forwarded to the department for approval. The work specified was as follows: Inner section (70 feet in length) to be of round native timber crib-work, laid open faced and 16 feet wide on top, the outer section (120 feet long) to be constructed with squared timber faces, laid close and 24 feet wide on top, with a creosoted timber substructure; and the seaward face of the whole work, the outer and the inner face, for a distance of 15 feet from the end, were to be close-sheathed.

Contract for this work was let on Sept. 5th, 1900 to Hugh McDonald of Sydney, for the sum of $7,882.

GEORGEVILLE.

Georgeville, Antigonish Co., is on the southern shore of Northumberland Strait, 6½ miles south-west from Cape George.

The wharf at this place, as completed in 1891-92, was 207 feet long, 20 feet wide on top, with an L 20 x 20 feet, making a width at the outer end of 40 feet, and exteuded out into 5½ feet at low water. The approach, 87 feet in length, is of stone and the remainder of the work, of squared timber, close-faced, fully ballasted and protected by sheathing and fenders.

The sum of $1,800,—was made available for expenditure during 1896-97 to contract an extension, 44 feet in length, 40 feet wide, with an L, 20 x 24 feet. Active operations were commenced early in June and were in progress at the close of the fiscal year, when the substructure of the extension was constructed and made ready for launching. The expenditure amounted to $773.84.

During the year 1897-98, the extension was completed and some slight repairs to the old work were effected, the total expenditure amounting to $1,782.

During the last fiscal year the sum of $109.96 was expended in repairing some damage to the top of the outer end of the warf, caused by the weight of ice thrown upon it during a gale. The repairs consisted in renewing some floor-stringers, covering and cap and in replacing some ballast.

The depth at extreme low water at the outer end of the extension is 6½ feet. Spring tides rise 4½ feet.

Total expenditure to 30th June 1900 is $10,538.53.

GRAND ETANG BRIDGE

Grand Etang, Inverness Co., is situated on the Gulf of St. Lawrence about midway between the harbours of Margaree and Cheticamp.

The opening of a channel through a beach which separated the waters of the Gulf from a large and deep fresh water pond, and the construction of channel protection works to make the pond available for the use and shelter of fishing boats and small vessels, necessitated the diversion of the high-way across the beach and the construction, in 895-96 of a bridge across the pond, 500 feet above the former crossing.

The bridge is 563 feet in length, including the east and west approaches of brush and stone with crib-work abutments, respectively 74 and 51 feet in length; and 438 feet of pile work. It is provided with a hand rail on each side, an opening for boats, and a temporary draw.

In 1898-99, 25 piles were driven in place of piles destroyed or badly damaged by the teredo.

During the year, the sum of $154.34 was expended in placing 38 piles, 36 to 40 feet in length, at the sides of bents in place of unsound piling, and in removing and replacing covering and hand rail.

The renewal of piling with native timber can only be considered as temporary repairs. To insure the safety of the bridge all the piles should be replaced with creosoted piling.

Total expenditure to 30th June 1900 is $27,866.79.

GRAND NARROWS.

Grand Narrows, Cape Breton County, is on the south side of the Grand Narrows, a strait connecting the Great and Little Bras d'Or Lakes.

The wharf at this place is 287 feet in length, including 67 feet of crib-work filled with brush and stone, and covered with gravel; 80 feet of pile work built in 1885-86 by the department over the remains of the outer portion of an old landing pier built by the Provincial Government; and an extension, 140 feet in length, built by the department in 1883-84.

The extension consists of three blocks each 20 x 20 feet, and an outer block 20 x 60 feet of round timber cribwork, with openings of about 16 feet.

The depth at the outer end of the extension is 12 feet at low, or 13 feet at high lake level.

During the year 1891-92 the sum of $749.75 was expended in renewing the piles in one bent of the pile work, and replacing the stringers; in raising, repairing and close-piling the channel and end faces of the outer block of the exten-

sion ; in placing 25 fender piles where required, and in renewing the covering over 105 feet of pile work and extension.

Total expenditure to 30th June, 1900, including refund of $1,289.70 paid to Provincial Government, $5,539.27.

This work was transferred to control of Department of Marine and Fisheries on 12th June, 1888.

GREAT VILLAGE.

Great Village is a thriving and enterprising village of about 1,000 people situated on the north side of Cobequid Bay, and on the Great Village River, 1½ miles above its mouth. It is 15 miles west of Truro, the country town, at the extreme head of the Bay, and 3½ miles from Londonderry station on the I.C.R. About five miles to the north is the village of Acadia Mines, with a population of 2 000, where are situated the works of the Londonderry Iron Co. The chief industries of the place are shipbuilding and farming, and, the surrounding country being prosperous and thickly settled, a considerable general trade is done. About the year 1865 a wharf was built on the left or east bank of the river just below the village, by the Acadia Iron & Charcoal Company for their own use before the completion of the I.C.R. This wharf with the land round it and the other property of the Acadia Iron & Charcoal Company was afterwards bought by the Steel Company of Canada, being subsequently transferred to the Londonderry Iron Company, the late owners of the mines. The wharf of which the public always had the free use, was very roughly built of round log cribwork. It had a finished length of 45 feet and a depth of 15 feet of water at the face at H. W. O. S. T. In the year 1891 the Department built a new wharf on the side of the old one, 70 feet square on top, at a cost by contract of $1,940. The work is substantially built of round log cribwork, the three outer sides, which batter 1 to 12, being closed sheated and double fendered. Its outer face is 19 feet high, affording about 17 feet of water at H. W. O. S. T. The wharf is used during the shipping season by a large number of vessels landing general merchandise, and loading agricultural produce and a small quantity of lumber. In 1892-93 $240 was expended in general repairs ; in 1893-94 $27.86 and '94-95 $450. During the fiscal year 1899-1900 the sum of $239.58 was expendended in renewing the whole of the floor with stringers and guard timbers, and in raising and filling the approach with stone and gravel.

Total expenditure to 30th June, 1900, $2,834.01 and on protection works $11,250.00 more.

GROS NEZ

Gros Nez is a small fishing station at the eastern extremity of Petit de Grat Island, Richmond County, C.B.

During the year 1885-86, a breakwater, 150 feet in length, was built to shelter the anchorage and landing place for fishing boats.

Total expenditure to 30th June 1900, including refund of $106.95 paid to Provincial Government, $1.856.85.

GROSSES COQUES

Grosses Coques, Digby County, is situated at the mouth of a small river emptying into the St. Mary's Bay, about seven miles to the westward of Weymouth.

The pier at this place was built many years ago by private subscription aided by grants from the Local Government. For the last ten or twelve years, little or no repairs having been made the river face of the structure became much dilapidated, and parts of it fell into the stream rendering the pier quite useless for shipping purposes.

An appropriation of $3,000 was made during the session of 1888-89 for repairing the face of this pier, the inhabitants agreeing to assist by subscribing certain materials and labour gratis, and during the year 1890 the entire river face of the pier as well as the eastern breakwater have been rebuilt.

The eastern breakwater was rebuilt wholly by the inhabitants and is a light piece of work, constructed many years ago to confine the river mouth and prevent any undertow at the loading berths.

The new river face of the main pier is built of large size round timber, is 628 feet in length, and at the outer end 20 feet high, decreasing in height to 15 feet at the inner end.

The new face is of various thicknesses owing to the old work being found sounder in some places than in others, but it is all constructed in the same manner with cross-ties and fenders at 8 foot centres and two ballast floors throughout. On top it averages 22 feet in width and has three sets of longitudinal timbers, on the bottom it is somewhat less, the cross-ties being run in and secured to the old work wherever this latter was found sound enough.

The whole amount of the appropriation has been expended and all the timber work is done and the work completed in every way, except ballasting on the upper floor for about half the length of the structure.

Total expenditure to 30th June 1900 is $2,999.99.

HALL'S HARBOUR

Hall's Harbour, King's county, is situated on the south side of the Bay of Fundy, about 65 miles north-east from Digby Gut and 12 miles south-west of Scott's Bay; it is about 12 miles north-west from Kentville and county town of King's and the headquarters of the Dominion Atlantic Railway. The village has a population of some twenty families, and some years ago had a considerable shipping trade, which, however, of late years has dwindled to insignificant proportions. About the year 1839 the inhabitants, aided by the provincial government, built timber retaining walls on both sides of the harbour, which consists of a land locked basin, dry at low water of about an acre in extent, to permit vessels to lie alongside the public road. About 1844 an addition seawards to the wall on the west side was built in order to check the accumulation of gravel at the mouth of the harbour, and to serve as a breakwater. About 1885 an addition of 100 feet in length was built to this breakwater at a cost of $2,000. In 1884 it was repaired by the department at a cost of $750 and on November 6, 1884, the outer block was destroyed by a violent gale, the accompanying heavy seas having also the effect of depositing a bank of gravel which almost entirely obstructed the mouth of the harbour.

Between 1884 and 1891 the only expenditure made upon the work was a sum of $49.97 applied in sheathing the exposed and broken ends. In 1891 the sum of $500 was spent in re-building the face of the timber retaining wall on the eastern side of the harbour, 270 feet long. In November, 1893, the sum of $100.08 was spent in a few much needed repairs to the breakwater on the west side. In 1895-6 the sum of $450.83 was expended in repairs to the breakwater on the east side, and the south or shoreward end was raised from 2 to 5 feet, the whole top, 102 feet in length, was relaid with new 6 inch flatted spars with new floor stringers. Twenty-six new fenders were placed, a new piece of break was built on the north side of the shoreward end 30 feet long, 5 feet high and 5 feet wide. The shore end was also filled with ballast and levelled up with gravel.

Hall's Harbour, though small, is one of the best between Scott's Bay and Digby Gut. Spring tides rise 39 feet, neaps 33 feet. During the year 1898-9 the sum of $199.68 was expended in repairing the old breakwater, the work done consisting of the close sheathing of several weak spots on both the outer and inner sides, the renewal of a considerable portion of the floor, and the placing of

a number of new fenders and mooring posts. On January 4, 1899, a contract was entered into with J.B. MacManus for the extension of the breakwater a length of 120 feet, for the sum of $3,200. The contract stipulated that the work should be finished at the end of the fiscal year, June 30, 1899, but at that date it was only about 60 per cent completed, the expenditure amounting to $1,968. The new work is 26 feet wide on top, from 14 to 20 feet high, substantially built of round-log, stone-filled cribwork of the usual type, battering 1 in 6 and close-sheathed vertically on the outer side, and battering 1 in 12 on the inner side. The outer end is also close-sheathed, and along the seaward face is a break 4 feet 6 inches high.

Total expenditure to 30th June 1900, including $310.00 refund to Provincial Government, is $4,328.56.

This work was transferred to control of Department of Marine & Fisheries on 12th June 1888.

HAMPTON.

Hampton, Annapolis county, formerly Chute's Cove, is situated on the south-east side of the Bay of Fundy, 27 miles north-east of Digby Gut and 6 miles north-west from Bridgetown, an important station on the Dominion Atlantic Railway. It has a population of about 200 people, engaged in fishing, farming and the export of cordwood and timber.

In 1855 and 1856 a small pier 165 feet long was built near the western side of the cove, the provincial government contributing $600 to its costs. The site was chosen by commissioners, apparently without professional advice and was objectionable on many accounts. In 1879, at a cost of $3,000, an addition of 121 feet was made by the department, and the older portions of the work strengthened with the hope of remedying some of its defects of location.

In 1881, on further examination, it was found that the original work had been badly undermined by the sea, and that owing to the direction of the pier, the shingle was fast shoaling the water on the inside. It was therefore decided to rebuild the structure on another site about half a mile to the eastward, which was carried out at a cost of $2,300. The new pier as then completed was 246 feet long, more substantially built, and much better located than the old one, it being situated immediately to the westward of the mouth of a small brook which serves to keep the schooner berth alongside free from sand. In 1888-9, it having been found that the stream had worked under the foundation, endangering the whole structure, the department expended the sum of $750 in close-piling the entire inner face, levelling up the top of the work which had settled in places, putting in some additional ballast, and effecting general repairs to the covering and break.

In February, 1889, during a heavy freshet, the brook again gave trouble, tearing away its banks and the gravel beach and threatening to undermine the breakwater. In 1890-91, the department spent $21 in repairing the damage and in turning the brook into its original channel. In 1892-93, the breakwater being found not quite long enough to afford a convenient berth for schooners, the department applied the sum of $1,500.09 in constructing a block 40 feet long, 27 feet wide on top and 27 feet high on the outer end, and in repairing about 100 feet of the inner end of the old work, by raising the inner face, putting in new floor stringers and covering them with new planking, thus putting the work in a thorough state of repair.

In the year 1898-99, the sum of $1,999.79 was expended in thorough repair of the breakwater. The whole top of the work for the outer 185 feet in length, 20 to 26 feet in width, was raised with new work for a height of from 2 to 4 feet, rendered necessary by the great and unequal settlement of the work caused by the scouring action of the little stream that discharges alongside and had made

its way beneath it. To prevent a repetition, of this action, the inside face of the breakwater has been protected for a length of 80 feet with a puddle, wall faced on the outer side with 3-inch plank. The breakwater has a total length of 270 feet, a width of from 20 to 26 feet and a height, at the outer end, of 24 feet, where at high water ordinary spring tide, there is a depth of 21 feet of water. Spring tides rise 32 feet, neap tides 18 feet.

Total expenditure to 30th June 1900, including refund of $1538.10 to Provincial Government, $11,108.89.

This work was transferred to control of Department of Marine and Fisheries on 12th June 1888.

HANTSPORT.

Hantsport, Hants county, a prosperous village of about 1,500 people, is situated on the left or west bank of the Avon River, here a mile and three-quarters wide, about half way between Windsor, the county town, and the mouth of the river, where it enters the Basin of Minas. It is also an important station on the Dominion Atlantic railway, seven miles north-west from Windsor, and fifty-three from Halifax. The chief business of the place has been, in the past, the building, repairing and owning of large wooden sailing vessels. Although this has somewhat declined in late years, it is still of considerable importance, there being nearly 25,000 tons of shipping owned in the place. For eight months of the year a steamer runs to St. John, N.B., and intermediate ports; another small steamer runs to Windsor and other ports on the river. There being no public wharf in the place, the department decided to build, and a contract was awarded to Messrs. Simmons & Burpee, of Fredericton, on the 16th June 1897, for the construction for the sum of $5,947. According to contract the work was to have been finished at the end of the fiscal year 1897-98, but, owing to unforeseen difficulties in procuring materials this could not be accomplished. It is a substantial structure of stone filled cribwork, about 200 feet long, 32 feet wide, with an outer face 64 feet long; at the outer end it is 26 feet high. At high water there is a depth of 23 feet along the outer face. The tides rise nearly 40 feet so that at low water there is no water near the wharf. At the close of the year 1897-98 the total expenditure was $2,784.50 and the work was not completed before the fiscal year 1899.

Total expenditure to 30th June 1900 is $6,439.63.

HARBOURVILLE.

Harbourville, Kings County, is situated on the south shore of the Bay of Fundy, 53 miles north-east from Digby Gut. The population of the settlement is about 200 people engaged in fishing and farming, the former being the staple industry. The harbour, which is only 400 long by 200 feet wide, and dry at low water, is formed by the mouth of Givan's Brook, and affords at high water complete shelter from storms from all quarters to vessels drawing up to 14 feet of water. The works here consist of two breakwaters or piers, one on either side to the entrance to the harbour. They were built many years ago, before Confederation, by the Provincial Government, when the shipping business of the place was considerably greater than it has been since the opening of the D. A. Ry. in 1868. The western breakwater was extended by the Department in 1876 at a cost of $2,000, since which date numerous small expenditures, aggregating up to 1897 $7,861.09, have been made in repairs and renewals to one or other pier. Both works are of open faced round log cribwork, their outer ends being close sheated with flatted spars. In the fiscal year ending June 30th, 1900, the sum

of $2,399.90 was expended in general repairs and improvements. The work done consists of the widening of the outer end of the western breakwater to the full width of the rest of the work (45 ft.) and its extension one panel length (12 feet) also the extension of the eastern breakwater or wharf by a new piece 80 feet long and 20 feet wide designed to protect vessels lying at the breakwater. (Owing to the insufficiency of this year's appropriation, this latter piece of work still lacks about five feet of its proper and finished height).

Total expenditure to 30th June, 1900, including refund of $323.00 to Provincial Government, $10,634.91.

This work was transferred to control of Department of Marine & Fisheries on 12th June, 1888.

HILTZ.

Hiltz's Narrows, Lunenburg County, form the entrance to a sheltered cove or lagoon of some 150 acres in extent, situated on the west side of Mahone Bay, about 6 miles south-west from Chester and 4 north-east from the village of Mahone Bay.

In 1875-76 the Provincial Government built a cribwork warping pier, 270 feet long, 8 feet wide and 7 feet high, on the north side of the entrance, which at its narrowest point is only 200 feet wide, to enable fishing boats to pass in and out at ebb and flood tide, when there is a very strong current.

During the year 1895 the department spent the sum of $60 in repairs to this little structure, The work done consists of the rebuilding of a length of about 12 feet that had been broken down by ice, and the placing and bolting of 40 new fenders.

Some small repairs were also made in 1897.

Total expenditure to 30 June, 1900 is $120.00.

INGONISH

Ingonish Bay lies on the north-east coast of Cape Breton Island, about midway between Sydney Harbour and Cape North.

It is divided into North and South Bays by Middle Head, a narrow rocky and precipitous peninsula, over 2 miles in length. At the head of South Bay there is an extensive pond separated from the sea by a shingle and boulder beach through which there formerly existed a comparatively shallow channel, 60 feet in width with a depth of 5 feet at extreme low water, available for fishing boats at high water only.

In 1875 works were undertaken by the department for the improvement of the channel. On their completion in 1876 there was a channel 200 feet in width, with a depth of nowhere less than 14 feet, and with its northern side protected by a pier 500 feet in length, thus giving access for vessels to the pond, which has an area of about 400 acres and affords a safe and commodious harbour.

The pier, on which small sums were expended every year from 1876 to 1880, and larger amounts in 1881 and 1882, sustained serious damage during heavy easterly gales in 1882, and was subsequently carried away down to below low water.

In 1886-87 an anchor and mooring buoy were placed in the harbour near the entrance, and a beach protection work 58 feet in length was constructed on the north side of the entrance.

In 1893-94 the sum of $1.143.73 was expended in the construction of a wharf near the entrance to the harbour, consisting of a block of cribwork 31½ feet wide on top and 30½ feet in length, with an approach of brush and stone 45 feet in length, and 20 feet wide on top. The depth at the outer end at extreme low water is 8 feet 3 inches.

During the fiscal year 1894-95 the sum of $967.42 was expended in closing

a breach at the back of the beach protection work on the north side of the entrance, by constructing a cribwork block 45 feet in length and 15 feet in width, and placing brush and stone at the sides.

During a great easterly gale accompanied by an extraordinary high tide, on the 4th February, 1895, the beach was swept from end to end. Nearly all the buildings and all the private wharfs were destroyed, but the public works were not disturbed with the exception of some settlement in the slope on the seaward side of the beach protection work.

Since 1882 the channel has decreased in width, but it has maintained its depth fairly well. It is still nowhere less than 100 feet in width, and has a depth of not less than 13 feet 6 inches at extreme low water.

Spring tides rise 5 feet.

Total expenditure to 30th. June 1900 is $93.662.63.

INGONISH (NORTH BAY)

Ingonish, (North Bay) is on the north east or Atlantic coast of Cape Breton Island about midway between Sydney Harbour and Cape North. It is separated from the South Bay of Ingonish by a narrow and precipitous peninsula 2 miles in length. At the head of the South Bay, a good harbour was made in 1873.78 by improving the entrance to an extensive deep water pond.

On the 6th December a contract was entered into for the construction of a breakwater at Archibald's Point, on the north side of the North Bay, for the sum of $27,250. The contract is for a work 484 feet in length, measnsed on a line running parallel to the southern or seaward face and distant 9 ft. therefrom, with an L 77½ feet in length measured on the centre line, of open face cribwork protected on the seaward face and the outer end by close sheating, with sub-structure of creosoted timber. The depths at extreme low water will be, at the outer end 11 feet and over the sheltered area, from 8 to 5 feet. Spring tides rise 4 feet.

The work of construction was only commenced on June 13th, but good progress was made, and by the end of June about one eight of the work under contract was in place.

Amount expendod to 30th June, 1900 is $3,784.34.

IONA.

Iona, Victoria Co., is on the northern side of the Grand Narrows, or Barra Strait, connecting the Great and Little Bras d'Or Lakes. It is a station on the Intercolonial Railway, and a landing place for Steamers of the Bras d'Or Steam Navigation Co.

A wharf 109½ feet in length, built by the Provincial Government in 1867, came under the charge of the Department and was reconstructed and extended in 1885-86. The extension consisted of a block 20 x 20 feet and an outer block or head 20 x 60 feet, with a span of 24 feet.

In 1891, it was observed that the outer block or head, had been affected by the ravages of the teredo, and that a bank of sand and gravel had formed round its southwest corner, subsequently the head became so delapitated as to render access to it impossible, except during perfectly calm weather.

Of the $2,000.00 voted for expenditure during 1898 99, the sum of $485.66 was expended in procuring the creosoted timber required in the construction of a proposed creosoted pile head over the outer block.

During the last fiscal year, the sum of $1,514.53 was expended in constructing a creosoted pile head and in raising and repairing approach. The new head is 42 feet in width at the west end, and 22 feet at the east end; and 72 feet in length. The depth, at low lake level, at the outer face of the head, varies from 11½ feet

at the west end (increasing to 14 feet in a distance of 10 feet from the face to 18 feet at the east end.

Total expenditure to 30th June 1900 is $6,012.60.

IRISH COVE.

Irish Cove, Cape Breton county, is on the south-east shore of the Great Bras d'Or Lake, near the entrance to East Bay. The distance to the head of East Bay is 20 miles; to St. Peter's Canal, about 22 miles, and across the lake to Grand Narrows, 10 miles.

The wharf at this place, commenced in 1891-2 and completed the following year, is 160 feet 8 inches in length, and 20 feet in width, including a shore block 47 feet in length, a central block 20 feet 4 inches in length and an outer block 57 feet in length with an L 20 x 20 feet. The openings are respectively 17 feet 6 inches and 18 feet 10 inches. The depth at the outer end varies from 12 feet 3 inches to 13 feet at low lake level. It was strongly constructed, fully ballasted and had the exposed face of the outer block protected by close piling.

The amount expended in construction was $3,245.94. There was no further expenditure up to the end of the fiscal year 1897-8.

During the fiscal year 1898-9 the sum of $209.31 was expended in renewing part of the close piling of the outer block, all of which had been badly damaged or destroyed by the teredo. Four corner piles and fifty-four intermediate piles were placed and secured.

Total expenditure to 30th June 1900 is $3,455.25.

This work was transferred to control of Marine and Fisheries on 12th Sept. 1892.

ISLAND POINT.

Island Point, Victoria County, is on the south side of Boularderie Island, 18 miles west from the bridge crossing the Little Bras d'Or.

The wharf at this place built by the Government in 1886-87, is 120 feet in length and 20 feet in width, in blocks and spans. At the outer end a side block forms a head 41 feet in length. The depth at the outer end, at ordinary lake level, is 11 feet.

On examining the wharf in November, 1891, it was ascertained that the head had been struck by a field of ice in March, 1889, and the whole top down to 5 feet below water level moved 2 feet, the effect being to cause it to overhang, accompanied by a settlement of from 1 to 3 inches, to 2 feet 9 inches; and that the work below water was badly worm eaten.

During the fiscal year 1892-93 the sum of $499.48 was expended in raising the head of the wharf to the general level of the approach; in replacing a small quantity of ballast; in close piling the west or overhanging face; and in renewing 5,700 feet b. m. of covering.

Total expenditure to 30th June 1900 is $2460.13.

JOGGINS.

"The Joggins," Cumberland county, is a small settlement of some three to four hundred people, situated on the south-east side of Chignecto channel, the northern arm of the Bay of Fundy. It is about ten miles from the head of Cumberland Basin, and fourteen miles from Maccan station on the I. C. railway with which it is connected by the Joggins Railway built in 1889. About a mile to the east is situated the colliery of the Joggins Railway & Coal Company; the coal being brought down to the loading pier by means of a wire rope tramway. A breakwater, which protects the company's loading pier, was built over twenty years ago by the Joggins Coal company. In the year 1875 the department

extended the head of the breakwater a distance of 120 feet; making its present total length 280 feet. In 1890 and 1891 it was repaired by the department at a cost of $2,200 and $1,000 respectively. In the year 1896-97 the sum of $1,500 was expended in extensive repairs and renewals, and during the year 1897-98 the sum of $399.28 was expended in completing the repairs. The floor, with stringers and guard timbers, was renewed for a length of 207 feet, 40 feet in length of the outer end was close sheathed and four new mooring post were placed in position. This breakwater is now in excellent condition.

Total expenditure to 30th June 1900 is $15,070.67.

JOHNSON'S HARBOUR (HAY COVE).

Johnson's Harbour (formerly called Hay Cove), Richmond county, is an inlet of the Great Bras d'Or Lake, distant from St. Peter's Canal, 10 miles, and from the head of East Bay, 20 miles.

In 1881 the residents of the district built a wharf, 40 feet in length and 21 feet in width, at the eastern side of the harbour, near the entrance. In 1883-84, the department raised the wharf 2 feet in height, and placed a block 27 feet in length and 20 feet in width, against its southern face. In 1886-87 fender piles were driven along the side and channel faces, and the space between the south block and the shore was filled in. In 1893-94, the sum of $759.76 was expended in cutting down the outer portion of the structure for a distance of 20 feet back from the channel face; in the construction of a cross-wall of cribwork 10 feet wide, and of pile-work extending 10 feet beyond the original channel face; and in filling in between the cribwork cross-wall and the shore.

The depth of low lake level, at the outer face of the pile extension, varies from 8 to 10 feet, increasing to about 15 feet at a distance of 10 feet beyond the outer face.

The expenditure by the department, up to the end of the fiscal year 1897-8, amounted to $1,109.76, of which amount $859.76 may be considered to have been laid out for construction and $250 for repairs.

During the fiscal year 1898-9, the sum of $10 was expended in slight repairs to the inner end of the southern face of the wharf.

Total expenditure to 30th June 1900 is $1,119.76.

JONES HARBOUR

Jones Harbour is situated on the eastern side of the mouth of Sable River, and is distant by water about 12 miles east of Lockeport.

The harbour is small but well sheltered, having from 9 to 12 feet of water in the channel at low tide; it is much used by boat fishermen in the fall when the larger vessels have returned from "the banks." There is a strong tide in the harbour at certain times, and in 1888 the Department expended the sum of $50 in placing 3 ring bolt moorings so that the fishermen could secure their boats in safety.

During the present fiscal year a landing wharf and breakwater have been constructed inside the mouth of the harbour to enable the fishermen to use a larger class of boats and also to give them landing facilities.

The wharf is 175 feet long and consists of an inshore end 90 feet long and 15 feet wide, built of large stone; a centre portion of cribwork which is the same width and 45 feet long, and an outer or channel block 40 feet long and 20 feet wide, also of cribwork. The cribwork sections are round timber, ballasted with large stone, fendered on all outside faces and have their surfaces covered with 3 inch plank. Spring tides rise 7 feet and there is 9 feet of water at the outer end of the wharf at low tide.

Total expenditure to 30th June 1900 is $1047.99.

JUDIQUE

Judique, Inverness Co., is on the east side of St. George's Bay, 10 miles south from Port Hood and 16 miles north from the entrance to the Strait of Canso.

A contract was entered into in April 1898 for the construction of a breakwater at McKay's Point, near the entrance to Judique Pond, for the sum of $14,143. During the year 1898-99 the work was prosecuted vigorously and was in progress at the end of the year, when the whole of the substructure was in place with the exception of that of the outer 67 feet, and when the superstructure over the remainder was approaching completion.

The work under contract was completed and accepted on Nov. 2nd 1899.

The breakwater is 725 feet in length and 20 feet in width, on top, with an L at the outer end 20 feet in length, of open-faced cribwork fully ballasted, close fendered at the outer end, and protected on the north side by a talus of stone: the substructure is of creosoted North Carolina short leaf pine, and the superstructure of native timber. The depth at the outer end at extreme low water, is 6 feet 3 inches. Spring tides rise 4 feet 6 inches.

Total expenditure to 30 June 1900 is $19,907.11.

KINGSPORT (OAK POINT)

Kingsport, formerly Oak Point, King's County, is situated on the western shore of the Basin of Minas, between the mouth of the Cornwallis River and Cape Blomidon, and it is the eastern terminus of a branch of the Windsor and Annapolis Railway now under construction.

The original pier was 445 feet in length, and was owned and controlled by a pier company, which transferred it to the Crown in 1873-74. A cribwork facing, 12 feet wide, was built along the eastern or exposed side, for the purpose of breaking the force of the sea.

In March, 1875, a contract was made for the extension of the pier 270 feet, with a width of 30 feet, in order to increase the area sheltered and afford earlier access to the harbour which, owing to the great range of tides (from 40 to 43 feet), is dry between half ebb and half flood, and was completed in November 1875.

In 1883-84 some slight repairs were made to the older work, and in 1885-86 the covering which had become old and worn in places was renewed.

During 1887, 107 feet of the damaged face work of the breakwater was rebuilt.

In the autumn of 1888 it was found that the covering of the pile work section was so decayed that it was impossible for the farmers to reach the outer part of the pier with their loaded teams, and a plank driveway, 12 feet wide over the pile section, was begun in November and completed during the early part of the winter.

Total expenditure to 30th June 1900, including refund of $1738.14 paid to Provincial Government, $27,576.97.

This work was transferred to control of Department of Marine & Fisheries on 12th June 1888.

L'ARDOISE

L'Ardoise, Richmond Co., is situated on the eastern side of St. Peters Bay near its entrance from the Atlantic Ocean, and about 9 miles from the southern entrance to St. Peters Canal.

An isolated breakwater built off Martin's Point, in from 5 to 10 feet at low water, in 1876-77, was almost entirely destroyed in 1883.

A contract entered into in 1891 for the reconstruction of the work was completed in August 1893. The new work consisted of a timber core, 400 feet in

length and 20 feet in width, placed over the remains of the former structure in from 1 to 4½ feet at low water, its top standing one foot above high water the whole being covered with stone sloping 3 to 1 on the seaward side. The whole surface of the work, above low water mark, was covered with stone of not less than 15 cubic feet, the spaces between the stones, above the line of high water, being filled in with cement concrete.

In 1894-95, the sum of $4293.87 was expended in effecting repairs to the breakwater, the covering stones of the seaward and outer end slopes having been disturbed shortly after the completion of the work in 1883.

The expenditure up to the end of the fiscal year 1897-98 amounted to $32,445.65, of which $10,545 was expended in constructing and repairing the old work.

The covering stones on the seaward and outer end slopes having again been disturbed, the sum of $3,500.—was appropriated for expenditure during the fiscal year 1898-99, in making up the slopes with extra large stones, and in constructing a concrete wall over the outer face and ends of the crib-work core, 4½ feet in height and 3 feet in width on top. Repairs were commenced in April (the large stone having been procured during the winter) and were in progress at the end of the year when the expenditure amounted to $3,180.97. This expenditure was made in procuring 585 cub. yds. of large stone; repairing and fitting up derricks and scows, procuring 210 bls. Portland cement; and in constructing 120 feet of concrete wall and placing 285 cub. yds of large stone.

During the fiscal year 1899-1900, the sum of $1,472.12 was expended in constructing 320 feet of concrete wall and in placing 300 cubic yards of large stone, thus completing the repairs undertaken in 1898-99.

Total expenditure to 30th. June 1900 is $37,098.74.

LAWLOR'S ISLAND

Lawlor's Island, the quarantine station for the port of Halifax, is situated five miles in a direct line south-east from the city. It is 1⅛ miles long, ¼ mile wide its highest point about 80 feet above high water, and it lies midway between the southern end of MacNab's Island and the mainland on eastern passage, in the southeastern part, or entrance to Halifax Harbour. It is well wooded and conveniently situated, and is admirably adapted for a quarantine station.

During the year 1892-93 the small landing wharf, 105 feet long by 15 feet wide, on the east side of the island, was repaired by day-work, at a cost of $247.29. The repairs consist of a few new piles and caps and an entire new floor.

Owing to the necessity for enabling ocean steamers to land passengers on the island, conveniently, and undergo disinfection before proceeding to dock, a contract was entered into for the construction of a wharf on the north-west point of the island, which was brought to completion in November, 1893.

It is a pile structure throughout, 280 feet in length, with a head at its outer end 400 feet in length and 40 feet in width, having a depth of 27 feet along its face at low water, ordinary spring tides.

The pile bents in the stem, which is 30 feet in width, are 10 feet apart, and are composed of eight piles each, including brace and fender piles, the vertical bearing piles being 5 ft. 10-in. apart, centre to centre. The bents in the head of the wharf are also 10 feet apart, and have ten piles each, the vertical piles being 6 ft. 6 ins. apart between centres. All the bents, both in the stem and the head, are double cross-braced above low water, ordinary spring tides, with four 6-in. by 10-in. braces. The floor beams over the whole of the work correspond in number and spacing with the piles, and are 8-in. by 12-in. in section lapping a clear foot on, and well bolted to the 12-in. by 12-in. caps, and they are covered with a flooring of hemlock plank, 3 inches in tickness. Around the whole of the wharf a guard timber, 10-in. by 12-in. dimensions, has been placed and bolted at

intervals of five feet, ¼-inch bolts. For mooring purposes 11 ring bolts and 13 mooring posts have been provided, and on the south-eastern side of the head, an easy flight of steps has been placed, reaching from extreme low water mark to the floor, which stands 7 feet above high water, ordinary spring tides, which rise 6 feet, and neap tides 5 feet. Expenditure during the year, $5,202.50.

Total expenditure to 30th. June 1900 is $5.202.50.

LISMORE.

Lismore, Pictou County, is on the Strait of Northumberland, 10 miles to the eastward of the entrance to the harbour of Merigomish station on the eastern extension of the Intercolonial Railway.

A wharf, 197 feet in length and 20 feet in width, was commenced in 1886-87 and completed during the following year. In 1890-91 and 1891-92 it was extended a distance of 181 feet, thus making its total length, 378 feet. The structure has been built of round timber, is fully ballasted, and is protected by close fendering.

During the year 1894 it was found that the outer 37 feet, which had been built as a separate block, had moved outwards some 2 feet, leaving a space of 5 ft. between the cross-ties. The repairs executed consisted in tieing this block to the remainder of the work with square timber placed on each side over the close fendering above the lines of low water, and stringers over the upper cross-ties, the whole being securely bolted. The 2 feet openings on each side were filled with timbers placed vertically and secured, and the space between the cross ties was filled wtth brush and stone. The cost of these repairs amounted to $99.50.

The depth at the outer end at extreme low water is 3 feet 9 in. Spring tides rise 4 feet 6 in.

Total expenditure to 30th June' 1900 is $6,818.44.

This wharf was transferred to control of Department of Marine & Fisheries on 29th June. 1895.

LITTLE BROOK.

Little Brook is situated on the thickly settled eastshore of St. Mary's Bay, Bay of Fundy, 2½ miles south from Church Point, 33 miles south of Digby, the County town, and 36 miles north of Yarmouth.

Some years prior to Confederation a breakwater was built here by the inhabitants aided by the Provincial Government.

In 1873 four blocks of cribwork in the middle of the work were partially destroyed by a gale, and the sum of $600 from the Provincial "Navigation Securities" was expended in repairs.

In 1891-92 the sum of $100 was expended by the Department in repairing the upper portions of the work which were considerably damaged by an exceptionally high tide in the autumn of 1890. A piece of 20 feet square by 5 ft. deep was rebuilt, and 100 tons of additional ballast placed in the work.

This breakwater, which is substantially built of stone filled cribwork of the usual type, is 400 feet long, 20 to 35 feet wide, and 20 feet high at the outer end, where there is an L 40 feet long by 25 feet wide. It is much used during the summer months for the shipment of piling, cordwood, lumber and timber, with small quantities of fish, and the landing of general merchandise and supplies for local trade and consumption. Little or no use is made of it during the winter owing to accumulations of ice. At high water of ordinary spring tides there is a depth of 15 feet of water at the outer end. At low water the sand flats are bare beyond the end for many hundred feet. Spring tides rise 21 feet neaps 17 feet.

Total expenditure by Department to 30th June, 1900 $100.00

LITTLE NARROWS

Little Narrows, Victoria county, is a contraction of the St. Patrick's channel of the Great Bras d'Or Lake at a point seven miles to the eastward of the village of Whycocomagh.

The public wharf was built in 1897-98 on the south side of the narrows; it consists of a shore block 47½ feet in length, 20 feet in width, and a pile extension 82 feet in length with a return 40 feet by 20 feet at the outer end where a depth of 14 feet is available. The level of the lake is nearly constant.

The wharf is used by one of the steamers of the Bras d'Or Steam Navigation company plying between Little Bras d'Or, Baddeck and Whycocomagh, and is a place of shipment for cattle and farm produce.

In August and September, 1897, a sum of $499.65 was applied in partly reconstructing and repairing the pile wharf and in renewing the piles of three out of five bents of the approach and repairing the covering of the same.

Total expenditure to 30th. June 1900 is $19.999.65.

LIVINGSTON'S COVE.

Livingston's Cove, Antigonish Co., is on the Northumberland Strait a few miles to the westward of Cape George, and distant, by road, from McNair's Cove on St. George's Bay 3½ miles, and from Georgeville on the Northumberland Strait, 4 miles.

For the purpose of affording shelter for the fishing boats of the district and a landing place for steamers and small vessels, the sum of $3.000.—was appropriated for expenditure during 1898-99, in procuring material to be used in the construction of a breakwater the estimated cost of which was $6.000. The work proposed is to extend to 7 feet at low water and include: a road cutting 105 feet in length; an embankment with stone retaining walls and centre filling of brush, stone, and clay, 30 feet in length: and 80 feet of cribwork 10 feet in width, with a grade of 1 in 8; and a cribwork extension 160 feet in length and 24 feet in width with an L 24 x 24 feet.

During the year 1898-99 $2.999.94 was expended in procuring nearly all the timber required for the proposed work, and about 700 cub. yds. of ballast.

During the last fiscal year $2.962.40 out of the $3.000—appropriated to complete the work was expended in constructing the road way, the stone and brush abutment, 80 ft. of cribwork, 19 feet in width, and 40 feet of the proposed 160 feet extension: and in procuring about 700 cubic yds. of ballast.

Total expenditure to 30th June 1900 is $5.962.34.

LOWER HORTON.

Lower Horton or Horton Landing, King's County, is a farming village of some 200 people on the left or north bank of the Gaspereau River, at the southern end of the Basin of Minas, and close to the village of Grand Pré.

It is also a station on the D. A. Ry., between Windsor and Kentville: being 14 miles from the former and 11 from the latter. About 60 years ago a landing wharf was built here by the inhabitants aided by the Provincial Government.

In 1887-88 this work, which is about 3 miles by water and 2 miles by land, west of that at Avonport, had become so decayed and dilapidated as to be quite useless for shipping purposes, and the department expended the sum of $737.21 on repairs, and in 1888-89 the sum of $2,252.25 in rebuilding it. The new wharf which is on the site of the old one, is constructed of round log open cribwork, 172 feet long, 65 feet wide at the outer, and 23 feet 6 inches at the inner end. The outer end is dry at L. W. owing to the great range of tide, 40 to 48 feet, but at H. W. vessels drawing 18 feet can reach it.

During the year 1896-97 the sum of $270.25 (appropriation $435.00) was expended in a few much needed repairs. The work done consists in the relooring of the shore-ward half of the wharf, together with the placing of new guard timbers and a few new floor stringers, and the building of two small piers of cribwork, about 15 feet long, 6 feet wide, and 4 to 5 feet high, one on either side of the shore end of the wharf to prevent the bank from wearing away. The work is now in good condition.

Total expenditure to 30th June 1900 is $2,989.59.

LOUIS HEAD.

Louis Head, Shelburne County, is a thrifty little fishing settlement of about 100 people situated on the western side of the mouth of Sable River about 17 miles east from Shelburne, the county town, and 10 miles from Lockeport.

In 1892, the department built a breakwater here for the purpose of forming a shelter for fishing boats and small vessels, and to serve also as a landing wharf for general purposes.

The work which was built close against the remains of an ancient wharf (subsequently removed) is 150 feet long, 20 feet wide, and 22 feet high at the outer end, where at H. W. O. S. T. there is a depth of 18 feet of water. (Springs rise 7¼ feet. Neaps 5¾).

The whole structure is very stongly built in order to resist the heavy seas from the S. E. to which it is much exposed. It is of close-faced square timber cribwork throughout, double fendered and full ballasted. The seaward face slopes 1 to 1 from the level of the floor to 2 feet above L. W. O. S. T., and is covered with 6 inch birch plank. The outer end as well as the seaward face is protected with a toe of heavy rip-rap. The breakwater was built by contract and cost $4,440.22.

At its session of 1898 Parliament made an appropriation of $600 for the removal of the delapidated portions of an old pier of cribwork 235 feet long by 12 feet wide to the northward of the breakwater and the extension of the same. This old work was built by the local authorities to protect the beach that shelters a small cove or boat harbour on its inner side.

During the fiscal year 1898-99 a sum of $590 had been expended in renewing the old pier for an average height of 6 feet, and adding a pier of new cribwork 46 feet long, 10 feet wide and 8 feet high. The extension was built with the view of more effectually protecting the beach from the undertow that sweeps around the end of the work; during heavy storms; this was so heavy as to threaten the entire destruction of the cribwork and beach combined.

Total expenditure to 30th June 1900 is $4.440.22.

MABOU.

Mabou Harbour, Inverness county, is on the west coast of Cape Breton Island, six miles north-east from Port Hood.

The entrance was formerly at the southern extremity of a range of sand hills and by an intricate channel obstructed by a bar, over which there was a depth of only 4 feet at low water.

In 1870 a survey was made and a report submitted on the project of opening a channel through the sand-hills at their northern extremity.

The work was commenced in 1872. A pier on the south side of the new channel was completed in 1876, and the same year the old channel was closed. Expenditures were made nearly every year from 1876 to 1894, in repairs to the pier, the construction of brush and stone works on the south side and of protection works on the north side of the channel and in dredging.

During the year 1897-98 the sum of $1.999.96, was expended in repairing the

protection works on the north side and in raising the brush and stone work on the south side of the channel.

The minimum depth at extreme low water in the new channel is 8 feet 3 inches. Springs tides rise 4 feet.

Total expenditure to 30th June 1900, including dredging, $154,358.57.

MALIGNANT COVE

Malignant Cove, Antigonish Co., is on the Northumberland Strait, about midway between Arisaig and Georgeville, and distant from each about 4 miles.

The sum of $5,000 was appropriated for expenditure, during 1899-1900, in opening a channel for boats into a small pond at the head of the Cove, and in constructing protection works. During the year a plan and specification for works extending, outside, to 7 feet at low water were prepared, and the sum of $3,893.35 was expended in procuring the materials required in the construction.

The works proposed include the construction of piers placed 60 feet apart on each side of a channel, to be excavated to 2 feet at low water. The piers extending 248 feet inwards from low water outside, to be 10 feet in width and to be founded at low water. Those extending 90 feet from low water outwards to be 16 feet in width over 60 feet from their inner ends, and 22 feet in width over the outer 30 feet.

MARGAREE.

Margaree Harbour, at the mouth of the Margaree River, Inverness County, is on the west coast of Cape Breton Island, about 30 miles north-east of Port Hood. It has a narrow and intricate channel through which the tides run at the rate of 4 knots, and its entrance is obstructed by a bar of shifting sand, over which there is at times a depth of only 5 feet at extreme low water. Spring tides rise 4 feet.

A pier constructed on the west side of the entrance to the harbour by the Provincial Government, prior to Confederation, was repaired and extended by the department in 1876, in 1879, and again in 1890; the first extension being 85 feet, the second 130 feet and the last 200 feet in length.

The expenditure up to the end of the fiscal year 1897-98 amounted to $16,554.92, of which $274.83 was refund to the Local Government, $12,901.67 was for extending and repairing the pier and $3,378.42 for protecting the beach on the eastern side of the entrance to the harbour.

In February, 1898, a contract was entered into for the construction of a further extension of 180 feet, 20 feet wide on top over a distance of 156 feet from the inner end, and 24 feet over the remaining 24 feet, with faces battering 1 in 6.

The work was commenced early in July and completed and accepted on Dec. 23, 1898. It is constructed of round timber, open-faced with ties, of round timber; the corners are fendered, and all the faces are close sheated with hardwood timber. For a distance of 156 feet, the top of the covering is 4 feet, and for the remaining distance of 24 feet it is 5 feet above assumed high water.

An expenditure of $4,051 was incurred in 1898-9 in connection with the extension of the pier.

Besides the construction of the extension, the sum of $178.66 was applied during the months of October and November, 1898, by day labour, in placing 88 cubic yards of large stone in face chambers of work built in 1890, and in removing and replacing covering, and reballasting 44 feet of inner end of the old work, and in reconstructing the approach thereto.

Total expenditure to 30th June, 1900, including refund of $274.83 paid to Provincial Government, $20,784.58.

MARGAREE ISLAND

Margaree Island is situated in the Gulf of St. Lawrence 2½ miles off the western coast of Cape Breton Island, 27 miles north-east from Port Hood.

The sum of $2,000, was appropriated for expenditure during the fiscal year 1899-1900, in the construction of a wharf at Margaree Island.

A plan and specification were prepared for a wharf 20 feet in width, to extend 98 feet, to 8 feet 6 inches at extreme low water.

The whole of the amount appropriated was expended before the 30th June in procuring the materials required, and in making preparations for construction.

MARGARETVILLE

Margaretville is on the south shore of the Bay of Fundy, in Annapolis County, and about 42 miles east of Digby Gut. A pier was begun here in 1837 by the Provincial Government,and subsequently extended to a length of 471 feet. When taken in charge by the Department in 1871 it was found to be much damaged by sea-worms and in need of extensive repairs, which were made in the two following years at a cost of $3,650.

In 1876 a further amount of $5,000 was expended in extending the pier, and in 1879 $5,000 in repairs.

This is one of the two places selected as eligible for the formation of a harbour of refuge. Harborville, thirteen miles to the eastward, being the other.

Margaretville, Annapolis county, is the largest and most important village on the south coast of the Bay of Fundy from Digby Gut to Scott's Bay. It is 42 miles from the former, 36 from the latter, and 8 miles north from Middleton, which is an important station and junction of the Dominion Atlantic railway. The village has a population of about 500 people engaged in fishing, farming and to a small extent in lumbering operations and general trade. In March, 1897, the department awarded a contract for the reconstruction of the outer 185 feet in length of the work that was totally destroyed by gales in October, 1890 and March, 1894. Amount of contract, $10,854. During the year ended 30th June, 1898, the work was completed, the total expenditure amounting to $6,474.20. The new block is 185 feet long, 42 feet wide and from 22 to 32 feet high. It is well and substantially built of stone filled cribwork of the usual type. The pier has now a total length of 425 feet and reaches a depth of 28 feet at high water ordinary spring tides, which rise about 30 feet.

The work being high and dry at low water for most of its length, it receives very little injury by worms but its exposed position on a straight open coast subjects it to the onslaught of heavy seas from N. W. to N. E.

Total expenditure to 30th June 1900, including refund of $694.67 to Provincial Government, $35,284.66.

This work was transferred to control of Department of Marine & Fisheries on 12th June 1888.

MAITLAND.

The village of Maitland, Hants county, with a population of about 1,500, is situated on the west side of the mouth of the Shubenacadie River, which enters Cobequid Bay on its south side. The bay is the eastern extension of the Basin of Minas, a large and important estuary of the Bay of Fundy. A public wharf was built here by the department between 1873 and 1876 at a cost of $6,342, and a further sum of $2,142.76 has been expended for repairing this structure. Communication with Truro, the county town of Colchester county, is by public road, but the Shubenacadie River, at this point over half a mile wide, must first be crossed by means of a ferry available the year round, except for the few winter months. On the Hants county side the ferry boat has always landed on the

beach, and, at low water, considerable trouble is experienced in getting passengers and teams to and from the ferry boat.

To facilitate the crossing of the river, the department expended during the year 1897-98 the sum of $996.76 in constructing a ferry wharf of cribwork, 170 feet long and 20 feet wide. In the year 1898-99, the sum of $202.45 was expended in finishing the work, or rather in extending the inclined slip a further distance of about 50 feet, so as to take it out to the level of the beach in order that the horses and teams might be driven from the beach on to the wharf The work is partially an extension and reconstruction of an old private wharf, but its location at the foot of a public street makes it entirely a public work.

Total expenditure to 30th June 1900 is $8,933.38.

This wharf was transferred to control of Department of Marine and Fisheries on 22nd January 1885.

MC NAIR'S COVE, N.S.

McNair's Cove, Antigonish county, is on the west side of St. George's Bay, 2 miles south of Cape George.

A breakwater 400 feet in length was built on the north side of the Cove in 1872-73. Repairs were effected from time to time up to 1887-88, when the work was reconstructed over a distance of 160 feet from the outer end.

During the years 1890-94, the outer end of the work reconstructed in 1887-88 was protected by close-piling of creosoted timber, and its seaward side by a talus of quarried stone. In 1896-97 a small amount was expended in raising the talus, which had settled so as to leave portions of the damaged face work exposed.

In 1897-98 the sum of $499.80 was expended in placing additional stone on the talus and in reballasting face-chambers on the seaward side, where the ballast had gone out through the damaged face-works; and a further sum of $199.56 was expended in procuring timber to be used in repairs rendered necessary by damages sustained after the repairs above referred to, had been effected.

During 1898-99, the sum of $893.56 was expended in effecting the repairs, for which the timber was procured in 1897-98. The repairs consisted in cutting away, for a distance of 80 feet of the timber wall under the sloping face (which had been partially destroyed by the teredo), back to the first tier of longitudinals, and in sheating the new face with hardwood sheathing 10 inches square; in raising the stone in the talus; in reballasting face chambers back of damaged face and in refastening the covering where required.

During the last fiscal year the sum of $574.21 was expended in further repairs to the outer end of the work. The repairs included sheating of 53 feet of the outer face with hardwood, in placing 80 cubic yards of ballast in outer face chambers and 300 cubic yards of quarried stone in the talus, and in renewing the cap timber and three tiers of face timbers over a distance of 40 feet on the inner face, near the outer end.

The depth of water at low water, at the outer end, is 13 feet. Spring tides rise 4 feet.

Total expenditure to 30th June 1900 is $65,466.86.

MC NUTT'S ISLAND.

McNutt's Island, Shelburne County, is situated at the mouth of Shelburne Harbour 8½ miles on an air line south by west from the county town. It is 3 miles long and 1½ miles wide. On its southern extremity are a lighthouse and fog whistle. Projecting in a westerly direction for a distance of nearly half a mile from the northern extremity of the island is a horse-shoe shaped beach or bar of gravel and shingle, forming on its southern or concave side a valuable and

much frequented harbour for fishing boats and small craft of all sorts. A few years ago a severe gale made a breach through the bar. At first this was 100 ft. wide but it gradually widened to about 200 feet in width in 1898.

In order to prevent the total washing away of the beach and the destruction of the only haven of refuge in Shelburne harbour available during southerly gales, the closing of the breach and protection of the beach by cribwork fully ballasted to the top was undertaken in 1898-9.

The length of cribwork built is 265 feet, the width 9 feet, and the average height 5½ feet. Besides this, the top of the beach for a farther distance of from 200 to 300 feet has been protected by cribwork from one to two logs high.

Total expenditure to 30th June, 1900 is $638.11.

MERIGOMISH.

Merigomish Harbour, Pictou County, is on the Northumberland Strait 10 miles to the eastward of the entrance to Pictou Harbour. The depth at low water, over the bar at the entrance, is 14 feet. Spring tides rise 5¼ feet, neaps 3¼ feet.

In 1880, a wharf was built by the Department in a Cove to the eastward of Hardwood Point, and about one mile from Merigomish station on the Intercolonial Railway. It was 154 feet in length and 20 feet in width, on flats dry at extreme low water to the outer end, and consisted of an approach 70 feet in length of earth with stone side walls, and 84 feet of block and span work.

The expenditure up to the end of the fiscal year 1897-98, amounted to $1,140.40. The sum of $900 was appropriated for expenditure during 1898-99 in extending the wharf; of the above amount, $647.03 was expended in procuring the materials required for a proposed 100 feet pile extension over a soft bottom to one foot at extreme low water, and in completing the extension with the exception of placing some of the guard rails, walings and braces.

During the fiscal year 1899-1900, the sum of $252.26 was expended in completing the extension, in placing brush and stone over the bottom to serve as an ice break, and in slight repairs to the old work.

Total expenditure to 30th June, 1900 is $2,039.66.

MERIGOMISH (BIG ISLAND)

Big Island, Merigomish, Pictou Co., is on the Northumberland Strait about 10 miles to the eastward of the entrance to Pictou Harbour. It is 3¼ miles in length and 1⅛ miles in width and is connected, at the eastern end, with the mainland by a sand bar 2½ miles long, excepting during unusually high tides when the sea washes over the bar into the harbour of Merigomish, the eastern portion of which is within the Island.

A contract was entered into in March 1899 for the construction of a wharf on the eastern side of the Island nearly opposite the public wharf on the mainland, for the sum of $865.

During the fiscal year 1899-1900 the work under contract was completed. It consists of a road cutting and embankment respectively 65½ and 9½ feet in length; and a block and span structure 20 feet in width extending 95 feet to 2 feet 6 inches at extreme low water, consisting of an abutment of stone 27 feet in length and two blocks of cribwork. Spring tides rise 5½ feet.

METEGHAN RIVER.

Meteghan River, Digby County, empties into the Bay of Fundy at the mouth of St. Mary's Bay, almost directly opposite Grand Passage, between Long Island

and Brier Island. It is 20 miles south of Weymouth, 28 miles north of Yarmouth and 2½ miles north of Meteghan or Meteghan Cove. The population of the village is about 400 people, engaged in farming, fishing, lumbering and general trade. The nearest Railway station on the Dominion Atlanctic Railway, which runs parallel with the Bay shore, is about four miles from the village. On the river, which is about 18 miles long, are some 20 saw mills most of which send lumber down to the mouth of the river for export to the West Indies and the United States, the total annual output aggregating over a million feet B. M. The works here which were built some years before confederation, presumably at the joint expense of the Provincial Government and the inhabitants, consists, of two breakwaters, one on either side of the mouth of the river, and enclosing an area of about three acres, in which, at H. W. O. S. T., is a depth of from 10 to 15 feet, giving ample berth accommodation and complete shelter to a large number of coasting and fishing vessels. Spring tides rise 21 feet, neaps 17 feet. The north breakwater is about 400 feet long, 24 feet wide and 13 feet high at the outer end ; they are both built of stone-filled cribwork of the usual type. When the works came under charge of the Department the older portions were much decayed, and extensive repairs were needed, which were made in 1873 at a cost of $4.500.00. In 1881 the sum of $2.000.00 was expended in rebuilding and repairing parts of both breakwaters. In 1882-83 the sum of $3.000.00 was expended in close-piling and extending for a length of 80 feet the south breakwater, in general repairs to the northern breakwater, and in removing from the dock a quantity of rocks and boulders, which was used as ballast in the new work. In 1890-91 $265.19 was expended in removing from the channel, near the shore end of the south work, some more rocks and boulders that interfered with the keels of vessels lying alongside ; slight repairs were also made under the same appropriation to both breakwaters. In 1898-99 the sum of $4.001.76 was expended in extensive renewals to the shore end of the south breakwater. The work taken down and rebuilt was 400 feet long, with an average width of 29 feet, and an average, height of 13 feet. This length was also newly close-sheathed, and on the shoreward side of the same portion a new break was built 276 feet long and 6 feet high. In the fiscal year 1899-1900 the sum of $4.199.98 was expended in continuing the work of restoration of the main breakwater, a length of 216 feet of the shore end of the work adjoining outwardly a portion of the work renewed the previous year was taken down and thoroughly rebuilt.

Total expenditure to 30th June 1900, including refund of $1.283.33 to Provincial Government, $21.940.94.

This work was transferred to control of Department of Marine and Fisheries on 12th June 1888.

METEGHAN.

Meteghan Cove, Digby County, is situated on the south side of St. Mary's Bay, 25 miles north of Yarmouth, 20 miles south of Weymouth, 2½ miles from Meteghan River and 40 miles from Digby the county town. The nearest Railway station on the Dominion Atlantic Railway, which runs approximately parallel to the coast and has its terminns at Yarmouth, is about 7 miles distant. Ordinary spring tides rise about 21 feet and neaps 18 feet. The whole coast of St Mary's Bay from Digby to Yarmouth is thickly settled, and is, in fact, almost one continous straggling village for the whole distance of 65 miles. Meteghan, next to Digby and Weymouth, is the largest and most important settlement on the Bay shore, having a population of 1,000 people, engaged in farming, fishing, lumbering and general trade. The works at this place consist of a breakwater and landing pier, both of cribwork, built from 40 to 50 years ago by the Provincial Government and the inhabitants. The pier is about 300 feet long by 20 feet wide, the breakwater, 20 to 26 feet wide runs out for a distance of 925 feet from

the shore, and has a return, or L, of 85 feet at the outer end, which is 24 feet wide and 30 feet high, standing in from 25 to 27 feet depth of high water ordinary spring tides. In 1875, at which date the work appears to have been taken over by the Department, the breakwater was extended and repaired by the Department at a cost of $1,000.00. In 1878 an additional length of 100 feet was built together with a portion of the ell at the outer end, at a cost of $3,000.00 and in 1881 the sum of $2,250.00 was expended in still further improving the structure by constructing an additional length of 50 feet on the ell. In 1882-83, the sum of $500.00 was expened in re-ballasting and close piling portions of the work and in other miscellaneous necessary repairs. In 1883-84 $32.00 was expended in securing some of the fenders and a portion of the flooring at the outer end. In 1884-85 some damage caused by the severe gale of the previous November was made good at a cost of $96.64 ; a breach 25 feet long and from 4 to 6 feet deep was refilled with solid work, 40 feet of new break was added, and some new ballast put in to replace that washed out ; in 1887-88 the seaward face of the breakwater was close-sheathed for 700 feet in length ; 575 feet on the inner face was repaired and sheathed, the whole work levelled up and some minor repairs executed. The expenditure this year was $1,447.33, which, in the departmental report for the year, is given as a refund to the Provincial Government on account of monies expended by them between 1867 and 1879. In 1892-93 the department expended the sum of $299.72 in making some slight repairs to the breakwater and in temporary repairs to the landing wharf. In 1893-94 the sum of $2,627.54 was expended in making thorough repairs to the landing pier and wharf, the work done consisting of the rebuilding and face fendering of the outer block 50 feet long, building a new top and back 8 feet thick to the next length of 16 feet and thoroughly refendering and capping the remainder of the work a length of 260 feet. In 1897-98 the sum of $3,141.99 was expended in constructing a reenforcing block along the whole length of the outer face of the ell of the main breakwater. This work which was rendered necessary by the eating away of the bottom timbers by the limnoria, and the subsequent settlement of the breakwater, is 100 feet long, 12 feet wide and 22 feet high. The upper portion of the ell was also built 35 feet wide and 4 feet high, which restored it to the height of the rest of the work. The new work is thoroughly well and substantially built of round-log cribwork, well fendered, ballasted and close-sheathed on all exterior faces. In 1898-99 the sum of $1,093.20 was expended in renewing a length of 120 feet, by 8 to 10 feet in height and by 8 to 10 feet in width, on the lower portion of the outer end of the seaward face of the breakwater, which had been eaten away by the limnoria ; the work was close-sheathed for the same distance, and for 40 feet on the inner side, about 10 feet in length of flooring was also renewed. A breach 30 feet long on the seaward side, adjacent shorewards to the 120 feet before mentioned, was also rebuilt In the fiscal year 1899-1900 the sum of $2,000.00 was expended in extensive renewals and repairs to the breakwater, the work done consisting of the rebuilding of 100 feet in length of the seaward face and 90 feet of the inner or shoreward face, about 8 feet wide, from top to bottom of the work, placing top cross logs all across the breakwater to tie the new portions together and a new floor on the portions renewed.

Total expenditure to 30th June 1900, including refund of $1,447.33 to Provincial Government, $26,748.50.

This work was transferred to control of Department of Marine and Fisheries on 12th June 1888.

MILITIA POINT.

Militia Point, Inverness county, is situated on the north shore of the Great Bras d'Or Lake.

For the accommodation of the trade of the locality, and to afford a landing

place for the steamers plying on the lake, a wharf 150 feet in length was constructed in 1884, having 12 feet water at its outer end.

Total expenditure to 30th June 1900, including refund of $684.00 to the Provincial Government, $2,684.

This wharf was transferred to control of Department of Marine and Fisheries on 12th June 1888.

MILL CREEK.

Mill Creek Cape Breton county, is a small farming settlement of some two or three hundred people, situated on the western side of the Basin of Minas, three miles south of Cape Blomidon, about four miles north of Kingsport, the terminus of the Cornwallis Valley Railway, a branch of the D. A. R. Some twelve or fifteen years ago the inhabitants, for their own convenience and accommodation in the shipping of fruit and farm produce, built a small pile wharf, but, their available means having given out, they were unable to finish it. The unfiinished wharf was 160 feet long and from 20 to 25 feet wide, built of pile work. During the fiscal year 1899-1900 the Department expended the sum of $1904.18 in extending and completing this old wharf. The new work is 79 feet long in line with the old, with an L at right angles to it with a face length of 93 ft. The main portion of the new work is 30 ft. wide, the L being 25 ft. wide. The new work is substantially built of pile work, and close piled on the west and south faces. It is 20 feet high along the whole length of the face, giving about 17 feet of water at H. W. O. S. T. Spring tides rise here nearly 50 feet, so at low tide there is no water within a quarter of a mile of the wharf.

Total expenditure to 30th June 1900 is $1,904.18.

MOIDART

Moidart, Antigonish County, is on the Northumberland Strait, 3 miles west from Arisaig.

In 1887-88 a landing place for boats was made by levelling off the top of a large rock and constructing a narrow approach 73 feet in length of stone, with cribwork top. The approach was destroyed during a succession of northerly gales in October, 1890.

In 1891 the remains of the old work had been removed and a new approach 75 feet in length, 16 feet in width and 6 feet in average height, constructed of round timber, full ballasted, covered and fendered.

The depth at extreme low water at the east side of the rock is 2 feet. Spring tides rise 5 feet.

Total expenditure to 30th June 1900 is $890.06.

MONDAY POINT.

Monday Point, Cape Breton County, is on the southern side of Boularderie Island, 3½ miles to the westward of the Little Bras d'Or bridge.

A contract was entered into in April, 1894, for the construction of a wharf 160 feet in length, consisting of a stone embankment 20 feet wide on top, the sides having a slope of one and a half to one ; and a cribwork head 22 by 44 feet.

The substructure of the cribwork head was framed in June, 1894, but at the close of that month no portion of the the work had been put in place.

During the fiscal year 1894-95 the work under contract was completed.

The depth at the outer end of the wharf is 11 feet at low, or 12 feet at high lake level.

Total expenditure to 30th June, 1900 is $2,965.56.

This wharf was transferred to control of Department of Marine & Fisheries on 17th June, 1900.

MONK'S HEAD.

In 1894-5, a channel for boats was opened between Dunn's Lake and Antigonish Harbour, and a highway bridge was constructed over it. After the completion of these works, the current cut into the slopes and undermined the bridge abutments which settled considerably.

During the years 1896-7 the sum of $300 was expended in repairs to the bridge and abutments, and in the construction of about 60 feet of brush and stone work on each side of the channel, in continuation inwards of the brush and stone work in the bridge abutments; the superstructure of the bridge was removed and renewed after cutting back the abutments so as to increase the width of the opening from 14 to 18 ft. and facing them with five piles capped with 12-inch square timber; and five piles were driven on each side at the face of the brush and stone work, over a distance of 20 feet from the bridge.

The expenditure up to the end of the year 1897-8 amounted to $1,021.57.

During the fiscal year 1898-9 the sum of $272.45 was expended in completing the repairs to the bridge, in improving the approaches, and in extending the brush and stone protection work for a distance of about 140 feet on each side of the channel.

Total expenditure to 30th June, 1900 is $1,294.02

MORDEN

Morden, Kings County, formerly called French Cross, is a small fishing and farming village with a population of about 120 people, situated on the south shore of the Bay of Fundy, 50 miles east of Digby Gut, and nine miles north from Aylesford station on the D. A. Ry. Since the opening of the D.A. Railway in 1868 its population and business have decreased to half their former proportions. The pier or breakwater of this place, which is the most westerly in Kings County, was begun in 1846 at the joint expense of the inhabitants and the Provincial Government. It was built of round log cribwork, filled with ballast, and close sheathed on the seaward side and outer end. It is 26 feet high at the outer end. In 1874 the Department spent the sum of $3,000, in building a spur block on the north side of the wharf to prevent the gravel from washing round the end and filling up the dock, and in effecting other repairs. (Afterwards this block had been totally demolished and swept away). In 1878-79 the pier was widened, and a new block, 20 feet long, constructed on the end at a cost of $2,500. Since this date the following expenditures have been made in general repairs and renewals:

1885-86	$ 50.00
1886-87	400.00
1891-92	300.00
1892-93	259.67
1893-94	49.91
1896-97	1963.81
1897-98	1992.75
1898-99	498.80

In the year 1899-1900 the sum of $1,533.02 was expended in rebuilding to the full height of the breakwater 68 feet in length of the buttress on the seaward face of the work which was damaged and partly separated from the main body of the work by the storms of the previous winter. This work was no sooner finished than the exceptionally severe gale with the tremendous seas of November 12th and 13th, 1899, broke and destroyed 75 feet in length of the inner or shoreward side of the breakwater, immediately abreast of the new seaward face. No work

has been done upon the breakwater since, and it is now in a very dangerous condition.

Total expenditure to 30th June 1900, including refund of $60, to Provincial Government, $12,628.12.

This pier was transferred to control of Department of Marine & Fisheries on 12th June 1888.

NEGRO ISLAND.

Negro Island, Shelburne County, is situated at the entrance to Negro Harbour, and is about mid-way between Shelburne Harbour and Cape Sable.

The island, which is higher than the neighbouring coast, is divided into two nearly equal sections, the only connection between them being a narrow neck or spit of sand or gravel, about one-quarter mile long, which is dry at all times of tide.

This neck, besides being the roadway between the two portions of the island, forms a natural breakwater to the small harbour where most of the small fishing boats of the island are kept. The southern side of this neck or spit is at times exposed to a heavy sea, and for some years its crown has been wearing away, until about five years ago the tide began to ebb and flow over it.

Some years ago the inhabitants becoming alarmed that both the harbour and roadway would be destroyed, obtained assistance from the local authorities and built a piece of beach protection work, 100 feet long over the lowest part of the spit.

The beach on either side of this piece of work, being dangerously low, the Department, extended the beach protection and repaired the former work.

The new work is 189 feet long and 12 feet wide, and is built of round logs, with cross ties at every 10 feet. It averages 3 feet 9 inches high ; has a continuous ballast floor laid on the bottom tier of longitudinals, and is filled to the top with stone ballast. The protection work now extends over the whole length of the low beach, and the spit appears to be fast building up to its original height.

Total expenditure to 30th June, 1900 is $703.36 of which $403.36 is for beach protection.

NEW HARBOUR.

New Harbour Cove, Guyboro' County, is on the east or Atlantic coast of Nova Scotia, 30 miles to the wesward of Canso Harbour. It is merely a shallow bay opened to the south-south-east. At the head of the Cove is the entrance to St. Catherine River which is navigabie for boats 5 miles inland.

During the fiscal year 1899-1900, a contract was entered into for the construction of a breakwater at Black Point on the western side of the Cove, for the sum of $17,070.00. The work under contract includes the construction of 240 feet of stone embankment, and 150 feet of cribwork 25 feet in width with creosoted sub-structure.

Operations were commenced in May, and were in progress at the end of the fiscal year, when 160 feet of the stone embankment was approaching completion.

Total expenditure to 30th June, 1900 is $1,308.59.

NOEL.

Noel, Hants County, is a village of about 500 people, situated on the south shore of Cobequid Bay, the extreme eastern arm of the Bay of Fundy. It is 13 miles west of Maitland and 32 north-west from Shubenacadie, the nearest Railway Station, on the I. C. Ry. Spring tides rise here 50 feet and neaps 43 feet.

A pile work wharf 230 feet long and 25 feet wide, with an L 62 feet long, was built by the department in 1889 at a cost of $27,000.

In June, 1897, the sum of $100.00 was expended in re-laying with 3 inch hemlock plank the shoreward 150 feet in length of the floor, which was in an advanced state of decay. The rest of the floor will require renewal within a short time. The wharf is in other respects in fair condition.

This wharf was transferred to control of Department of Marine and Fisheries on 5th October 1898.

NORTH WALLACE.

Wallace Harbour, Cumberland County, is situated on the south side of the Straits of Northumberland, about midway between Pictou Harbour and Bayfield. It is at the mouth of Wallace River, and is well sheltered from all winds.

On the south side of the harbour, which is about three quarters of a mile wide, is the village of Wallace with a population of about 800 people. The industries of the place are chiefly farming and the quarrying and export of freestone, of which there are large and valuable beds in the immediate neighbourhood.

Opposite the village, on the north side of the harbour, a landing was constructed many years ago to accommodate the ferry services across the harbour, but as it was only available at and near high water, the department in 1879 dredged a channel through the mud flats from the main channel of the river to the landing, a distance of about 1,600 feet, with a width of 45 feet and a depth of 7 feet at low water of spring tides which rise here 7 feet. The expense amounted to $9,998.25. The channel having silted up to a considerable extent, owing to its being nearly at right angles to the tidal flow, the department cleared it out in 1887 at a cost of about $2,000.

To prevent the inner end of the cut from silting up, and to afford at the same time shipping facilities to the inhabitants of North Wallace and Fox Harbour, the department in 1888-9 began the construction of a wharf starting from the end of the public road and running past the remains of the old ferry landing on to eastern or seaward side of the cut, the length constructed being 165 feet and the outlay $999.38.

In 1889-90 the sum of $2,578.41 was expended in extending the wharf a distance of 180 feet along the seaward side of the cut 20 feet wide, with an L on the outer end 20 feet long and 20 feet wide.

The total length of the wharf is now 345 feet, of which the outer 180 feet, being along the edge of the dredged channel, can be used by small craft for the purposes of loading or unloading merchandise.

In the fiscal year 1898-9 the sum of $747.54 was expended in constructing an inclined ferry slip of pile work on the western side of the wharf. The slip is 121 feet long, 15 feet wide, thoroughly well and substantially built of pile bents spaced 10 feet apart. It has proved a great convenience to the steam ferry service recently established across the harbour.

The total expenditure incurred in connection with ferry landing at North Wallace may be shown in detail as follows : —

Dredging channel across harbour at about.....	$ 12,000 00
Construction of combined protection and landing pier and ferry slip.....	43,250 65

NYANZA.

Nyanza, Victoria County, is a settlement between Middle and Baddeck Rivers on Indian Bay, a reach of an arm of the Bras d'Or Lake known as St. Patrick's

Channel. It is 7 miles from Baddeck, the shiretown, and 11 miles from Whycocomagh.

In November 1893, a contract was made for the construction of a brush wharf to extend 136 feet into 12 feet at low or 13 feet at high lake level, and at the close of that year the contractor had procured the necessary materials and was about ready to commence construction.

During the fiscal year 1894-95 the work under contract was completed.

No important repairs have been made since 1895.

Total expenditure to 30th June 1900 is $1,943.14.

OGILVIE.

Ogilvie's breakwater-pier, King's County, is situated on the south shore of the Bay of Fundy, fifty-five miles east of Digby Gut, and eleven miles north of Aylesford on the Dominion Atlantic Railway. Like other ports on the Bay of Fundy shore in King's County, its trade has greatly declined since the construction of the Dominion Atlantic Railway, being now restricted to occasional small shipments of cordwood, fish and potatoes.

The work here, which serves both as a wharf and breakwater, was built about the year 1854 at the joint expense of the inhabitants and the Provincial Government. It is 270 feet long, 38 feet wide on top and about 27 feet high at the outer end, built throughout of closed-faced, square-timber cribwork. In 1884-5-6 the department expended the sum of $3,156.63 in strengthening the outer end by building an entirely new block 20 feet long, and by taking down and rebuilding the old break for a length of 100 feet. In 1890-91 the sum of $125.00 was spent in a few general repairs. In 1891-92 the sum of $500.00 was spent in repairing and strengthening the shoreward end 90 feet in length. The face was taken down and rebuilt, being tied into the old work with new cross-ties, and the new work well filled with ballast.

In 1897-98 the sum of $1,537.39 was expended in building a re-enforcing block on the shore end of the east side 153 feet long, 10 feet wide and to the full height of the work to support the breakwater which was leaning over and threatening to fall.

In 1898-99 the sum of $50 was expended in placing about a dozen new fenders to replace those broken and decayed, and a few other trifling repairs.

Total expediture to 30th June 1900, including refund of $470.00 paid to Provincial Government, $5,839.02.

This work was transferred to control of Department of Marine and Fisheries on 12th Jane 1888.

OYSTER POND.

Oyster Pond, Guysboro' Co., is one of the several large ponds on the north shore of Chedabucto Bay which form the only boat harbours between Cape Argos, on the western side of the entrance to the Strait of Canso, and Guysboro Harbour, a distance of 15 miles.

In 1878, the entrance to the pond was improved by hand dredging, and protected by the construction of a breakwater on its eastern side, 180 feet in length.

During the year 1884-85, the breakwater was extended 105 feet over a level bottom, dry at low water. The width of the inner work is 14, and of the extension, 16 feet. In 1886-87 the breakwater was strengthened and repaired.

Up to the time of the completion of the outer portion of the breakwater on the eastern side of the entrance, in 1885, the beach on the western side was about 4 feet above high water, and formed a natural protection to the best anchorage

in the Pond, subsequently the beach was gradually worn away down to about half tide level, and the sand and gravel of which it was composed was carried into the pond, decreasing the depth over the anchorage, from 12 to 6 feet, at low water.

To prevent further injury to the anchorage, and to confine the current to the channel, and thus increase its strength over the bar, a contract was entered into in February 1898, for the sum of $1846, for the construction of a work, designed to restore the beach to its original condition. The work was commenced early in June 1898.

During the year 1898-99, the work under contract was completed and the sum of $160.75 was expended in improving the entrance by hand dredging, and by the removal of several boulders.

The beach protection work is 400 feet in length, 12 feet in width over 360 feet from the inner end, and 16 feet in width over the outer 40 feet, and 8 feet in height, the top being 4 feet, above extreme high water. It is of round timber cribwork fully ballasted, covered with flatted timber, and close-fendered at the outer end, and on the seaward side for a distance of 47 feet from the outer end.

During the last fiscal year, the sum of $149.75 was expended in completing improvements to the entrance undertaken in 1898-99.

The depth at extreme low water, over the bar, obstructing the entrance to the pond is about 2 feet. Spring tides rise 6 feet.

Total expenditure to 30 June 1900 is $7,109.47.

PARKER'S COVE.

Parker's Cove, Annapolis County is situated on the southern shore of the Bay of Fundy, about 15 miles to the eastward of Digby Gut, and is directly north of Annapolis, its nearest railway station, and distant therefrom 7 miles.

During the year 1883-4 a small breakwater, 165 feet in length and 26 feet wide, was built near the eastern end of the cove for the accommodation of small boats and fishermen. The breakwater extends outwards at right angles to the head of the cove 100 feet, and its outer end has a slight angle to the westward.

Spring tides rise at this place about 30 feeet, but as there is only 8 feet of water at the end of this pier at high water it is of little use for shipping purposes, and is therefore only used by fishermen.

During the year 1889 the sum of $200 was expended in general repairs to the structure. These consist of ten new fenders for the inner face, renewing 80 feet of cap timber, raising the surface of the outer end 2 feet and protecting the foundation from further settlement. The work is now in good order.

Total expenditure to 30th June, 1900 is $4,499.41.

PARRSBORO (PARTRIDGE ISLAND)

Partridge Island or Parrsboro' Pier, Cumberland County, is situated on the north side of the Basin of Minas, about a mile to the westward of the mouth of the Partridge Island River and about 2 miles distant from the town of Parrsboro, the terminus of the Cumberland Railway and Coal Company's Railway.

The pier which is 500 feet in length, being directly on the seashore, has the benefit of the full extent of the tides, and as vessels can approach it and leave it at half-tide, it is the principal point of communication between Cumberland Co. and the counties of King's and Hants, on the south shore of the basin, and the steamers of the Basin of Minas, and St. John and Basin of Minas routes call there regularly during the season.

In 1895 the outer 110 feet was raised to the level of the shoreward portion, the maximum height is 8 feet and width on top $26\frac{3}{4}$ feet.

During the year 1896 the sum of $1,447.28 was expended in cutting an opening

12 ft wide and 10 ft. deep through the pier near its shoreward end for the purpose of allowing the gravel to wash through and relieve the great pressure against the west side of the work, in reflooring 80 ft. in length of the shore end, reflooring the inclined slip, and in renewing a few of the new fenders on the outer end.

Petty repairs were made in 1897.

Total expenditure to 30th June, 1900, including refund of $1,674.80, paid Provincial Government, $6,955.52.

This pier was transferred to control of Department of Marine & Fisheries on 12th June, 1888.

PETIT DE GRAT.

Petit de Grat Inlet, Richmond County, lies between Petit de Grat Island and the eastern extremity of Isle Madame. The main entrance (for vessels) is at the south end, from the Atlantic. The northern entrance, from Rocky Bay, is obstructed by outer and inner shingle bars, through which passages for boats, at ordinary low water, were opened in 1879-82.

In 1898-99, the inner channel was deepened to 1 foot 4 inches at extreme low water, over a width of 20 feet, except where ledge rock was met near the outer end, where it has a width of 15 feet; the outer channel was deepened to from 1 foot 4 inches to 1 foot 8 inches at extreme low water, over a width of 25 feet; and a protection work of round timber and stone, 8 feet in width and 3 ft. 6 inches in height from 1 foot 6 inches below extreme low water, (with the exception of the outer 21 ft. which is 17 feet in width and 2 feet 6 inches above extreme high water), was constructed on the west side of the outer channel over a distance of 210 feet; or to within 85 feet of the inner end.

The expenditure up to 1882 amounted to $3,250, and in 1898-99 to $1,046,-41, making a total expenditure to the end of the fiscal year 1898-99 of $3,296.41.

During the fiscal year 1899-1900, the sum of $453.59 was expended in improving the outer channel, and in continuing the protection work on its western side. The protection work was extended inwards, 85 feet with a return of 21 ft. at the inner end, and increased in height 10 inches by the addition of longitudinal timbers along the channel face bolted, directly, to the upper face-timbers, without cross-ties.

PETITE RIVIÈRE.

Petite Rivière, Lunenburg County, empties into Green Bay, about 7 miles to the westward of the mouth of La Have River. The mouth of the bay is some 2 miles wide, and is directly exposed to storms from the Atlantic.

During the year 1886 the construction of a breakwater, built entirely of stone, was commenced at Cherry Point, a short distance to the south of the river, and with the amount available, 200 feet have been built, 20 feet wide on top and standing 5 feet above high water springs.

In 1887 the outer end of the breakwater, which had settled, was raised 18 inches. Additional large stones were placed on the outer slope and end.

No important repairs were made since 1887.

Total expenditure to 30th June 1900 is $5,813.37.

PICKETTS PIER (CANNING)

The Picket Wharf, so called, in King's County, is situated on the south side of the mouth of the Habitant River, two miles below the village of Canning, and about the same distance from the village of Lower Canard. It is conveniently placed with regard to a large and thickly populated area of the richest fruit growing and agricultural land in Nova Scotia.

The wharf was begun in 1845, and extended in 1859-60 by the inhabitants, aided by the Provincial Government. Since these dates the department has expended upon it, in renewals and general repairs, in 1878, $500; in 1885, $100, and in 1886, $500.

It is 190 feet long, 60 feet wide, and at the outer end, which is now about two feet below high water ordinary spring tides, it is 23 feet high. Spring tides rise 48 feet, neaps 40 feet.

During the year 1896-97, the sum of $498.88 was expended on some very necessary repairs. The work done consists of the rebuilding of the crib breastwork along the outer face of the shoreward end for a length of 170 feet, that had fallen into decay and threatened to make an island of the main portion of the wharf. Portions of the top of the wharf were also filled up with stone and gravel so that teams could come alongside vessels loading potatoes and other produce. This wharf is now in better condition than it has been for some years, though it is still, as a whole, in a very advanced stage of dilapidation.

Total expenditure to 30th June 1900, including refund of $55.00 paid to Provincial Government, $2,353.69

This wharf was transferred to control of Department of Marine and Fisheries on 21st April 1884.

PICTOU ISLAND

Pictou Island, in the Strait of Northumberland, and about 10 miles northeast of the entrance to Pictou Harbour, is 5 miles long and 1½ miles in width.

There are two wharfs on the south side of the island; one near the west end, and one known as the 'east wharf,' near the centre.

The west wharf was commenced by the Provincial Government. It was repaired and strengthened by the department in 1880; extended 62 feet 6 inches in 1887-8, 50 feet in 1891-3 and 82 feet in 1892-4, and repaired in 1894-5.

The east wharf was commenced by the department in 1882-3 and has since been repaired and extended; the extensions including 100 feet built in 1887-8; 68 feet in 1891-3; and 60 feet in 1892-4.

The expenditure up to the end of the fiscal year 1897-8 in constructing, extending and repairing the two wharfs amounted to $11,560.18, which may be subdivided into $10,692.51 for construction and improvements and $867.67 for repairs.

During the fiscal year 1898-9, $766.85 was expended in repairing and strengthening the west wharf, and $119.19 in repairing the east wharf.

The expenditure on the west wharf was made in levelling up and repairing the outer 82 foot block, the top of which had been damaged and forced out of place by ice; and in constructing a cribwork 20 x 20 feet on the east side near the outer end. The expenditure on the east wharf was made in raising, repairing and reballasting a portion of the east face of the second block from the outer end.

The depths, at extreme low water, at the outer ends of the east and west wharfs are respectively 4 feet 6 inches and 4 feet 9 inches: spring tides rise 6 feet.

Total expenditure to 30th June 1900, including refund of $400.00 to Provincial Government, $11,560.18.

These wharfs were transferred to control of Department of Marine & Fisheries on 12th June 1888.

PICTOU LIGHT BEACH.

The beach forming the southern side of the entrance to Pictou Harbour, known as "Pictou Light Beach," extends about one mile in a northerly direction, enclosing Moodie Cove, an inlet nearly dry at low water except in a central channel. The outer end, on which stands a light-house and keepers dwelling, is

protected by a breast work of squared timber 450 feet in length, and by a work of brush and stone extending from side to side opposite the southern extremity of the breast work, and inclosing property under the control of the Department of Marine and Fisheries.

In 1894-95, the sum of $300, was expended in acquiring a title to a portion of the beach, 1,520 feet in length, adjoining the property of the Department of Marine and Fisheries.

The sum of $2,800, was appropriated for expenditure during 1898-99, in the construction of works to protect the beach, which was swept by the sea during the great gale of August 1873, and had been more or less damaged by succeeding storms.

During the fiscal years 1898-99 and 1899-1900 works to protect the beach were constructed. The works included : brush and stone, 12 feet wide on top and 4 feet in height, founded at 1 foot above extreme high water and extending 1,030 feet from the southern end of a breast work protecting the extremity of the beach, on which the light house stands ; and two groins, respectively 65 and 55 feet in length, 5 feet in width and 5 feet in height with inner ends 5 and outer ends 2 feet above highwater, made by driving piles in pairs 5 feet apart, filling in with brush, secured by cross caps, and with close-piling at the outer ends. One of these is opposite the southern end of the breast work, and the other opposite the brush and stone work 200 feet to the southward of the first groin.

The protection works in September were in good coudition with the exception of a slight settlement of the brush in the groins, and that they formed an efficient protection to the beach south of the breast work ; but that a portion of the breast work, to the northward of its southern extremity, was in danger of undermining. The two groins were filled in with brush to the under side of the caps, and a groin 75 feet in length opposite the breast work, 200 feet from its southern extremity was constructed. This will involve the expenditure of part only of the amount authorized ; the balance need not be expended at present.

The materials required were procured for the 75 feet groin, and in completing the groin with the exception of the outer 15 feet, 10 feet of which is to be close-piled.

PLYMTON.

Plymton is situated on the south shore of St. Mary's Bay in Digby County. In 1874 and 1875 the sum of $3,543.97 was expended in the construction of a block 34 feet square at the outer end of the pier, built some years before Confederation by the Provincial Government, and in general repairs to that structure.

No important repairs have been made since 1875.

Total expenditure to 30th June, 1900, including refund of $100.00 paid to Provincial Government, $3,643.97.

This block was transferred to control of Department of Marine & Fisheries on 12th June, 1888.

PORT GEORGE.

Port George, Annapolis County, is a thrifty village of some four hundred people engaged in fishing and farming, situated on the south shore of the Bay of Fundy, 37 miles north-east from Digby Gut and 42 miles south-west from Scott's Bay. It is six miles south-west from Margaretville, and five miles north-west from Middleton, an important station and junction on the D.A.Ry. Some years prior to Confederation a small harbour dry at low water, (spring tides rising about 30 feet) was formed by the Provincial Government, by the construction of a western breakwater and an eastern pier or wharf. The breakwater is 440 feet long, 25 to 35 feet wide, on top, and at the outer end where there is about 21 ft.

of water at H.W. it is 25 feet high. It is built of round log, stone filled, cribwork, and the eastern or seaward face, besides being well fendered and close sheated, is provided with a solid timber break 7 feet high, strongly kneed. The wharf on the east side is 205 feet long, 20 wide and 18 feet high at the outer end. It is built of round log cribwork and the outer block on which stands a small lighthouse is close sheated. In 1874 the harbour was taken in charge by the Public Works Department and in that and the following year the sum of $7,000 was expended in repairing and refacing the breakwater, which was much decayed. In the autumn of 1888 the outer end of the breakwater was destroyed by a severe storm, 165 feet in length being wrecked, and an additional length of 30 ft. being much injured, Before repairs could be made a second storm destroyed the damaged portion, leaving 195 feet of the work a complete wreck and rendering the harbour practically useless. In 1890-91 the sum of $5,137.16 was expended in rebuilding the destroyed portion of the work by contract. The work is built of round timber, and all the cribs filled solid with stone ballast. The seaward face has a double set of face timbers and is sheated outside them with 7 inch sheating. The work is 33 feet wide on top, and there is a break of square timber 7 feet high, heavily bolted and braced with frequent knees, extending the entire length of the seaward side. In 1892-93 the sum of $286.71 was expended in general repairs to the breakwater, and $299.94 in removing gravel from the dock on the eastern side. In April 1894 an exceptionally severe north-east gale caused a serious breach in the breakwater, at about midway in its length, or immediately shorewards from the new outer block. The breach was 40 feet long, the full width of the work, and about 17 feet high. In the autumn of the same year the sum of $1,398.16 was expended in rebuilding this gap with solid new work. In 1896-97 the sum of $398.50 was expended in refilling with stone and timber a dangerous hole nearly 100 feet long and from 3 to 12 feet wide in the lower side of the seaward face of the breakwater and in close sheating a length of 46 feet on the shoreward side together with the renewal of a few floor planks. In the fiscal year ending June 30th, 1900, the sum of $399.98 was expended in re-sheating about 40 ft. in length of the seaward side of the shore end of the breakwater, and in renewing a number of fenders, braces, stringers and flooring.

Total expenditure to 30th June, 1900, including refund of $1,076,75 to Provincial Government, $23,703.96.

This work was transferred to control of Department of Marine & Fisheries on 12th June, 1888.

PORT GREVILLE

Port Greville, Cumberland County, is situated in Greville Bay, on the northern side of the Minas Channel, Bay of Fundy, and at the mouth of the Ratchford River. It is about 15 miles west of the town of Parrsboro', the terminus of the C. R. & C. Company's Railway, and 15 miles east of Cape d'Or.

The harbour is formed by a high gravel bar, which lies parallel to the shore, between which the river runs for half a mile before reaching low water mark. The bar although high, was, previous to 1872, covered during high water springs; but during that year a gale occurring at that stage of the tide, the sea swept off the crown of the bar for a length of 2,800 feet, and to a depth of about 2½ feet. The protection thus afforded by the bar was in a great measure destroyed, and to restore its usefulness and improve it a wall of round timber cribwork, 2,200 feet in length and averaging 7 feet in depth, was constructed by the Department in 1874.

During 1886-87 a breakwater was constructed off the eastern end of the cribwork wall, for the double purpose of arresting the gravel which was being swept into the harbor by westerly gales, and deviating the course of the river, so as to shorten its passage to the sea. It is 250 feet in length and 21 feet wide on the top, with sides sloping ½ to 1 on the seaward face. The work averaged a

depth of 20 feet; it is built of round timber cribwork, the seaward face being sheathed with 6-inch plank, and the inner face and end being close-piled to a depth of 3 feet below the line of assumed clay bottom, to prevent scouring of the foundation. Low water mark extends out about 250 feet from the end of the breakwater. Spring tides rise 40 feet, neaps 33 feet.

Total expenditure to 30th June 1900, including refund of $938.00 paid to Provincial Government, $16,255.17.

This work was transferred to control of Department of Marine & Fisheries on 12th June 1888.

PORT HILLFORD.

Port Hillford, Guysboro Co., is situated at the head of Indian Bay, on the southern or Atlantic coast of Nova Scotia, and distant about 10 miles to the south-eastward from Sherbrooke.

A contract was entered into on September 15th 1899 for the construction of a breakwater at "Breakwater Point," on the east side of, and near the head of the Bay, for the sum of $6,763.00.

The contract is for a work 300 feet in length and 22 feet in width, on top, with an L, 22 x 22 feet, of openfaced crib-work protected on the seaward side and at the outer end, by hardwood sheathing. The depth, at extreme low water at the outer end will be 9 feet. Spring tides rise 6 feet.

During the winter the necessary materials were procured, and delivered early in the spring. Construction was commenced on May 18th, and carried on in a vigourous manner, and, at the close of the fiscal year the sub-structure of the inner 200 feet had been placed and built upon, to an average height of 5 feet below the level of the intended top.

Total expenditure to 30th June 1900 is $2,241.19.

PORT HOOD.

Port Hood, the shiretown of the county of Inverness, is on the west coast of Cape Breton Island, 20 miles north of the northern entrance to the Strait of Canso.

The harbour was formerly a secure one. Smith's Island, which is 2 miles is length and forms its western side, having been connected with the mainland by a range of sand hills.

In 1839 the sea made a breach through this protection. The opening at first narrow, was enlarged by the tidal currents with increasing rapidity, until it was entirely swept away and its site occupied by 15 feet of water. The harbour is now unsafe during northerly gales, except in a small cove on the east side of Smith's Island.

The pier, which is on the eastern side of the harbour, was commenced by the Provincial Government in 1865-66. It was originally 550 feet in length and 24 feet in width, with an L at the outer end 100 feet in length and 25 feet in width. It came under the charge of the Federal Government in 1871, since which time extensive repairs and renewals have been made, including the construction of a new block 125 feet by 25 feet at the outer end, in 1873; the construction of a block 50 x 32 feet at the south end of the L, in 1888-89, the construction of a block 71 feet by 24 feet at the outer end in 1889-90; and in extensive repairs to the outer portion including close-piling 223 feet of face; reballasting empty face chambers, and in placing 3,000 superficial feet of 4 inch covering in 1897-98 and 1898-99.

During the fiscal year 1899-1900 the sum of $699.99 was expended in continuing repairs to the outer portion of the pier, in progress in 1897-98 and 1898-99. Of the above amount, $300.00 was expended in close-piling 30 feet of face, and

in placing 2,507 superficial feet of 4 inch covering; and the balance in effecting repairs to the seaward face, near the outer end, and in blocking up floor-stringers and patching old covering.

Total expenditure to 30th June 1900, including refund of $916.11 to Provincial Government is $57,515.47.

This work was transferred to control of Department of Marine and Fisheries on 12th June 1888.

PORT LORNE (PORT WILLIAMS).

Port Lorne is a settlement of about 300 people, situated on the Bay of Fundy coast, Annapolis county, 32 miles from Digby Gut and 6 miles north-west from Paradise station on the Dominion Atlantic railway. A breakwater was begun in 1835 at the joint expense of the inhabitants and the Provincial Government. In 1873 and 1874 the department spent $3,500 in extending it; in 1879-80 the sum of $745.76 in repairs; in 1882-83 the work was again extended at a cost of nearly $5,000, and it has since been several times repaired. The breakwater-pier proper has now a total length of about 310 feet and is 36 feet wide and 25 feet high at the outer end. In order to divert the brook, which during freshets tore away the loading berths for vessels on the eastern side of the pier and threatened to undermine and destroy the breakwater proper, a training pier of cribwork 110 feet long by 10½ feet wide and about 16 feet high, has been built about 150 feet to the eastward. During the year 1898 the sum of $2,999.87 was expended in constructing a re-enforcing block, on the seaward side of the outer end of the breakwater, 178 feet long, 27 feet high and 13 feet wide. The top of the outer block was also rebuilt, levelled up and connected at the same level with the new block. The rest of the seaward face to the end of the work as well as the end of the work itself, was close sheathed. The end break, 4 feet high, was renewed, and new cap timbers and mooring posts provided. The shoreward half of the structure was refloored and other miscellaneous repairs were done. This breakwater is now in first-rate condition.

Total expenditure to 30th June 1900, including refund of $1,589.33 paid to Provincial Government $1,695.63.

This work was transferred to control on Department of Marine and Fisheries on 12th June 1888.

PORT MAITLAND.

Port Maitland, Yarmouth County, is a prosperous and important fishing and farming village, with a population of about 400, situated on the south-east side of the mouth of the Bay of Fundy, 12 miles north of the county town of Yarmouth. Spring tides rise 18 feet and neaps 13 feet.

The harbour works were begun about the year 1859, by the Provincial Government; they consist of an eastern and western, or main, breakwater of cribwork. The former is 400 feet long and some 20 feet wide, and the latter is 500 feet long, 22 to 25 feet wide, and has a return 54 feet long, 24 feet wide and 27 feet high, along which there is a depth of 19 feet at H.W.O.S.T. These breakwaters or piers enclose between them a snug highwater harbour of 2¼ acres in extent.

In 1873-74 the eastern breakwater was raised and widened for a length of 158 feet on the shore end and extending 50 feet in length was built on the outer end of the western breakwater at a cost of $2,000. In 1885-86 the sum of $349.92 was expended in raising the outer end of the eastern breakwater, and in repairing and partly renewing the sheating of the outer face of the western breakwater. During the early part of the winter of 1887-8 the western breakwater was seriously damaged by a succession of storms, and a breach 86 feet in length was made directly through the middle of the work. This year the sum of $53.65 was spent in urgent repairs and in the following year, 1888-9, the wreckage was cleared

away, both sides of the breach closed up, and a number of fender piles were driven along the outer face and exposed corners of the broken work, at a cost of $497.33.

On the 24th June, 1890, a contract was made for re-building the destroyed section and repairing the other parts of the work. The wreckage of the old work was removed down to its foundations, and the breach filled in and rebuilt entirely with new and substantial work. The rest of the seaward face, i. e., 83 feet in length outside the new work, and 100 feet between it and the shore, was close pilled : the entire top, including the cap, covering, floor stringers, the first set of cross ties and the break of those two sections, was rebuilt, and new fenders were fitted to the inside face. In 1891-92 the sum of $298.45 was expended in repairing the eastern breakwater, the work consisting of the removal and rebuilding of almost the entire top to a depth of 3 feet.

In 1895-96 $271.71 was spent in purchasing materials for repairs, the work done consisting of rebuilding the shore end of the north side of the western breakwater 90 feet long, 10 to 12 feet wide and 15 feet high ; the labour was furnished *gratis* by the inhabitants. In 1896-7 the sum of $3,304.79 was expended on extensive repairs and renewals to both works. On the eastern breakwater which also serves as a wharf for the landing and loading of general merchandise, coal, lumber, &c., the shoreward 30 feet was rebuilt on the south side 6 logs high, and on the north side 3 logs, including floor stringers and covering : 22 feet in length of new covering was laid on the outer end, and a number of new fenders were bolted into position.

On the western breakwater a re-enforcing block was built on the south side of the outer end 97 feet long, 11 feet wide, and 12 to 14 feet high, or to a height of about 10 feet below the floor of the work : a re-enforcing block was also begun along the whole length of the ell 70 feet in length and from 10 to 12 feet wide. To obviate settlement due to soft bottom and the eating away of the bottom logs by the limnoria, which was the cause leading to the necessity of constructing this block, it was built on 147 piles driven to hard bottom, and cut off level with the beach. The inner or north side of the shoreward end was also strengthened and rebuilt.

In 1897-98 the sum of $3,600 was expended in further repairs and renewals to both breakwaters, the re-enforcing block along the ell of the western breakwater was completed to the full heigth of the work, and the inner face of the other end was renewed. The buttress on the outer side was extended shorewards a length of 122 feet. On the end of the eastern breakwater the T was rebuilt 50 feet long, 20 feet wide, and built on 21 piles driven to hard bottom, and cut off level with the beach. Various miscellaneous and necessary repairs were also effected.

In 1898-99 the sum of $700.00 was expended in completing the thorough and extensive repairs to the western breakwater ; 60 feet on the inner face was close sheated, the buttress on the seaward side, 140 feet long, was finished, and several vacant spaces in the shoreward end were filled with ballast.

In 1899-1900, the sum of $2,118.87, under the appropriation of $2,300, was expended in rebuilding the re-enforcing buttress on the outer end seaward face of the breakwater, 96 feet long, 10 to 12 feet wide, to the full height of the work. The lower 12 feet of this length, and the outer end of the work, were also sheated with 4 inch creosoted plank as a protection against the limnoria.

Total expenditure to 30th June, 1900 is $11,052.25.

This work was transferred to control of Department of Marine & Fisheries on 22nd January, 1885.

PUBNICO HEAD.

Pubnico Head is situated in the extreme south of Yarmouth county, about 20 miles south-east from the county town. It is 8 miles long, north and south, by three-quarters of a mile to one and one half miles wide. At the extreme head is a settlement of some five or six hundred people engaged in farming, lumbering

and fishing. The Coast Railway has a station here, 31 miles from Yarmouth. Some ten or twelve years ago a little wharf was built by the inhabitants, aided presumably by the Provincial Government. It was 57 feet long, 28 feet wide and at the outer end, 12½ feet high, consisting of a stone bank approach 15 feet long, a span of 21 feet and a roughly built block of round log cribwork 21 feet long.

In order to increase the accommodation of the wharf and to lengthen the time at which schooners can approach and lie at it, the department during the year 1898, expended the sum of $895.00 in thoroughly repairing the old structure and building an additional block and span at its outer end. The new block is 28 feet wide across the wharf, 18 feet long in length of wharf, and 15 feet high, giving about 11 feet of water at the outer end at high water of ordinary spring tides. The span connecting the new block with the old work is 9 feet long. At low water there are only two or three feet in depth at the outer end. The new work has been well and substantially built and is of great benefit to the locality.

Total expenditure to 30th June 1900 is $895.00.

PUDDING PAN

The Pudding Pan is a small island lying about half a mile off the coast, nearly midway between Coffin's Island and Medway Head. At low water it is almost connected with the mainland by rocky reefs and bars. To complete this connection a detached breakwater, 875 feet in length, has been constructed on the shoals east of the island. This has the effect of sheltering the cove west of the island from south-easterly gales, and forms a small harbour of refuge, which, however, is still open to the Atlantic on the south-west.

The work was done in 1879 at a cost of $5,714.75.

No important repairs were made on this work since 1879.

Total expenditure to 30th June 1900 is $5,714.75.

PUGWASH.

Pugwash, Cumberland county, is a town of nearly 2,000 people, situated on the south side of the Straits of Northumberland, 50 miles west of Pictou, 10 miles west of Wallace, and 20 miles east of Baie Verte. It is the terminus of the Pugwash branch of the Oxford and New Glasgow division of the Intercolonial railway. From ten to fifteen millions feet of deals are annually shipped to Europe. Up to 1896 the only wharf from which lumber could be shipped was the railway wharf, but as this had a frontage of only 60 feet, not more than one vessel could load at a time, and there were often several awaiting their turn.

To facilitate this important export trade, the department, in May, 1897, let a contract for $8,640.00 for the construction of an additional wharf. Work was begun in June 1897, and finished in December of the same year. The wharf is a substantially built structure of stone filled cribwork, 145 feet long, 50 feet wide and with 16 feet of water at its outer end at low water spring tides. From midway between high and low water to the bottom of the work it is constructed of creosoted timber on account of the prevalence and destructiveness of the "limnoria." The wharf is so located as to be reached by a spur track of the Intercolonial railway and it has already proved of great advantage to the locality.

Total expenditure to 30th June 1900 is $9,143.33.

RAGGED HEAD

Ragged Pond, Guysboro' Co., on the north side of Chedabucto Bay, about 6 miles east of Guysboro Harbour, is a triangular sheet of water with an area of about 180 acres and a depth of from two to five fathoms. It is enclosed by

shingle beaches, through which there is a narrow channel on the western side of Ragged Head.

During the years 1878-83 the sum of $4,744.61 was expended in improving the channel through the beach, and in constructing 110 feet of cribwork and 428 feet of brush and stone works on the southern side.

During the fiscal year 1899-1900, the sum of $200 was expended in renewing the covering, stringers and upper ties of the inner 50 feet of the cribwork : and in removing a deposit of gravel obstructing the channel.

The surface of the pond is 3 feet higher, (at low water inside) than low water outside ; consequently there is a fall at low water, of 3 feet in the length of the channel (600 feet). The depth in the channel, at low water, is about 3 feet, except near the entrance where it is about 1 foot. Spring tides rise 6 feet.

RIVER HEBERT.

River Hébert is a tidal stream in Cumberland county, flowing north into Chignecto Channel at the head of Cumberland Basin. At high water it is navigable during the summer season from Minudie, at its mouth, to the village of River Hébert, a distance of six miles, over the whole of which distance is a depth of 17 feet at H. W. O. S. T. (Spring tide rises 46 feet, neaps 38 feet .

The village of River Hébert, situated on and near the stream, is a scattered but prosperous farming and lumbering settlement, having within a radius of a mile a population of some four or five hundred people. It is the only intermediate station on the Joggins Railway running between Maccan station on the I. C. Railway and the Joggins Mines being eight miles from the former and three from the latter.

At the head of tide water, some three or four miles above the village, are two large saw mills, and in the neighbourhood several smaller ones, of which the total output has averaged nearly ten million feet of lumber yearly since about 1890, the whole of which is brought down the river on scows and landed onto schooners lying in the river at the village.

Within half a mile of the village is a small coal mine with an output (when working) of 50 tons per day, which, owing to the lack of shipping facilities is exported by rail. For want of a wharf also, the five local stores, and the saw mills in the neighbourhood, import most of their general merchandise and supplies by rail, though some heavier freight, such as flour, molasses, &c., come by schooner, and is landed by means of temporary gangways laid from the schooner's deck to the top of the steep mud bank of the river, at considerable risk and inconvenience.

On February 20, 1899, the Public Works Department entered into a contract with Mr. John W. Tingley, of Nappan, to construct a public wharf on the west bank of River Hébert, that will have 16 feet depth along its outer surface at high water ordinary spring tides, for the sum of $1,195 00.

The wharf, let by contract, measures 82 feet in length and 55 feet in width and its top is 4 feet above H. W. O. S. T. ; it consists of pile trestle bents thoroughly bolted and braced and connected by good substantial walings, and its end and eastern side is protected by close faced piling.

Total expenditures to 30th June 1900 is $962.80.

RIVER JOHN.

River John, Pictou Co., empties into the head of John Bay, on the Northumberland Strait, about 24 miles to the westward of the entrance to Pictou Harbour. It has about 3 feet at low water or 11 feet at high water over the Bar at the entrance, and from 3 to 11 feet at low water in a very narrow channel up to the bridge, a distance of nearly a mile. The village is situated on each side

of the river near the bridge, and about $\frac{3}{4}$ of a mile from the station on the Oxford and Pictou branch of the Intercolonial Railway.

The sum of $2.000, was appropriated for expenditure in 1899-1900 in connection with the construction of a wharf at River John.

During the year the land required as a site for the proposed wharf was purchased, and the creosoted timber to be used in its construction was treated but not delivered.

Total expenditure to 30th June 1900 is $449.94.

SALMON RIVER.

A small stream called Salmon River, Digby County, empties into the Bay of Fundy 15 miles north of Yarmouth, 30 miles south of Weymouth, 3½ miles north of the boundary line between the counties of Digby and Yarmouth, and 4¼ miles north of Port Maitland in the latter county.

The population of the settlement, within a mile either way of the river's mouth, comprises about five hundred people engaged in farming, lumbering, fishing and general trade. The imports by water are general merchandise for local consumption, and the exports, lumber and cordwood with smaller quanties of farm produce and fish. The river, though not large, drains a number of lakes, and is the most important stream in the southern part of Digby County. It empties into the Bay of Fundy through a sand and gravel bar, inside of which there is a sheltered pond, which, with the exception of the bed of the stream, is dry at low water. (Spring tides rise about 18 feet, neaps 15 feet). The pond has been formed into a small tidal harbour by the construction of two separate works, one on either side of the river's mouth.

The southern work, which is the more important, stops the gravel from interfering with the free discharge of the river and at the same time acts as a breakwater and loading wharf for vessels.

The northern work is simply a groyne or gravel pier, built to prevent the under tow from bringing the gravel into the river mouth from the north beach, and by somewhat confining the outflow, to give a better chance to scour.

Both these works, with the exception of certain repairs hereafter described, were built by the Provincial Government and private enterprise.

The first expenditure by the Department was in 1874, when the sum of $2,656.03 was spent in repairing and strengthening the works. In 1887-88 the sum of $1.500 was expended in rebuilding portion of the river face of the southern work, which was much decayed and also undermined by the river. These repairs were begun at the western end of the private wharf property, then owned by Foley Bros. (more recently by Charles Burril & Co., of Weymouth, and purchased from him by the department in 1899-1900) and continued westerly towards the outer end of the breakwater for a distance of 290½ feet, but the outer end of this face for a distance of 120 feet, was left in its original condition. In 1893-94 the sum of $800 was expended in general repairs to both works, the work being done as follows:

Wharf or breakwater.—A block on the south face 32 feet long and 20 feet wide was cut down and rebuilt; the outer end for 30 feet was raised about 18 inches; and 26 new fender piles were placed, 6 on the end and 20 along the outer face.

Gravel pier or groyne:—The inner 90 feet was practically rebuilt; the adjoining 30 feet was covered with new cross-ties and floor stringers; and a 20 foot block was rebuilt on the outer end to replace the 30 feet block that had been carried away. In the fiscal year 1899-1900 the sum of $400, was expended in purchasing logs and timber for the purpose of building a further extension to the breakwater, and in repairing the existing work on the north side of the river's mouth.

Total expenditure to 30th June 1900, including refund of $329.92 to Provincial Government, $7,684.90.

This work was transferred to control of Department of Marine and Fisheries on 12th June 1888.

SANDFORD (CRANBERRY HEAD)

Sandford (Cranberry Head) is situated on the Atlantic coast of Nova Scotia at the extreme western point of Yarmouth County, 7 miles north-west from the town of Yarmouth. The settlement in the neighbourhood, which has for some few years been known as Sandford, has a population of from 300 to 400 people, engaged in fishing and farming; in 1858 a breakwater was begun by the inhabitants aided by the Provincial Government. In 1876, the sum of $2,000.00 was expended by the Department in extending the work 150 feet; in 1878-79 the sum of $1,000.08 was spent in constructing an additional length of 50 feet, and in repairing the older portions. In 1880 the sum of $499.95 was expended in repairing the damage done by a storm in August, 1879. In 1883-84, $100.00 was expended on re-sheathing the outer end, and in effecting other needed repairs. In 1885-86 some slight repairs were made to the seaward face of the breakwater at a cost of $109. In 1887-88 miscellaneous repairs were made at a cost of $768.74. In February, 1892, two serious breaches were made in the work, by heavy gales, and a large quantity of gravel was driven through them into the little boat harbour inside. If repairs had been made without delay, the work could probably have been saved, but nothing was done, and in the next two or three years about 300 feet in length, i. e. the whole work except the outer block, was destroyed, the remaining piece being 60 feet long, 22 feet wide and from 18 to 20 feet high. Before this date six or seven fishing schooners of 10 to 20 tons each, besides a number of smaller boats, were owned in the place, and a considerable fishing business was done. Since the destruction of the breakwater, owing to lack of shelter, the schooners and most of the boats were disposed of, and the fishing industry of the locality practically ceased to exist. In 1898-99 the sum of $3,497.29 was expended in partially rebuilding the shoreward portion of the work on a new site rendered necessary by the altered configuration of the beach; the remaining outer block was also thoroughly repaired. The new work, of which a length of 200 feet was built during the year, starts at the shore at a point about 350 feet eastward of the point where the former work began, and it was built in a north-westerly direction towards the outer block of the old work, with which it was connected. Besides the portion of new breakwater built during the year, a small boat channel about 40 feet long and 8 feet deep, was excavated through the beach under lee of the breakwater to give access to the salt water pond which forms a very valuable shelter for the fishing boats during heavy gales in the winter season.

In 1899-1900 the sum of $2,599.96 was expended in completing the rebuilding of the breakwater begun last year. The portion of the work built during the year being 81 feet long and 26 feet wide, with an average height of about 12 feet. A piece of beach protection work, 240 feet long, 10 feet wide and from 6 to 8 feet high was also built in a westerly direction from the shore end of the breakwater to prevent the seas from driving the gravel beach into the little pond which shelters the boats of the fishing fleet.

Total expenditure to 30th June 1900, including refund of $11,632.00 to Provincial Government, $27,902.31.

This work was transferred to control of Department of Marine & Fisheries on 12th June 1888.

SAULNIERVILLE.

Saulnierville is a thrifty and extensive settlement on the south-east coast of St. Mary's Bay, Bay of Fundy, 36 miles south-west of Digby, 32 miles north of Yarmouth and 3 miles north of Meteghan River, the nearest public wharf and breakwater.

It has a population of about 350 people, engaged in farming, fishing, lumbering and general trade.

Some years before Confederation, a breakwater serving also as a loading wharf, was built by the inhabitants aided by the Provincial Government, at a cost of about $2,000.

In 1876 the sum of $4,000, of which half was contributed by the Department and half by the inhabitants, was expended in making thorough repairs to the work and in building an addition of 100 feet in length.

The breakwater has a total length of 468 feet, a width of 34 feet and at the outer end a height of 18 feet and a depth of water at H. W. S. T. of 13 feet.

Spring tides rise 21 feet, neaps 18 feet. At low water the sand flats are bare for several hundred feet beyond the end of the work.

This breakwater-wharf is built of cribwork of the usual type, and is at this date in fairly good condition, being in need of no repairs. It is only used in the summer season, being blockaded with ice during the winter.

Total amount expended to 30th June 1900, including $1,859.59 refund to Provincial Government is $5,863.72.

This pier was transferred to control of Department of Marine and Fisheries on 12th June 1888.

SAW PIT.

Saw Pit Wharf, Lunenburg County, is a small structure of cribwork, 90 feet long, 14 feet wide and of an average height of 8 feet, with an inclined slip 32 feet long and 5 feet wide, situated on the south-east side of Lunenburg back harbour, about ¾ of a mile from the town. It was built by the Provincial Government before Confederation for the use and convenience of the inhabitants of the numerous islands and headlands lying to the north and east of the Lunenburg Peninsula. In 1882-83 the Department expended the sum of $146.04 in repairing it; the work done consisting of some new floor stringers, fenders, caps and planking and a small quantity of ballast. In 1899-1900, the wharf having reached such a state of dilapidation as to be practically useless, the Department expended the sum of $900.00 in re-constructing the work. The new wharf, which is of pile work, has been built over, and on the site of, the old. It is 89 feet long, 20 feet wide with an additional length of 7 feet in an inclined slip, an approach of 60 feet long of earth and gravel, walled up with large stones on either side and filled and levelled up with gravel.

Total expenditure to 30th June 1900 is $1046.04.

SCOTT'S BAY.

Scott's Bay, Kings County, is situated in the Minas Channel, Bay of Fundy, not far from Cape Split. In 1879 a breakwater 350 feet in length was built on the western side of Jess Creek to form a harbour and shelter for vessels during south-westerly storms. The amout expended was $3,000.00.

No important repairs have been made on this work since 1879.

Total expenditure to 30th June 1900 is $3,000.00.

SEASIDE.

Seaside is on the east coast of St. George's Bay, near the southern entrance to Port Hood Harbour ; and about two miles west from Port Hood, the shire town of the County of Inverness.

During the fiscal year 1896-97 a contract entered into in 1895-96 for the construction of a wharf at this place was completed.

The wharf is 300 feet in length and 20 feet in width on top, of open-faced cribwork fully ballasted and close fendered at the outer end ; the substructure is of creosoted North Carolina yellow pine and the superstructure of native timber The depth at the outer end at extreme low water is 7 feet. Spring tides rise 4 feet.

Total expenditure to 30th June 1900 is $6,978.61.

NORTH RIVER (SEYMOUR POINT).

North River, Victoria county, empties into the north arm of St. Ann's Harbour, a fine basin 7 miles in length and about 2 miles in width, at the head of St. Ann's Bay, on the north eastern coast of the Island of Cape Breton.

A contract was entered into in September 1898 for the construction of a wharf at Seymour Point, on the western side of the entrance to the river, for the sum of $2148.

The contract included the construction of a road approach 64 feet in length and 16 feet in width, a block and span work, 63 feet in length and 20 feet in width, and a pile extension 175 feet in length with a return of 20 feet at the outer end.

Construction was in progress at the end of the fiscal year 1898-99, and the work was satisfactorily completed on August 29th.

The bearing piles of the extension, with the exception of those in the six inner bents, are of creosoted timber.

The depth at the outer end of the wharf, at extreme low water, is 8 feet. Spring tides rise 6 feet.

Total expenditure to 30th June 1900 is $2,363.55.

SHEET HARBOUR.

Sheet Harbour is situated on the Atlantic coast of Nova Scotia, in the eastern part of Halifax County, and is distant about 60 miles to the eastward of the mouth of Halifax Harbour.

This harbour is one of the finest in Nova Scotia, being of considerable extent and having an abundant depth of water. It runs inland some 6½ miles to Jared's Point, where it divides into two arms, called respectively the West and East Rivers.

There are saw and pulp mills at the head of each arm, at which a very large amount of timber is cut, and a considerable amount of pulp is made. The lumber is exported in large vessels, principally barques, to the United Kingdom, and the pulp is shipped in schooners to the United States. Vessels coming to Sheet Harbour, generally arrive in ballast, and as all the available ballast grounds have been filled in,, and the further depositing of it would injure the deep water channels, which are already narrow ; during the year 1887-88, a ballast wharf was constructed by the Department at the head of the West River.

On the 9th January, 1889 a contract was entered into for the construction of a ballast wharf on the eastern side of the East River, starting from the end of the remains of Hall's wharf, running southerly a distance of 180 feet, and 20 feet wide, with an L 20 feet long and 20 ft. wide at the southern end, the work being

built of round timber and the top, which is 3 feet above high water springs, is covered with 3 inch plank.

The work was completed during November 1890, and has proved of great benefit not only as a ballast wharf, but also as a public wharf.

At 10 feet from the face of the wharf, there are from 14 to 16 feet of water at low water springs, which depth will accommodate the largest vessels that frequent the harbour.

Spring tides rise 6 feet 6 inches; neaps rise 4 feet 6 inches.

Repairs amounting to $150.00 were made in 1891 since which time no important repairs have been made.

Total expenditure to 30th June, 1900 is $4,206.96.

This work was transferred to control of Department of Marine & Fisheries on 3rd September, 1889.

SYDNEY QUARANTINE WHARF.

The quarantine station in Sydney Harbour is on the south arm near Keating's Point, and about three-quarters of a mile from Point Edward. The latter is at the extremity of the land lying between the south and west arms.

During the year 1892-93, the sum of $1,200.02 was expended in building an addition to a small wharf near the southern boundary of the quarantine grounds. This wharf is a block and span structure 14 feet wide and 2 feet above high water, extending 100 feet to 7 feet 9 inches at extreme low water. The addition consists of a cribwork block 21 feet 6 inches on line of work by 39 feet 6 inches. The top of the covering is 4 feet above high water and the depth, at extreme low water, along the outer face, is 9 feet. Spring tides rise 5 feet.

Total expenditure to 30th June 1900 is $1,200.02.

SOUTH GUT.

South Gut, Victoria county, is the local name of the south arm at the head of St. Ann's Harbour. The latter is a fine basin 7 miles in length, the entrance to which is a few miles to the westward of the principal entrance to the great Bras d'Or Lake.

A wharf was commenced at this place in 1890-91, and completed in 1891-92, with the exception of the approach, the placing and bolting 12 fenders, and the cutting off the tops of fenders previously placed.

During the year 1892-93, the sum of $199.91 was expended in completing the work.

The wharf is a block and span structure 198 feet in length. The depth at extreme low water at the outer end is 6 feet. Spring tides rise 6 feet.

Petty repairs were made in 1895 and 1897.

Total expenditure to 30th June 1900 is $2,257.54.

STONY ISLAND.

Stony Island, Shelburne County, is situated to the south-east of Bull's Head, Barrington Bay, about midway between Cape Sable and North-east Point.

During 1891-92, the construction of a breakwater 300 feet in length, 24 feet in width, with a depth of 14 feet at low water at its outer end, was commenced under contract. This was completed in August, 1892, and, it being found advisable to strengthen the pile portion of the structure, the necessary arrangements were made and the work done at an additional cost of $150.

Petty repairs were made in 1897 amounting to $45.69.

Total expenditure to 30th June 1900 is $5,496.42.

SURETTE'S ISLAND.

Surette's Island, Yarmouth county, is situated 13 miles south-east from the town of Yarmouth.

During the fiscal year 1887 a wharf 100 feet in length and 25 feet in width was built, and has already proved of great benefit to the locality.

No important repairs were made on this wharf since 1887.

Total expenditure to 30th June 1900 is $960.12.

SUMMERVILLE.

Summerville is a village of some four or five hundred people, situated on the right or east bank of the Avon River, about midway between Windsor, the county town of Hants, and the mouth of the river where it empties into the Basin of Minas. It is about four miles south of Chevrie. The prosperity of the place is chiefly due to ship-building, which up to a few years ago was carried on with vigor and success, but since the decline of the industry the inhabitants have turned their attention to farming, to which the district is well adapted, though there is still a good deal of general ship-repairing done in the yards. The public wharf was built about the year 1866 by the inhabitants aided by the Provincial Government, its dimensions being 275 feet long, 29 feet wide and 20 feet high at the outer end. It is constructed of the ordinary round log cribwork, well fendered and filled with ballast. In 1886-87, the work having become almost useless for want of renewals and repairs, Messrs. E. Churchill & Sons, of Hantsport, who own and operate a small steamer making semi-weekly (now daily) trips between Avon River and Basin of Minas ports, repaired the outer end and built an extension, about 30 feet long and 25 feet wide, having on the eastern side an inclined landing for the use of the steamer when lying alongside at low water. In 1890, the Department expended the sum of $3,414.52 in removing and rebuilding the decayed top of the work to a height of 6 feet, besides placing new fenders along the whole length and making general and much needed repairs. The work is now 24 feet high at the outer end with 21 feet of water at H. W. O. S. T. (spring tides rise 48 feet, neaps 40 feet). In 1897-98 the sum of $100 was spent in a few urgent repairs to the floor. In 1899-1900 the sum of $600 was expended in renewing the whole floor with guards, planking and stringers, besides the bolting into position of a number of new fenders.

Total expenditure to 30th June 1900 is $7,910.31.

TATAMAGOUCHE.

The village of Tatamagouche, with a population of about 1200, is situated on the western side of the river of the same name, about $1\frac{3}{4}$ miles from its entrance into Tatamagouche Bay on the south side of the Strait of Northumberland. It is an important station on the Oxford & Pictou branch of the I.C.R., just half way between Oxford Junction on the main line, and Pictou. The surrounding country, being well adapted for agriculture, is thickly settled, and the surplus farm produce is shipped by small sailing vessels. The export of lumber and bark also forms an important item in the business of the place. At the village there are two small wharfs where all the business of the locality was formerly done, the inhabitants of the opposite, or east side of the river, being obliged to haul their produce round to the village by the bridge at the head of the harbour, a distance of three miles. To do away with this inconvenience and to promote the trade of the district, the Department in 1888 built a public wharf on the eastern side of the river at a point nearly opposite the mouth of the French River, where it empties into Tatagamouche, about half a mile below the village. This little wharf, which cost about $600, is 96 feet long and 20 feet wide, consisting of al-

ternate blocks of open face round log cribwork and spans of 20 feet each. At the outer end where there is 7 feet of water at L.W.O.S.T., there is a block of cribwork 30 feet long, 20 feet wide. Spring tides rise here 7 feet, neaps, 5 feet. During the fiscal year 1899-1900 the sum of $246 was expended in renewing the whole floor of the wharf with planking, guards and stringers, and on the outer block three tiers of logs were added to raise it to the level of the rest of the work.

Total expenditure to 30th June, 1900, including dredging, $18,851.48.

TANCOOK.

Big Tancook Island is the largest of a host of islands in Mahone Bay on the coast of Lunenburg County. It is about $2\frac{1}{2}$ miles in extreme length north and south, by about a mile in extreme width east and west. It is nine miles north-east of the town of Lunenburg; the same distance south-east from Chester, and about $2\frac{1}{2}$ miles south west of the extremity of the Aspotogon Peninsula, which is the nearest main land. The island has a population of about 600 people, for the most part dependent upon fishing, but doing a considerable amount of farming in the way of raising early vegetables. The breakwater, which is situated on the north-western side of a large cove on the northern end of the island, was built in 1873 at the joint expense of the Department of Public Works and the Provincial Government, each having expended $2,000.00. It is 200 feet long, with a spur at its outer end having a face length of 95 feet, and is built partly of piles and partly of cribwork, the first 165 feet being of cribwork and the remainder, including the spur or ell, of piles. In 1887-88 the sum of $2,405.95 was expended in extensive repairs and renewals. The whole top of the cribwork portion of the work was renewed, and about two feet in length of the pile-work portion of the breakwater was almost entirely rebuilt; a row of close piling was also driven along the southern and western faces of the ell, and along 40 feet of the northern outside end of the main portion of the work. In 1899-1900, the whole work was much decayed, and the piles being much eaten away by the limnoria, the Department expended the sum of $1,208.23 out of an appropriation of $1,500, in thorough repairs and renewals to the cribwork portion of the structure, and in a commencement of renewals to the pile work, but the appropriation was insufficient to restore the work to its former usefulness, or to make it safe against the attacks of the winter storms.

Total expenditure to 30th June 1900, including refund of $2,000.00 to Provincial Government, $7,631.11.

This work was transferred to control of Department of Marine & Fisheries on 12th June 1888.

THREE FATHOM HARBOUR.

Three Fathom Harbour, Halifax county, is situated on the Atlantic coast about fifteen miles to the eastward of Halifax Harbour. It is formed by islands connecting gravel beaches and though small, is well sheltered from all quarters and the small vessels which frequent the coast can enter and leave it at all times of the tide. It is the rendez-vous of a large number of fishermen, principally inhabitants of the surrounding country, and during the fishing season is a busy place.

To prevent the sea from breaking through the narrow shingle beach that separates the harbour from the Atlantic, the department, in 1878, built cribwork along the crown of the beach. The work was extended and repaired in 1889 and its total length is 1,050 feet; it is built throughout of round log cribwork.

During the year 1898, the sum of $500.19 was expended in raising and thoroughly repairing 200 feet in length of the work that had been undermined by the sea. The work still requires an expenditure of about $500.00 for further

repairs and to build a short return block on the end to prevent the sea getting around and attacking it in the rear.

Total expenditure to 30th June 1900 is $5,522.25.

TIDNISH

The Tidnish River enters Bay Verte on the southern side and near its head. It is the largest stream entering the bay, and for a short distance from the mouth it forms the boundary line between the Counties of Westmoreland, in New Brunswick, and Cumberland, in Nova Scotia, the western shore being in the former and the eastern in the latter province.

Tidnish Head, about 1 1/2 miles to the eastward of the mouth of the river, is the eastern terminus of the Chignecto Marine Railway, now under construction.

On the 4th day of July, 1890, a contract was entered into for the construction of a public wharf on the south-eastern side of, and near the mouth of the river in Cumberland County, and it was satisfactorily completed on the 13th May 1891.

The wharf is 220 feet in length and 20 feet wide, with an L on the upper side of its outer end, 20 feet long by 20 feet wide. It is built of round timber, thoroughly ballasted and covered with plank, and its sides and end are well protected by fenders and fender piles.

Total expenditure to 30th June 1900 is $2,164.45.

TRACADIE

Tracadie Harbour, Antigonish County, is on the southern shore of St. George's Bay, 12 miles east from Antigonish harbour and 11 miles west from the entrance to the Strait of Canso. It is separated from St. George's Bay by a series of islands and beaches of sand and gravel. Formerly the entrance was to the westward of Delorey Island, by a narrow and crooked channel with 2 feet at low water. In 1863 the Provincial Government opened a passage on the eastern side of the harbour, through a beach connecting the mainland with Delorey Island and constructed a breakwater on its eastern side.

In 1874-75 the Department repaired and extended the breakwater, and constructed a retaining wall to the southward of it. Repairs were made from time to time up to 1884-85 when the breakwater was repaired and strengthened by close-piling, and the retaining wall, which had been destroyed, was reconstructed.

The breakwater was badly damaged in 1889, and the following year the whole of it, with the exception of a portion of the south face 67 feet in length, was destroyed. In 1892-93, fifty feet of the south face of the breakwater was repaired and strengthened by close piling.

The destruction, in 1890, of the greater portion of the breakwater, involved the shifting of the channel at the entrance, (originally carrying 6 feet at low water) 500 feet to the westward, and the wasting of the beach, and consequent loss of land by erosion, to the eastward. The channel has since worked back nearly to its former position, but has a depth of only 5 feet at low water. To prevent further loss of land and to improve and protect the entrance, it was decided to reconstruct the breakwater, and for this purpose the sum of $3,500 was granted for expenditure in 1898-99. The work proposed included repairing and strengthening the remaining portion of the old work and the construction of a side extension 100 feet in length (16 feet in width on top over the inner 64 feet), and 20 feet in width over the remaining 36 feet over a bottom of 2 feet above low water at the inner end, and 2 feet below low water at the outer end, and of the amount appropriated the sum of $2800.62 was expended in procuring the materials required in the construction of the works proposed, and in placing and ballasting the creosoted timber substructure of the 100 foot extension.

During the last fiscal year, the sum of $933.22 was expended in completing the work commenced in 1898-99.

The re-construction of the breakwater has already had the effect of restoring the beach to the eastward nearly to its original condition, and to deepen the channel at the entrance.

Total expenditure to 30th June, 1900, including $1,228.69 refund to Provincial Government and dredging, is $23,501.71.

This work was transferred to control of Department of Marine & Fisheries on 12th June, 1888.

TROUT COVE.

Trout Cove, Digby County, is a small indentation about 1,000 feet long and 600 feet deep, on the Bay of Fundy coast of Digby Neck. It is about midway, and has the only breakwater affording shelter to fishing boats, between Digby Gut and Petite Passage, being 18 miles south-west from the former. The settlement at and near the cove, which is called Centreville, has a population of about 300 people engaged in fishing and farming. The fishing fleet comprises 25 to 30 boats of 16 to 18 feet keel, and there are also owned here two schooners of about 30 tons each, which, during the season run to and from St. John, Halifax, Yarmouth and Lunenburg with produce, fish, lumber, flour &c. There is a factory for the canning of Finnan haddies and kippered herring, which is doing a large business. Within a short distance of the cove is excellent fishing ground for cod, haddock, hake, lobsters &c. A breakwater was begun in 1856 by the inhabitants aided by the Provincial Government, the work as then built being 200 feet long and 30 feet wide In 1876 it was extended by the Department a distance of 178 feet. In 1880-81 extensive repairs were made to the old portion of the breakwater, of which 100 feet had been destroyed in 1879; in 1882-83 general repairs were made at a cost of $249.17; in 1885-86 $100, was spent in repairing the inner portion which was much weakened by heavy seas; 100 feet of new facing was built, the break renewed and strengthened, and some ballast placed in the outer end of the work. In 1887-88 140 feet of the inner portion of the seaward face was rebuilt from the beach to the top of the break; part of the flooring was renewed, and other necessary repairs carried out at a total cost of $1,991.75. In 1888-89 the sum of 399.79 was expended in repairing the inner end of the work, the beach having washed away and exposed the foundations. About 1886 the inhabitants built a small block of cribwork 24 feet long, 15 ft. wide and 9 ft. high, at the shoreward end of the north side of the breakwater for the purpose of protecting it and the adjoining bank, on which is situated a large fish house and store. In 1891-92 the outer end of the breakwater was repaired at a cost of $100. In 1894-95 the sum of $81.50 was expended in rebuilding a small block of cribwork on the north end of the north side of the work, and in placing about 100 tons of ballast in the shore end of the breakwater to replace that washed out by the heavy winter storms. In 1896-97 the sum of $3,990.02 was expended in thorough repairs and renewals; 130 feet in length of the inner side of the shore end was taken down and rebuilt in new timber; 80 feet in length of the seaward side of the outer end was close fendered, and the whole work was refloored. The middle 100 feet in length was also raised 2 feet in height, to make up for settlement. The shoreward half of the inner face was close sheathed to prevent the brook from undermining the work, and the outer face was re-enforced and new fendered. On the 12th of April 1898, a contract was awarded to Messrs. Reid & Archibald, for the sum of $3,986 for the extension of the breakwater a length of 100 feet. The work which is thoroughly well and substantially built was not finished until September 1899. The work is now 474 feet long on the north side. It is 30 feet wide on top, and at the outer end 20 feet high, where

there is 24 feet of water at H. W. O. S. T. In 1898-99 the sum of $41.12 was expended in protecting with cribwork and stone the shoreward end of the breakwater, which had been slightly damaged by a storm in the middle of January. In the fiscal year 1899-1900 the sum of $700.00 was expended in building a block of crib-work for the protection of the shoreward end of the breakwater, 56 feet long, 16 feet and 13 feet high.

Total expenditure to 30th June 1900, including refund of $685.00 to Provincial Government, $17,462.74.

This work was transferred to control of Department of Marine & Fisheries on 12th June 1888.

TUSKET WEDGE.

Tusket Wedge is in the southern part of Yarmouth county and about 13 miles from the town of Yarmouth.

The wharf commenced by the Government of Nova Scotia some years ago at this place and continued by the inhabitants, never having been completed, was taken in hand by the department and completed in October 1884, and has already proved of great benefit to the locality.

Total expenditure to 30th June 1900, including refund of $695 paid to Provincial Government, $1,544.98.

This wharf was transferred to control of Department of Marine and Fisheries on 12th June 1888.

VICTORIA HARBOUR.

Victoria Harbour, King's county, is situated at the mouth of Church Vault Brook, on the southern shore of the Bay of Fundy, about ten miles east of Margaretville. The pier is 240 feet long and 25 feet wide, with an approach 328 feet long faced with cribwork. It was begun in 1864 and finished in 1867, having been built by the inhabitants, assisted by the Provincial Government. In 1878 the sum of $1,000 was expended by the Department in repairing the work and raising it a height of 4 feet. Slight repairs were made in 1891 and 1893.

Total expenditure to 30th June 1900, including refund of $450 paid to Provincial Government, $1,624.98.

This work was transferred to control of Department of Marine and Fisheries on 12th June 1888.

WALLACE.

Wallace Harbour, Cumberland County, is situated on the south side of the Straits of Northumberland, about midway between Pictou Harbour and Bay Verte. It is at the mouth of Wallace River and is well protected from all winds. On the south side of the harbour, which is three-quarters of a mile wide, is situated the village of Wallace with a population of about 800 people. The industries of the place are chiefly farming and the quarrying and export of freestone, of which there are large and valuable beds in the immediate neighbourhood.

To facilitate communication with the north side of the harbour, a thickly settled district, the department in March, 1897, awarded a contract for the construction of a ferry wharf for the sum of $2,329. This wharf was finished in September, 1897, it is a composite structure 320 feet long, the shoreward 170 feet being of block and span work 18 feet wide, and the outer 150 feet of pile work. The outermost 90 feet is built of double width so as to form an inclined slip where the ferry boat can lie at any stage of tide.

Total expenditure to 30th June 1900 is $6,331.68.

This ferry wharf was transferred to control of Department of Marine & Fisheries on 30th November 1892.

WALTON.

Walton Harbour, Hants County, is the outlet of the La Tete River, and is situated on the southern shore of the Basin of Minas, Bay of Fundy, about 14 miles to the westward of Noel Bay, and 14 miles to the north-eastward of Chevrie at the mouth of the Avon River.

A contract was entered into in December, 1890, for the construction of a breakwater on the eastern side of, and near the mouth of the harbour, 250 feet long and 20 feet wide, sloping 1 in 8 on the inside, and 1 in 2 on the outside, for the purpose of forming a harbour inside.

The work was carried on in a very vigorous manner, and at the end of the fiscal year 1891 the bottom of the outer end for a distance of 130 feet inward had been built up to an average height of 6 feet and thoroughly ballasted.

Total expenditure to 30th June 1900 is $6,838.89.

WEST ARICHAT.

West Arichat, Richmond county, is a small but safe harbour on the south side of Isle Madame, sheltered from the south and west by Chrichton Island and a breakwater between it and the mainland.

The breakwater is 1,285 feet in length and 23 feet in width. A portion of it extending 628 feet from the island was built by the Provincial Government in 1867, and the remainder by the department in 1879. It is of round timber, open-faced, and was fully ballasted. The top of the covering is 11 feet above the bottom, which dries at extreme low water except near a 25 foot opening between the old and the new work; and 6 feet above extreme high water.

In 1883-84, fenders were placed on the south face 3 to 9 inches apart for a distance of 490 feet; in 1891-2, the covering over 140 feet at the west end, and 120 feet at the east end, was renewed along the centre line.

In 1892-3, 80 feet of the south face, at the west end, was repaired and close-fendered, 92 feet of the north face at the west end was reconstructed, and all other necessary repairs were effected with the exception of renewing about 11,000 feet B. M. of covering along the side of the work and replacing 150 cubic yards of ballast.

The expenditure up to the end of the fiscal year 1897-8, amounted to $15,309.67, of which $2,000 was a refund of amount expended by the Provincial Government and $11,294.29 may be charged to construction account and $2,015.38 to repairs.

During the year 1898-9 the sum of $685.39 was expended in repairs and renewals, including placing 480 cubic yards of ballast in the seaward face chambers; renewing 15,000 feet B. M. of 3 inch covering at the sides of roadway; placing a guard rail on the north side from end to end of the covered portion, and 26 fenders on the south face near the west end; and repairing and strengthening the corners of the work on each side of the opening.

Total expenditure to 30th June, 1900 including refund of $2,000 to Provincial Government $15,995.06.

This work was transferred to control of Department of Marine and Fisheries on 12th June, 1888.

WESTERN HEAD.

Western Head is one of the most important shore fishing settlements in Queen's county. It is situated on the southern side of Liverpool Bay, about 4 miles to the south of the county town of Liverpool.

Projecting from the head is a broken rocky ledge which formed a partial shelter, enabling fishermen to land with their boats in moderate weather, but the difficulty always was that the fishermen were not only prevented from launching

their boats in rough weather, but had to run great risks in effecting a landing when they were caught on the fishing grounds in sudden storms.

In 1887 the department began the construction of a stone breakwater in the rear and partly in the space sheltered by this rocky ledge. The breakwater was built of large quarried stone laid and bolted together, and when completed its length was 190 feet and its width 40 feet on top. Soon after its completion, however, a severe storm carried away 100 feet of the outer end of the work.

In 1889-90 this work was rebuilt; and owing to the depth of water inside the reef and the difficulty in securing a foundation, it was decided to rebuild on top of the reef, the whole of which uncovers at low water ordinary spring tide. The projecting points of the reef were cut away and a bed prepared for the foundation course which was bolted down to the bed rock and the interstices between the stones filled in with Portland cement concrete. Each succeeding course was laid in a similar manner, the top of the breakwater being carried up 5 feet above high water ordinary spring tide, and the surface finished smooth. Where the new work and the old join, the breakwater is 40 feet wide to 29 feet where it joins the reef. The part rebuilt is 106 feet in length, and the total cost of the above mentioned work of construction and improvements amounts to $12,025.96.

In 1898-9 the sum of $965-79 was expended in repairing this breakwater as the constant action of the waves had gradually weakened the structure. The work done consisted in the practical reconstruction of a portion of the breakwater, 90 feet in length, 29 feet wide and of an average height of 8 feet, besides placing other portions of the work in a thorough state of repair.

Total expenditure to 30th June 1900 is $12,990.75.

WEST JORDAN BAY

Jordan Bay, Shelburne County, is situated midway between Lockeport and Shelburne Harbour. On the west side of the bay, about one mile to the southward of Jordan Point, there is a deep land-locked pond of salt water which, until a few years ago, formed a safe and convenient harbour for fishing boats and schooners. The waters of this pond are separated from those of the outer bay by a high, narrow gravel bar, through which formerly there was a deep channel. This channel had for many years been getting narrower until, about the year 1881, it closed up entirely during a heavy south-easterly storm.

During the Session of 1888-89, an appropriation of $1,200 was made for the purpose of re-opening the harbour, and during the fiscal year 1890 this was successfully accomplished.

The bar being composed of shifting gravel, it was not considered advisable to attempt to open the old channel, for unless expensive protection works were built on one, if not both sides of the cutting, it would in all probability immediately close up again. Advantage was therefore taken of a small "high water passage," which had been deepened in part by the inhabitants, and this was deepened, straightened, and otherwise improved.

A cutting, 170 feet long, 35 feet wide on the bottom and about 52 feet on top, with an average depth of 3 feet 8 inches, was made, and now fishing boats can pass through at all times of tide, and schooners as large as 40 tons can enter at high water. Spring tides rise at this place 6 feet 9 inches, and neaps 12 inches less.

To guard against any future obstructions by gravel the balance of the appropriation was expended in constructing a pier on the back of the island. This pier is constructed of round timber and is 144 feet long, 18 feet wide and 13 feet high at the outer end.

No important repairs have been made since 1890.

Total expenditure to 30th June 1900 is $1,999.95.

WEST PUBNICO.

West Pubnico is at the south-eastern end of Yarmouth County, and about 30 miles from the town of Yarmouth.

In 1886, for the purpose of affording wharf accommodation for the numerous fishing boats engaged at this place, Parliament voted the sum of $1,000, and this amount was expended in connecting a small island, distant from the shore about 300 feet, with it by a stone embankment, 25 feet in width.

By the construction of a pier farther out towards the channel, a depth of 12 feet at high tide would be reached in a distance of 400 feet, and the accommodation required be gained.

In 1887, the work referred to, was extended a distance of 230 feet, the extension consisting of a pile wharf 25 feet wide.

No important repairs were made since 1892.

Total expenditure to 30th June 1900 is $2,248.62.

WHITE POINT.

White Point is a small fishing settlement on the Atlantic coast of the county of Queen's, about 6 miles south of Liverpool, the county town. At this place a breakwater was constructed over 25 years ago by the inhabitants, assisted by grants from the local government, which affords the only protection to fishing boats in the neighbourhood, and is a small structure of stone-filled crib-work 180 feet in length, from 10 to 20 feet in width and about 13 feet in height at the outer end.

In 1878 an expenditure was made by the department in lengthening the structure and in the removal of a number of large granite boulders from the area sheltered, and in 1879 the work was strengthened and repaired.

During 1882-3 the outer portion of the old work which had been completely demolished during a storm, was rebuilt and repairs were executed on other parts of the structure, and in 1884 further expenditure was made on repairs.

In 1886 it was found that the outer blocks had been carried away, and the ballast they contained, as well as a portion of the stone slope on the seaward side, had been carried into and deposited over the area sheltered by the breakwater, and the sum of $470.53 was expended in its removal and in closing in the damaged end of the work; and a further expenditure of $1,004.92 was made during the ensuing year for the same purpose.

During 1888-9 the sum of $2,499.46 was applied in excavating a dock, or landing place for boats, 100 feet in length and extending inwards 60 feet from original high water mark.

In November, 1893, the sum of $349.56 was spent in a practical rebuilding of about 10 feet in length of the outer south corner of the breakwater and refilling with ballast, placing and spiking about 12 feet in length of close sheating on the outer side, laying a few new floor timbers and planking and placing about 70 tons of heavy rip-rap along the outer side of the work, to break the force of the heavy seas.

During the year 1898-9 the sum of $902.26 was expended in practically rebuilding the breakwater which is now 192 feet long, 14 to 25 feet wide, and 13 feet high at the outer end. Many large rocks and stones were also removed from the inner dock, and a ledge blasted, with dynamite, which endangered the safety of their only landing place in times of stormy weather or during heavy seas or swells. The crib-work, when stripped, proved not only to be decaying above high water, ordinary spring tide, but also below that point; the destructive little worms known as the limnoria had completely destroyed the timber, thus entailing the practical reconstruction of the entire work. As this was the only place where the fishermen of this settlement and others contiguous thereto could land their catch, the value of

this breakwater, in affording to these people convenient shelter for their boats, cannot be overestimated.

The total expenditure incurred for works at this place up to June 30, 1900, amounts to $13,868.26, of which amount $9,147.93 may be charged to construction and improvements, including a refund of $1,643.55 made to the local government, and $4,720.33 to repairs.

This work was transferred to control of department of Marine and Fisheries on 12th June, 1888.

WHITEWATER.

Whitewater, Kings county, is a small farming and lumbering settlement of some two or three hundred people, situated on the west coast of the Basin of Minas, about three-quarters of a mile south of Cape Blomidon and 10 miles northeast of the village of Canning.

To facilitate the shipping of lumber and for general purposes the department expended during the year 1898 the sum of $3,999.08 in constructing a public wharf 285 feet long, 20 feet wide, and has an ell on the outer end 35 feet long, where there is, at high water of ordinary spring tides, a depth of 17 feet. The rise of the tide here being 30 feet, the wharf is high and dry at low water. It is constructed of block and span work, the blocks being of solid cribwork 19 feet in width and the spans 14 feet in clear opening. The work was well and cheaply built by days' labour.

Total expenditure to 30th June, 1900, is $3,998.90.

WHYCOCOMAGH.

Whycocomagh, Inverness Co., is a thriving village on the west side of a bay of the same name at the head of St. Patrick's Channel, an arm of the Bras d'Or Lake, and a convenient place of shipment for Lake Ainslie, Skye Glen, and other agricultural districts of central Inverness.

The wharf at this place, purchased by the Department in 1897-98, together with a warehouse, and a right of way to the highway for the sum of $3,000, was originally a block and span structure extending over a bottom of soft mud or silt varying in depth from one foot at the inner to 19 feet at the outer end, 200 feet to 9 feet at low water level, and to within 35 feet of channel dredged in 1884, to 12 feet 6 inches at low water. In 1899-1900, 144 feet was reconstructed, with side and end walls of rubble masonry and centre filling of stone; and in 1892 the outer portion, 55 feet 9 inches in length, was repaired and extended 10 feet with pile work.

The sum of $1,000 was appropriated for expenditure during 1898-99 in reconstructing the outer portion of the wharf. The work proposed included reconstructing the outer 60 feet with pile work, and the construction of a pile head 60 feet in length and 25 feet in width. Of the amount appropriated, $988.11 was expended in procuring nearly all materials required, and in completing the work, with the exception of placing part of the covering and guard rails and a few guard piles.

During the fiscal year 1899-1900, the sum of $500.11 was expended in completing the reconstruction of the outer portion of the wharf and in repairing the roof of the warehouse.

The work performed included driving and securing 35 guard piles and two mooring piles; procuring, driving and securing three mooring piles; procuring and placing 3,500 feet B.M. of 3-inch covering; slight repairs to the approach, and covering the roof of the warehouse with cedar shingles.

Total expenditure to 30th June, 1900, is $7,492.58.

WILLOW COVE.

Willow Cove, Queen's County, is at the head of Port Mouton Harbour.

A breakwater 140 feet in length was built during the year 1888 at this place for the protection of fishing boats, especially of the larger class, as the anchorage is soft and bad.

No important repairs made on this breakwater since 1888.

Total expenditure to 30th June, 1900, is $1,796.97.

WINDSOR.

Windsor, the county town of Hants, with a population of about 4,500 people, is an important town situated at the head of the estuary of the river Avon on the D. A. Railway, 46 miles north-west from Halifax. The shipping registered at the port for the year ending December, 1896, amounted to about 131,000 tons annually. A couple of million feet B. M. of lumber also forms part of the exports by water. Up to twelve or fourteen years ago the wharfs of the town were comparatively free from mud, and at high water large vessels could lie alongside to load or discharge. Within the last few years, owing partly no doubt to the construction of the new highway bridge, of which the piers are located without due regard to their effect on the current, the mud has accumulated in front of the wharfs to such an extent that it is only at extreme high tide that moderate sized vessels can approach or leave the wharfs. Several of the leading shippers and merchants have on more than one occasion spent from two to three hundred dollars in digging and removing the mud from their wharfs, but it soon again deposits, rendering the expenditure useless. With the object of scouring away the accumulated mud from the wharfs, the Department in 1897-98 expended the sum of $3,299.71 in constructing a training weir, extending down stream from the corner of the Falmouth abutment of the road bridge at an angle of 45 degrees with the bridge. The weir is constructed of brush matresses at the bottom with sufficient stone to keep them in place and with crib-work on top of them. The thickness of the brush matresses with their load of stone is from 3 to 6 feet. The average depth of the main or under crib is from 5 to 8 feet and the uniform height of the A shaped top crib is 7 feet. The sloping sides of the top of the work are sheathed with 3" birch plank, and the crest, which is a right angle, is covered with a 6"x6"x⅜ steel angle securely bolted through the plank to the ridge piece. The work is built on shifting quicksands, and, owing to the great rise and fall of the tide—about 50 feet— and to the great velocity of the current at ebb and flood tide, the work has been constructed under great and peculiar difficulties. At the close of the fiscal year 1898-99, during which the work was continued at an expenditure of $4,198.24, there was a length of 260 feet of the weir finished. For a further length of 65 ft. the brush matresses with their load of stone were sunk ready for the cribs. Altogether, the work done in 1898-99 was equivalent to 240 feet in length of finished weir. In addition to the work upon the training weir, a considerable quantity of the rock ledge at Smith's Point, separating the Avon and St. Croix Rivers, was removed, as well as portions of the old pier foundations of the old highway bridge. The object of the former work was to induce the flood tide to seek the Windsor side, and meet the channel being slowly made by the training weir. The object of the latter was by increasing the water way on the Windsor side to cause a larger volome of the ebb current to exercise its scouring action on the mud in front of the Windsor wharfs. In the fiscal year 1899-1900 the sum of $2,000.00 was expended in continuing and completing the work to its originally designed length of 600 feet. The training weir, aided by the works of removing the rock at Smith's Point and the old pier foundations of the former highway bridge, is undoubtedly, though much more slowly than was anticipated, effecting its designed purpose in the scouring away

of the mud in front of the Windsor wharfs, but it will be a matter for serious consideration whether it will not be advisable at an early date to extend it a further length of about 200 feet.

Total expenditure to 30th June 1900 is $9,627.54 and for improving the Avon River, last fiscal year, $4 168.49 more.

YARMOUTH BAR (STANWOOD BEACH).

Yarmouth, the County town of Yarmouth County, is situated at the south-western extremity of Nova Scotia. It is a thriving and prosperous town of nearly 7,000 inhabitants, and, next to Halifax, the largest and most important in the province of Nova Scotia. It is the terminus of the Dominion Atlantic Railway, and the headquarters of the Yarmouth Steamship Company, the fine Clyde built steamers of both of which Companies, make regular trips throughout the year to Boston. There are several important manufacturers in the place but the leading business is shipping, of which a larger tonnage is owned here than in almost any other locality in Canada.

At low water, Yarmouth Harbour, in which spring tides rises 16 feet, neaps 13 feet, consists largely of mud flats covered with grasss. The harbour is formed by a succession of shingle and gravel beaches, (called Stanwood Beach), aggregating about one mile in length, which connects the northern end of Cape Fourchu Island, also about a mile long, with the southern end of Stony Point on the mainland, and seperate the harbour from the Bay of Fundy.

In 1867, it was found that part of the beach between Cape Fourchu and Stony Point was gradually wearing down, and unless this action were arrested the sea would eventually sweep away the beach and destroy the harbour. The Government of Nova Scotia began the work of protecting the beach in 1867 by constructing 200 feet of crib-work at Stony Point. Between 1873 and 1875 the Public Works Department constructed the remaining 2,800 feet of protection work required to reach Cape Fourchu, and added buttresses or groynes to stop the movement of the gravel.

Between 1875 and 1888, the protection works, although substantially built of stone-filled cribwork and close-piled on their seaward faces, had to be repaired and strengthened at various intervals, the expense amounting to over $25,000.

Between 1888 and 1896 no further works of repair were undertaken on the beach protection, which became dilapidated and decayed ; breaches being made through it by the sea at various places. During the fiscal year 1896-97 the sum of $2,983.62 was expended in carrying on the most urgent works of repair, and in 1897-98 a further sum of $3,234.51 was expended in continuing and completing these repairs. This last sum was applied in rebuilding a length of 50 feet at the eastern end of the protection work, and constructing a groyne, projecting at right angles from the same end, for a distance of 175 feet. The groyne is 25 feet wide and 11 feet high, substantially built of round log, and stone-filled cribwork. Its object was to protect the beach at the north-eastern end of the main cribwork protection, by accumulating the gravel and breaking up the waves before they expended their force on the beach. It has admirably fulfilled its purpose, as gravel has accumulated at the junction of the groyne with the main work to a depth of over 14 feet.

In 1898-99 the sum of $300.00 was expended in repairing a small but serious breach, 25 feet long, in the bottom of the outer face of the beach protection work, and in covering with 3-inch hemlock plank a length of 430 feet of the top of the work, in order to prevent the gravel from being washed out by the waves.

In 1899-1900 the sum of $970.27 was expended in repairing two or three small but dangerous breaches in the seaward face of the work and in covering the top for a length of about 670 ft with 3 inch plank to prevent the sea from washing out the ballast.

Total expenditure to 30th June 1900, including refund of $1311.95 to Provincial Government and dredging is $100,479.01.

YOUNG'S LANDING.

Young's Landing, Lunenberg County, is situated on the western shore of Prince's Inlet, Mahone Bay, about three miles north of the town of Lunenberg. The district is thickly settled all about and is excellent farming country. The wharf was built here before Confederation by the Provincial Government. It was 132 feet long and 22½ feet wide, built of block and span work. In 1899-1900, the work having become almost a complete wreck, the Department expended the sum of $795.58 in re-building the wharf on the same site as the old. The new work, which is also of block and span, is 87 feet long, 22 feet wide and 12 feet high at the outer end, exclusive of the stone and gravel approach about 60 feet long.

Total expenditure to 30th June 1900 is $795.58.

PRINCE EDWARD ISLAND PIERS.

NORTH COAST—NORTH POINT TO EAST POINT.

The harbours on the north coast of Prince Edward Island are all of the same character, being obstructed by bars of shifting sand lying at various distances outside their mouths. With the exception of Malpeque, they are navigable for only small vessels, and are practically inaccessible during storms when there is a heavy sea running, as the breakers then extend quite across, leaving no visable channel.

These bars form a great impediment to the successful prosecution of the shore fisheries. The boasts, when fishing in the offing, are obliged to run for the harbour on the approach of a storm much sooner than they would were the navigation clear in order to get across the bar before the sea begins to break on it. After the wind subsides they are prevented from leaving the harbor until the sea on the bar has gone down. In this way it is estimated that one-third of their time, and frequently the best of the fishing, is lost.

Most of the works on this coast have therefore been designed for the purpose of deepening the water on the bars and maintaining permanent channels.

ANNANDALE.

Annandale Pier, King's County, is situated on the north side of Grand River, near its entrance into Boughton Bay; it consists of a shore abutment, or approach 300 feet long by 22 feet wide, and a pier head of 140 feet long by 36 feet wide fronting on the channel where a depth of 7 feet at low water or 12 feet at high water springs (which here rise 5 feet) is carried. The approach excepting on a short span of 18 feet which is floor stringered and planked over is constructed of close faced timber work filled in with brush, stone and clay the latter forming the roadway, while the pier-head is formed partly of crib work and partly of pile bents, this latter being on its outer half, all of it being floor stringered and planked over.

The work is one of the Prince Edward Island Piers control of which was assumed by the Dominion Government in 1883-84 and when the sum of $2,474.25 was paid the Prince Edward Island Government to recoupe it for the monies that

had been expended in keeping it in repair from 1873, date on which the Island entered "Confederation." The work when assumed by the Department being a very old structure and much out of repair, besides which being exposed to the destructive action of the "toredo" some expenditure has been required almost yearly to keep it passable for traffic, up to the close of 1898-99 the sum of $1,719.-91 being so applied, and making with amount of $39.93 spent last fall in temporary repairs and strengthening of its different parts of pier-head, where 320 lin: feet of floor stringers, 29 piles (or rather small supports) and 300 feet B. M. plank laid.

Total expenditure to 30th June, 1900, $4,234.00.

This pier was transferred to control of Department of Marine and Fisheries on 24th August, 1888.

BAY FORTUNE

Bay Fortune Harbour, King's County, is situated on the south side of Rollo Bay on the east coast of the island and about 5 miles south-west from Souris, the eastern terminus of the Prince Edward Island Railway.

There was expended during the year 1895 for the preservation of improvement made in the depth of the water on the bar at the entrance, a further sum of $7,500. The work done consisted in levelling up with squared timber (from 1 foot to 1 ½ feet high and 290 feet long) the channel side of the portion of the breakwater built by the department in 1892-93, putting in protection of brush and stone in the bottom, driving fender piles at 3 feet centres, and constructing new block of closefaced timber, fully ballasted, at the outer end in order to prevent scour caused by the increased current occasioned by the extension of breakwater, that was found to be undermining it. The inner end of the work has also been connected with the public wharf at the point of the bar by a beach protection of timber, brush and stone, to prevent the formation of a channel.

Much benefit is said to have resulted from the extention, &c., of the breakwater, the depth of water over the bar having increased 2 to 3 feet, thus permitting vessels drawing as much as 10 to 12 feet entering and leaving the harbour at high water.

No important repairs made since 1895.

Total expenditure to 30th June 1900 $3.484.42.

BAY VIEW.

Bay View Pier Queens Co., is situated on the eastern side of, and near the mouth of the Hope River that enters New London Harbour about 3 ½ miles south east from the Harbour entrance. The pier has a length in all of 509 feet; 409 feet from the shore outwards being 20 feet in width, this increasing gradually to width of 35 feet at the outer end; it is not exposed to any heavy sea but extreme high tides, when occurring during storms, owing to the work being about two feet low, usually cause damage to the roadway which on narrow portion is formed of clay and gravel filling, damage of this nature occurred during the past fall, when the tide rose higher than it had for many years, the outer end or pier head which is floor stringered and planked being also damaged, repair of which was made at the time at a cost of $84.28, consisting of the making up of the roadway with broken stone, and replacing floor stringers and planking.

The pier is one of those the control of which was assumed by the Department in 1883-84 when the sum of $1.599.00 was paid the Local Government to recoup it for sums expended on repairs from 1873 to that date, since when, as the work at that time was in very bad condition, expenditures were required in all of $1.306.18 between 1885 and 1898 to keep it in serviceable condition.

Total expenditure to 30th June 1900 $2.989.46.

This pier was transferred to control of Department of Marine & Fisheries on 25th August 1885.

BELFAST (HALIDAYS').

Belfast Pier, Queen's County, locally known as "Haliday's Wharf," is situated on the south side of Orwell Bay about one mile from the village of Eldon. This pier, constructed by the Government of Prince Edward Island previous to Confederation, was taken over by the Federal Government in 1883. Besides affording shipping facilities for the neighbourhood, it is also a port of call for the steamers of the Prince Edward Island Navigation Company plying, during the season of navigation, tri-weekly, between Charlottetown and Orwell Bay. It has a length of 600 feet and, at its outer end stands a head block forming an L which is 28 feet to 30 feet in width and 145 feet in length along the channel, where a depth of about 5 feet now obtains at low water spring tides, or 14 feet at high water.

The pier-head had originally a length of 140 feet, but when retopped in 1889 was shortened 10 feet; the result being that the submerged remains of the old work at its north-eastern end rendered this part unserviceable during low water owing to danger of vessels being damaged when approaching the pier. In 1897-8 a new block, 28 feet wide by 15 feet long and of an average height of 15 feet was added to the pier head at the eastern end so as to cover the obstructing ballast and timbers. General repairs were also made on the roadway and the expenditure incurred in the said year for these repairs and the construction of the new block amounted to $499.45.

At the close of the fiscal year (1897-8) a sum of $4,854.49 had been expended which may be charged to "Construction and Improvements" including the refund of $4,355.04 made to the Local Government in 1884-5 for their expenditure on the pier between 1873 and 1884 and a further sum of $5,165.47 had been applied for repairs undertaken at various times, to keep the pier in a passable state for traffic; the greater portion of the work above low water was rebuilt.

During the fiscal year 1898-9 the sum of $499.46 was expended in filling in a "span" or opening of 24 feet in length, that existed at about 200 feet inward of the pier head or L, and by which during westerly storms drift entered and was filling in the area protected. The filling of the span is made of close laid poles (placed lengthwise and cross-wise) and having on top, for about 3 feet, close faced timber work full ballasted. Thirty new fender piles were driven on the western side of the pier and the whole of the roadway approach (400 feet in length) made up with broken stone and gravel. Two new floor stringers were put on the outer part of the approach, and the whole of the planking of the pier head was repaired as found necessary; and the outer upper corner strengthened and fender-piled.

Total expenditure to 30th June 1900, $10,529.42. This work was transferred to control of department of Marine and Fisheries on 24th August 1888.

BRAE.

Brae Harbour, Prince County, is situated at the mouth of the Brae River, on the northern side of Egmont Bay, eight miles east of West Point and about six miles south of Coleman Station, on the line of the Prince Edward Railway, which station is 36 miles from Summerside, the shiretown of the county. At the mouth of the river, an area carrying a depth of six feet at low water is well sheltered by Brae Island and would prove a good fishing station and harbour of refuge for small vessels, as well as a most convenient place of shipment for the surplus produce raised in the district, were it not that approach to it is obstructed by a sand bar, almost dry at low water, that extends completely across the entrance and

which is parallel with the shore and at a distance of about 400 feet out from the eastern end of the island.

In 1890, with a view of improving this harbour, the inhabitants of the surrounding district began the construction of a brush breakwater so as to contract the entrance, originally 800 feet wide, and deepen the same by the increased scour thus induced. They built a length of 350 feet wide, composed of poles, brush and some ballast with clay filling on top. To this the department added a length of 200 feet in 1891-92, and in 1895-96 repaired or, more properly, rebuilt the inner or original weak work constructed by the inhabitants.

As no benefit, as regards deepening by scour, had resulted from the work thus lengthened to 550 feet, and a further extension of at least 500 feet, being considered necessary to attain the desired improvement in the depth, it was decided to build during the year 1897-98 an additional length of 100 feet of breakwater. Most of the materials required for this addition were procured during the early part of the winter of 1897-98, with the intention of proceeding with the construction of the lower portion of the work through the ice in March, 1898, and finishing it by the close of the said fiscal year. Owing to the serious illness of the foreman in charge at the time when the condition of the ice was favourable for carrying on such work, nothing was accomplished further than procuring the materials required. The cost of these materials, together with some little labour performed in ice cutting, etc., amounts to $514.64, making with the former expenditures for the 200 feet extension and reconstruction of the 350 feet of the original work, a total expenditure of $2,505.49 up to June 30, 1898. $1,461.19 may be charged to 'Construction and Improvements' and $1,043.29 to 'Repairs.'

During the fiscal year 1898-99 the proposed 100 feet extension has been completed. This work has a width of 24 feet and averages 13 feet in height; it is built of open-faced square timber, floor-stringered and planked over, well ballasted and has sides and ends well protected by fender piling driven at about 3 feet centres. Moreover, the whole of the inner 350 feet of the breakwater was repaired, the roadway being levelled up with brush, broken stone and gravel, some fender piling was also driven at the ends of the 200 feet extension. The cost of all these works amounts to $915.68, of which sum $860.73 was paid previous to June 30, 1899, making the total expenditure up to that date for the 650 feet in length of breakwater built, $3,366.22. All this length of breakwater has not as yet made any improvement in the depth of water. It has been of much benefit to the locality, shipments being now regularly made from the work by small vessels; it also forms a good shelter and landing for the fishermen who have been frequenting it in large numbers. In order that the depth of water may be improved, a further length of breakwater of at least 400 feet is required.

Total expenditure to 30th June, 1900, $3,366.31.

CAMPBELL'S COVE.

Campbell's Cove, King's County, a small indenture in the coast line on the north side of the island, is situated about 9 miles west from East Point and 14 miles north-east from Souris (the eastern terminus of the Prince Edward Island Railway) and was selected by the Provincial Government in 1872 as the site for the construction of a small isolated breakwater 300 feet long by 30 feet in width, built on the reef that extends from the west end of the cove. Much benefit was derived from the work, both by the fishing and farming industries of the neighbourhood, and a refuge was afforded to fishing boats overtaken by storms.

When repairs to the work became necessary in 1882-83 the department thoroughly effected the same and also connected the breakwater with the shore and constructed an extension of 250 feet, making the work in all 620 feet long, giving a small area of shelter carrying 4 feet at low water spring tides, which rise 4 feet.

The repairs and additions made by the department being of a most substantial character, the work, notwithsanding its exposed situation, continued in good condition up to 1888-89, when some slight repairs to the planking and fenders were found to be required. After this date, however, principally due to the weakening of the timber face by the teredo, injury was done by each storm, and although extensive repairs were made in 1891-92, the work suffered severely in the spring and winter of 1893, 90 feet of its outer end being carried away to below low water and the remaining part of the work constructed by the department (154 feet long) having either the seaward face carried away or badly damaged.

During 1894-95 all of this damaged portion was reconstructed at a cost of $1,018.86, the new work on the seaward side being built with a batter of 1 in 12 on the face to the top instead of sloping 1½ to 1 above low water, thus permitting of better ballasting, and making the work 13 feet wider on top. The portion thus rebuilt is from 6 to 12 feet high and is thoroughly connected with the old work, the whole of the latter being well ballasted and repaired where required, recovered for a further length of 50 feet, and the present outer end bulk-headed to prevent further injury for some time.

No important repair have been made since 1895.

Total expenditure to 30th June 1900 is $15,789.89.

This work was transferred to control of Department of Marine and Fisheries on 24th Augusr 1888.

CHAPEL PIER.

Chapel Pier, Kings County, is on the south side of Grand River, about three miles from its entrance into Boughton Bay, and 9 miles from Cardigan Station on the P. E. Island Railway.

The pier constructed by the Local Government previous to Confederation was assumed by the Dominion Government in 1884 ; it consisted at the time of a shore abutment or approach, 205 ft long with a "block," and "span" at outer end, affording a length of 249 ft of pier 22 ft wide, and extending out to a depth of 7 ft at low, or 12 ft of water at H. W. Spring Tides. When assumed by the Department the sum of $2,281.38 was paid to the Local Government to recoup it sums expended on its repair between 1873 and the date at which it was taken over, $50 was also expended on its repair in 1884-85. During 1889-90 a length of 44 ft of pier was added by the reconstruction of a former "Block" and "Span" extending the work out to where a depth of 9 ft of water was carried at low water ; general repair of the work was also made at the same time cost in all of which was $964, owing to the destructive action of the sea worms and other causes such as scour movement of the, ice settlement of the outer work occured and this with decay of some of the floor stringers and planking of the inner parts of the pier rendering it unfit for traffic urgent repairs had to be made during 1894 and 1897 at a cost respectively of $145.76 and $41.46 ; during the past fiscal year the sum of $396.27 has also been expended in levelling up the outer blocks, and floor stringering them and the spans also fender piling faces and sides of blocks, replanking outer block and making up the roadway approach with broken stone and gravel.

Total expenditure to 30th June 1900 is $3,878.87.

This pier was transferred to control of Department of Marine and Fisheries on 25th August 1885.

CHINA POINT.

China Point Pier, Queen's Co. is situated on the west side of the Orwell River near its entrance into Orwell Bay, was constructed many years ago by the government of the Island to provide a place of shipment for the surplus produce of the

surrounding country, that is both well tilled and very productive as well as thickly settled. The pier is the point of call tri-weekly for the steamer "Jacques Cartier" plying between Charlottetown and other ports on Orwell Bay. As originally constructed the work had a length of 426 feet extending out to the channel where a depth of 15 feet at low water or of 24 feet at high water springs is carried, here a pier-head of 72 ft. long and 25 ft. wide was situated, composed of two blocks of 24 ft. long each, connected with "span" of same length; its inner portion being composed of shore abutment 142 ft. long, and six blocks and intervening "spans," blocks being 17½ to 22 ft. and the spans from 18 to 32 ft. long, latter being the outer one connecting with the pier-head, all of the spans being floor stringered and planked over while the remainder of its roadway, after the work was filled with poles and brush, had top formed of clay and gravel.

The pier is one of the P. E. Island Piers control of which was assumed by the Dominion Government in 1883-84 when payment was made of $3,436.47 to the Local Government to recoup it for sums expended on repairs and maintenance between that date and 1873 when the Island entered Confederation of the Provinces. Owing to the soft and yielding nature of the bottom on which the pier-head rested, destructive action of the "teredo" and the long span connecting it with the approach (the pier also when assumed by the Dept. being very old and almost a complete wreck) it was found almost each year necessary to make some expenditure to keep it passable for traffic, the native and unprotected timber used in its construction and the fender piling which for years was its principal support being about destroyed in from 2 to 5 years, the sum of $2,221.82 was expended on repairs between 1884 and 1897.

With the sum of $500.00 authorized for expenditure in 1897 it had been intended, in connection with other required repairs to have driven a number of creosoted piles along the faces of the blocks forming the pier head, and these had been provided, but before the work could be done movement of the ice during a high spring tide abont the middle of March carried away the top portion of one of the blocks, and broke down the connecting spans making repair of the work then impossible with the sum available, on account of which all of the materials of value were collected from the damaged work, and these, with the creosoted timber provided, placed in safety, and so kept up to the 10th Feb. 1898 when on the letting of contract for reconstruction of new pier-head, etc., they became the property of the contractor for use in the work, which was commenced 19th July and satisfactorily completed 31st October 1899. The work done consists of a new pier-head 70 feet long by 35 ft. wide, measured on top, placed at 20 feet distant from existing work, to which it is connected by a span of that length, outer block of existing work was close piled on outer face and ends, as also newly floor stringered and planked over, latter being done to the adjoining span and block, besides general repair being made to all of the remainder of the roadway placing the pier in good and serviceable condition, the cost of which including inspection was $2,207.00.

The new pier head up to two feet above low water is made of close laid poles, brush, and stone, former being laid lengthwise and crosswise in alternate layers, each course of poles being made fast by spikes to the lower one, two feet above low water the work is of close faced timber full ballasted, floor stringered, planked over and fender piled at 10 ft. centres with creosoted timber and additionally piled at 5 ft. centres with native timber.

Total expenditure to 30th June 1900 is $7,865.30.

This pier was transferred to control of Department of Marine & Fisheries on 24th August 1888.

CLIFTON.

Clifton Pier, Queens Co. is on the south side of the South West River about 2½ miles from its entrance into New London Harbour and immediately below the public road bridge here crossing the river, it has a width of from 18 to 20 feet for

a distance of 202 feet the remaining 58 feet pier head being 25 feet wide, it is built of alternate blocks of timber and what had originally been "spans" or openings, but now filled in with poles, stone and brush out to the outer block, the roadway out to which being formed of clay put in on top of brush, poles and broken stone. The pier-head which extends out to the edge of the channel, where a depth of 14 feet at low water or 18 feet at high water is carried, affording good shipping facilities for the class of vessels entering New London Harbour, is a close faced solid timber work, filled in with brush and stone, and is floor stringered and planked over.

The work is also one of the P. E. Island Piers, control of which was assumed by the Dominion Government in 1883-84, when the sum of $208.00 was recouped the local Government for the monies that had been expended upon it between 1873 and 1884 on repairs; since then up to the close of fiscal year 1898-99 the sum of $870.30 has been expended by the Dept. on repairs, while during the past year $292.88 was spent on the levelling up, repairing, and fender piling of the pier head.

Total expenditure to 30th June 1900 $1,371.18.

This work was transferred to control of Department of Marine & Fisheries on 25th. August 1885.

CRANBERRY WHARF.

Cranberry Wharf, Queen's County, is situated on the Hillsborough River, is 275 feet in length, 21 to 24 in width and 20 feet high at the outer end.

This wharf was purchased from the Provincial Government in 1898 for the sum of $2,075.35.

Total expenditure to 30th June, 1900, is $2,075.35.

GEORGETOWN.

Georgetown, King's county, the terminus of the Georgetown branch of the Prince Edward Island Railway, and shiretown of King's county, is situated on the western side of the Montague River, near its entrance into Cardigan Bay.

Georgetown harbour, is well and favourably known as being one of the best and safest on the island, and is also the port of call for the steamer *Stanley*, plying between Pictou and the island during the winter months. Before the construction of the Prince Edward Island Railway, a large shipping business was done from this port, for the accommodation of which the local government many years before confederation constructed, at the place, the wharf since known, as the "Queen's Pier." This pier is centrally situated on the harbour front, and has a length in all of 640 feet, and a width of from 30 to 36 feet; along the end and outer 300 feet of the sides, a depth of 12 feet obtains at low water or of 17 feet at high water springs, as these rise here about 5 feet. The shore end of the work for 340 feet in length is of close-faced timber work filled with brush, stone and clay; the latter being used to form the roadway on top while the outer length is composed of six 'blocks' and six 'spans,' with a planked road way supported by stringers laid across the whole.

The Dominion government assumed control of the pier in 1884, paying at the same time to the local government a sum of $2,254.24 to recoup amounts expended by them from 1873 to 1884. This pier being at the time of the transfer a very old structure and very much out of repair, an expenditure of $1,000 was at once required to put it in even a passable state, and nearly every year since small outlays had to be made for renewals and repairs. At the close of the fiscal year 1897-8 the total expenditure incurred for repairs and renewals amounted to $2,292,68, making, with the sum reconped the local government, a total outlay of $4,546,92.

During the year 1898-9 the sum of $399.92 was applied in reconstructing the top portion of the whole of the seaward side of the shore abutment or approach, putting in new mooring posts, floor stringers and planking, as required on outer portion, and making up the roadway with broken stone. The plank sidewalk and hand railing on inner side was also repaired.

Total expenditure to 30th June, 1900, $5,324.90.

This wharf was transferred to control of Department of Marine and Fisheries on 24th August, 1888.

HAGGARTY'S WHARF.

Haggarty's Wharf, Queen's County, is situated on the south eastern side of the Hillsborough River, about 12 miles from Charlottetown.

The wharf consists of a shore abutment or approach 372 feet long and 20 ft. wide formed of brush, and poles, clay filled on top, and a pier-head made up of two blocks with intervening spans in all 91 feet long and 31 feet wide at the outer end which extends out to a depth of 8 feet at low water, the wharf was constructed many years ago by the Government of Prince Edward Island, and remained under its control until 1898 when it was assumed by the Dominion Government who made payment of $5,750.00 to the Local Government for the sums it had expended on maintenance of the work between that date and 1873, when the Island entered Confederation, during 1898 the sum of $134.10 was also expended by the Department on repair.

Total expenditure to 30th June, 1900, $5,969.10.

HICKEY'S PIER.

Hickey's Pier, Queen's County, is situated on the southern shore of the Hillsborough or East River about 10 miles from Charlottetown; it was constructed by the local government many years previous to Confederation, and is 428 feet in length and from 22 to 28 feet in width. The work of the latter width extends inward from the outer end for a distance of 180 feet and forms the chief loading place for vessels. Some dredging was done in 1880-1-2 along this portion of the pier and a depth of about 10 feet at low water secured at a cost of $782.19. The Dominion Government assumed control of this pier in 1884, at which time they repaid the local government the sum of $1,255.27, which they had expended on it for repairs between that date and 1873. The work was, however, at the time in a dilapidated condition and expenditures had to be made nearly every year since to keep the pier in a passable state for traffic. The total expenditure incurred for repairs up to the close of the fiscal year 1897-8 amounts to $2,928.61, and by adding the sum recouped to the local government and the cost of the dredging done in 1880-1-2 the total cost of the pier to the department up to June 30, 1898, is found to be $4,966.07.

Total expenditure to 30th June, 1900, $5,941.66.

This pier was transferred to control of Department of Marine and Fisheries on 24th August, 1888.

HIGGIN'S SHORE.

Higgin's Shore Pier, Prince County, is situated on Egmont Bay, about 10 miles north from Cape Egmont, and about 6 miles west from Richmond Station on the line of the Prince Edward Island railway. It has a width of 20 feet 6 inches, and is 453 feet long, extending out to a depth of about two feet at low water spring tides and giving at high water a depth of seven feet; spring tides here rising five feet. The pier, which was constructed many years ago by the local government, has solid closed faced timbers on sides and outer end, securely

tied together by cross ties placed at 10 feet centres, and central longitudinal timbers in each course extending over the whole length; the entire body of the work is filled with brush and stone, with clay on top to form roadway. During 1898 the sum of $400.02 was expended in raising the outer 150 feet of the pier two feet in height, some new face timbers, guard timbers, cross ties and fenders were also put on this length, and the entire length of the roadway was made up with broken stones and gravel filling. The work, which had become impassaible, is now in good condition for traffic.

Total expenditure for 30th June, 1900, $3,634.83.

This work was transferred to control of Department of Marine and Fisheries, on 24th August, 1888.

HURD'S POINT.

Hurd's Point Pier, Prince County, is situated on the southern side of Bedeque or Summerside Harbour, and about 3 miles south of Summerside, the shire town of the county.

The pier is a most important shipping place, being about the only outlet for the surplus produce of a large and rich agricultural district. It is also the calling place for the ferry steamer plying in the harbour and which makes several trips daily between Summerside and the pier. It is 510 feet in length and 26 feet in width, excepting the outer 50 feet where the width is 65 feet. During the year 1896 the sum of $107.62 was expended on general repairs, consisting in replacing 6 fender piles, 3 mooring posts, all decayed or broken, planking, levelling up floor stringers in the spans, and making up the roadway approach with gravel.

Considerable dredging was done in 1899.

Total expenditure to 30th of June, 1900, including dredging, $15,734.85.

This work was transferred to control of Department of Marine and Fisheries, on 24th August, 1888.

KIER'S SHORE.

Kier's Shore Pier, Prince County, is situated on the east side of Richmond Bay, about 7 miles from Kensington, a village and station on the line of the Prince Edward Island Railway. The pier originally constructed jointly by the local government and residents of the district, has a length of 1,033 feet and a width of 20 to 25 feet, excepting for the outer 50 feet where it is 40 feet wide, with the exception of a short span (17½ feet) at 283 feet from the outer end. All the work is constructed of close-faced timber work, filled with brush and stone, with roadway of clay or gravel, excepting an outer 50 feet or pier head which is floor stringered and planked over.

During the spring of 1897, the sum of $62.05 was expended in filling in with broken stone and gravel at all places where a settlement had occurred in the roadway or where it was cut up by the heavy traffic.

Total expenditure to 30th June 1900 is $9,425.35.

This work was transferred to control of Department of Marine and Fisheries on 24th August, 1888.

LAMBERT'S PIER (MONTAGUE).

Lambert's Pier, King's County, is situated on the southern side of the Montague River, immediately below the highway bridge at the village of Montague, and is six miles from the entrance of the river into Cardigan Bay. It has in all a frontage of 310 feet on the river channel, and consists of two sections, the upper or western one 140 feet long and 24 feet wide constructed of cribwork on the inner side and pile work outside, and the eastern section 170 feet long, 25 feet wide formed entirely of pile bents capped, floor stringered, and planked over, the

inner side of the western section, as well as a part of the eastern, being made up of ballast discharged from vessels, and connects with the bank of the river, forming a good approach to the pier.

Total expenditure to 30th June 1900 is $3,212.66.

This work was transferred to control of Department of Marine and Fisheries on 24th August 1888.

LEWIS POINT (CARDIGAN).

Lewis Point Pier, King's county, is situated on the north side of Cardigan River, a short distance below Cardigan Bridge (the head of navigation) and about eight miles from its entrance into Cardigan Bay. The pier is 575 feet long, being composed of a shore abutment of 365 feet in length, two intermediate blocks each 35 feet long and an outer block 79 feet in length with intervening spans, each about 20 feet wide, out to the outer block which is 33 feet wide. At the outer end and sides of the outer block there is now a depth of 12 feet at low water or 17 feet at high water springs, the approach from the channel to the pier and the berths at it having been improved by dredging in 1894-95. During the year the whole of the top portion of the pier, including span beams, covering, &c., have been renewed, and the faces of the head block fenderpiled at four foot centres with hard wood spars, and the roadway of approach was made up where required with broken stone and gravel, the whole pier being thus placed in a good and serviceable condition at an expense of $1,000.24.

Total expenditure to 30th June, 1900, $4,223.52.

This work was transferred to control of Department of Marine and Fisheries on 24th August, 1888.

MALPEQUE.

Malpeque Breakwater, Prince County, lies within the eastern or principal entrance of Richmond Bay, on the north shore of the Island, about 90 miles from East Point, and 40 miles from North Cape.

During 1877-78-79, a breakwater 600 feet in length was constructed by the department, on the western end of "Royalty Sands," on the eastern side of the harbour, to shelter the anchorage from north-east winds and afford a shipping place for the produce of the surrounding country.

Since the construction of the breakwater, the sands inside began to waste away by the action of the sea during easterly storms, and to prevent this action, a breastwork was constructed from the inner end of the breakwater to Royalty Point, a distance of 2,370 feet.

The sum of $350 was expended during 1891-92, in reconstructing the top portion of the outer 400 feet of breakwater, which was carried away in the fall of 1890.

During the fiscal year 1893 the sum of $200 was expended in repairing and strengthening the outer 500 feet of the breastwork through which, it was feared, a breach might be made.

No important repairs were made since 1893.

Total expenditure to 30th June 1900, $20,969.31.

MC'GEES (EGMONT BAY)

Mc'Gees Pier, Prince County, is situated on the east side of Egmont Bay about 5 miles north from Cape Egmont and 6 miles from "Wellington Station" on the line of the Prince Edward Island Railway. Originally constructed by the local government to afford shipping facilities for the district, its control was assumed in 1883 by the department, and in 1884 small repairs were made to make it available for traffic.

At the beginning of the fiscal year 1895-96, the pier had become quite unserviceable, some 50 feet of its outer end having been carried away by the ice in 1892, besides which all of the roadway was impassable owing to washout and settlement, the floor stringers and covering of the 30 feet span (at about centre of pier) were decayed and broken, while on a length of the pier inward to shore 290 feet, two to four feet in height of the top face timbers required renewal.

During the fiscal year 1896 the damaged portion was reconstructed and repaired, and the pier put in good condition at a cost of $1,395.19. The work done consisted in the entire rebuilding of the outer 50 feet, and the repair and reconstruction of all of the remaining length (in all 700 feet long and 20 feet wide) the former span or opening 30 x 20 x 12 being solidly filled in, and the outer end of the pier where exposed to the action of the ice protected with fender piling of hardwood.

No important repairs were made to this work since 1896. Total expenditure to 30th June 1900, $4,216.44.

This work was transferred to control of Department of Marine and Fisheries on 24th August, 1888.

MINK RIVER (BASIN PIER)

Mink River Pier, King's County, also known as 'Murray Harbour North,' is situated on the north-east side and near the mouth of Mink River, where it enters the southern side of Murray Harbour.

The pier is 400 feet long, consisting of a shore abutment or approach of 200 feet, 'blocks' and 'spans' 20 feet wide for 130 feet, and a pier head 70 feet long by 32 feet wide; all the cribwork is constructed of close-faced timber. At the end and sides of the pier head there is a depth of 6 feet at low water or 12 feet at high water spring tides, which here rise 6 feet. This pier is one of the many works originally constructed by the local government, the control of which was assumed by the Dominion Government in 1884, when a sum of $293.25 was paid the local government to recoup sums expended by them between 1873 and 1884. Thence up to the end of the fiscal year 1897-8, expenditures for repairs amounting to $1,505.65 were found necessary to keep the work in a passable state for traffic; its cost to the department up to June 30, 1898, was therefore $1,798.90 During the year 1898-9 the sum of $500.10 was applied in close piling the outer blocks with hardwood, putting in new span beams, guard timbers and mooring posts and effecting minor general repairs required to place the pier, for a time, in good and serviceable condition.

Total expenditure to 30th June, 1900, $2,299.00.

This work was transferred to control of Department of Marine & Fisheries on 24th August, 1888.

MIMINIGASH HARBOUR

Miminigash Harbour, Prince county, is situated on the north-west coast of the Island, about 15 miles from "north cape" and 18 miles from "west point," Before its improvement by the Department, it was one of the numerous ponds along this coast emptying into the Strait of Northumberland, the channels or outlets of which as they passed through sandy beaches were constantly changing as also at times when severe storms occured on the coast completely blocked up, as the site however was sheltered to a great extent by "Miminigash Reef," a ledge of rock nearly a mile long, which lies parallel with the shore at about half a mile distant it had much advantage over the other ponds and was the one generally used by the fishermen during stormy weather, and after examination of it and the other ponds on the coast proposed as sites for formation of a harbour, the one selected by the Department, work being commenced at the place in 1878, and

this, at the close of 1897-98, consisted of piers or breakwaters on either side of the outlet (position of which was made permanent) and confining its width to 56 feet, the breakwater, on the north side, having a length of 535 feet, and on the south side of 350 feet, there being also inward of the latter a beach protection 270 feet long to guard against scour, and formation of a new channel or outlet back of the southern work, the cost of all of which, up to the close of fiscal year 1897-98 being $14,376.56. During 1898-99 as much of the works had become greatly weakened by age, and action of the ice and the "toredo," their general repair to an extent was effected, this consisting of close piling portions of channel face, reballasting of outer 300 feet of northern work, new floor stringering and covering, in part, being put in, and ballasting and close piling both sides and end of the southern work, redriving piling with addition of braces and fender piles at 5 feet centres on beach protection on southern side as also strengthening that on the north side by occasional piling, the expenditure in connection with which amounting to $1998.87, which included the payment of a number of piles that were not driven at the time. Contract was entered into Jan. 11th 1899 for the construction of a new block 60 feet long by 30 feet wide at the outer end of the northern breakwater, the work being commenced on March 21st 1899, and the work completed August 11th of that year at a cost of $2,526.00 including payment of inspection.

During the past fiscal year the repairs commenced the previous season for renewal and strengthening of the work were also continued, the sum of $997.83 being expended; the work done consisting in filling in with new cribwork, packed with brush, and ballast in alternate layers on 150 feet of the inner part of south breakwater, on channel face of which additional fender piles were driven at 5 feet centres, as also where close piling had been carried away or damaged were replaced; similar work was done also on the northern beach protection for a length of 200 feet, while addition of 100 feet was built, floor stringers and planking being put on the outer 150 feet in front of the fishing stages, some repair was put on the outer end of original north work, and brush hurdles set up extending in an easterly direction at about high water for about 200 feet, soas to both accumulate sand and prevent it being carried into the "Run."

Total expenditure to 30th June 1900, $19,899.30.

MURRAY HARBOUR (SOUTH RIVER.)

Murray Harbour South Pier, King's County, is situated at the head of navigation immediately below the public road bridge on the South River and about nine miles inward from the entrance of Murray Harbour. It extends out from the north bank of the river which is about 300 feet wide at this point, to the edge of the channel where a depth of 10 feet of water is carried at low spring tides, giving with the rise of 5½ at high water springs a good approach for the largest sized vessels usually visiting the harbour. The pier consists of an approach 89 feet long and an L or pier head having a length of 107 feet 6 inches on the channel face. Both approach and pier head are formed of timber "blocks" with intervening "spans" all of which, except at the shore end are floor stringered and planked over. The "blocks" above low water are of square timber close faced, but below low water are of round timber open cribwork, while the shore end of the approach is constructed of poles, brush and stone, covered on top with gravel.

Owing to the natural decay of the top portion of the pier and injury done by the teredo and ice to its bottom portion, it had latterly become unserviceable and quite unsafe for traffic, there being great danger of the outer blocks forming the pier head, falling into the channel. This was remedied during the year 1896 by the entire reconstruction of its top portion, the different blocks being rebuilt or levelled up as required from 3 to 6 feet, new floor stringers, covering,

guard timbers and mooring posts put in, and the channel face of the blocks forming the pier head close piled, while fender piles were driven on their inner sides and ends, thus placing the work in good and safe condition at a cost of $1,011.34.

No important repairs have been made since 1896.

Total expenditure to 30th June, 1900, including dredging, $18,044.13.

This work was transferred to control of Department of Marine & Fisheries on 24th August, 1888.

NEW LONDON HARBOUR.

New London Harbour, Queens Co., is on the northern coast of the Island about 10 miles south east of the entrance into Richmond Bay, within its entrance, which has a width of about 1200 feet, the harbour is about 3 miles long and nearly as wide, and receives the waters of the "Southwest," the "Stanley" the "French" and the "Hope" Rivers, these all navagable for at least short distances, and having at them wharfs or shipping places at which is exported the surplus produce raised in the surrounding districts, all of which are both thickly settled and land well cultivated and productive, quantities of general merchandise, coal, lumber, limestone, etc., being also imported by water; New London not having (as is the case generally on many other parts of the Island) convenient railway facilities, the harbour is also largely used as a fishing station and harbour of refuge for both of which it is most convenient for the fishermen being near some of the best fishing grounds on Gulf of St. Lawrence.

For improvement of its entrance which is obstructed by a shifting sand bar works were commenced by the Department in 1878, these now consisting of beach protection and breakwaters on each side of the entrance, the work on the eastern side having now a length of 1120 feet and that on the western side of 460 feet, their purpose being to preserve and extend the sand beaches and so by confining the current cause increased scour and improve the water over the bar, which result has been obtained to a most satisfactory extent proportional with the expenditure as made, the depth of the water being improved at such times as the work, have been in good order, fully 6 feet giving at low water 12 feet over the bar and rendering New London Harbour one of the best on the north coast of the Island. The works are built partly of stone, brush and piling and in part of cribwork, but in each case the outer or finishing block is of close faced solid timber work.

Since construction the western work has received no damage requiring repair, the eastern one however being exposed to a strong current, action of running ice, and at times to a very heavy sea has quite often suffered damage requiring some yearly expenditure to keep it in repair, and making the cost of the works to the Department up to the close of the fiscal year 1898-99 to be $21,481.99. During the past season the sum of $236.14 was expended in reconstructing a 40 feet length of work and repairing the adjoining 50 feet as well as replacing fenders and sheating an outer end of the breakwater.

Total expenditure to 30th June 1900 $21,718.13.

NINE MILE CREEK.

Is situated in Queen's County, about 5 miles west from the entrance into Charlottetown harbour, on the shallow inlet entering into the passage between St. Peter's Island and the mainland. The pier constructed many years ago by the local government to provide a shipping place for the district, has a total length on the centre line of 290 feet with an average width of 20 feet, composed of a shore approach or abutment and several "blocks and spans." The end which originally extended to the line of low water mark, has had a channel carrying 7 feet of water at low spring tides dredged to it by the department at a

cost of $6,286.46, thus admitting of the approach of good sized schooners at high water spring tides, which rise 8½ feet. The pier, however, being in bad condition generally and requiring repair over its entire length, as well as being too narrow at its end for the accommodation of vessels, turning of teams, space required for shipments, etc., a contract was entered into on the 22nd August 1892, for the construction of a new block 35 feet in length and 20 feet wide at the outer end and the same was satisfactorily completed in February, 1893.

During the fiscal year 1895 the older portion of the pier was thoroughly repaired at a cost of $884.00, the entire top having been rebuilt, its sides and ends refendered and the "spans" or spaces between the blocks filled with poles and crib-work.

Repairs amounting to $83.50 were made in 1896.

Total expenditure to 30th June, 1900, $2,183.55.

This work was transferred to control of Department of Marine & Fisheries on 24th August, 1888.

NEWPORT OR NORTH CARDIGAN PIER

North Cardigan Pier, Kings County, is situated on the north side of the Cardigan River about 5 miles from Cardigan Bridge, and station on line of the P. E. Island Railway, and is one of the P. E. Island Piers control of which was assumed by the Dominion Government in 1884-85 when sum of $2,732.70 was paid the Local Government to recoup it for monies expended on maintenance of the work between 1873 date at which the Island entered Confederation and the time when its charge was taken by the Department.

The pier has a length of 381 feet consisting of shore abutment 100 feet long and seven blocks with intervening spans; it is from 23 to 25 feet wide to the outer block or pier head, which has a width of 32 feet; the blocks are from 19 to 25 feet long while the spans vary from 14 to 26 feet. The approach and all of the blocks are constructed of close faced timber work filled with brush, stone and gravel, the latter forming the roadway, with the exception of the two outer blocks which are floor stringered and planked over. Being an old structure much out of repair when assumed by the Department it has required almost yearly some small expenditure to keep it in passable state for traffic, these sums in all amounting now to $1,502.87 the amount of $308.61 having been spent last season in repair and renewal of planking, floor stringers, putting in new fenders, etc.

Total expenditure to 30th June 1900 on pier $4,235.57 and dredging $7,692.-21 or $11,927.78.

This pier was transferred to control of Department of Marine & Fisheries on 24th May 1888.

PINETTE.

Pinette Pier, Queen's County, is situated on the south side of the Pinette River immediately below and at right angles to the public road bridge crossing the river, being connected with the bridge by a "span" 28 feet in length. The pier is 120 feet long, by 28 feet wide and constructed of close faced square timber, cribwork, ballasted, floor stringered, and planked over. It faces on the river channel where a depth of 8 feet of water is available at low water, this having been obtained by the dredging done by the department in 1881, since which no shoaling of any account has taken place. The pier being a very old structure and much out of repair when assumed by the department in 1883, general repairs had several times to be carried out on it since then in order to keep it open for traffic. Settlement having occured in the cribwork after the dredging was done, the pier had to be levelled up; moreover, additional floor stringers, &c., had to be put in shortly after the general levelling up was completed.

During the year 1896 the sum of $200 was expended on work of this

nature so as to render the pier serviceable for traffic, 7 cross ties, 8 floor stringers each about 22 feet long, two span beams on the approach from the bridge, 8 new fenders, 2 mooring posts and about 2,000 feet B.M. plank covering were put in; two bearing piles were also driven and placed under the centre of the new span beams and 120 lineal feet of new guard timber laid.

Total expenditure to 30th June, 1900, $3,226.68.

This pier was transferred to control of Department of Marine & Fisheries on 24th August, 1888.

PORT SELKIRK.

Port Selkirk Pier, Queen's County, is situated on the south side of Orwell River near its entrance into Orwell Bay, and is distant by water about 20 miles from Charlottetown.

The pier is in the form of a T consisting of a pier head 250 feet long and 35 feet in width, fronting on the edge of the channel, connected to the shore by an approach 250 feet long and 23 feet wide. The whole pier head and the outer part of the approach are composed of a series of "blocks" and "spans," floor stringered and planked over. During the year 1896 the sum of $597.46 was expended in levelling upper or northern "block" and adjoining "span;" fender piling the face and sides of this block with creosoted piling; putting in new floor stringers and covering; fender piling the whole of the remainder of the pier head with native timber; rebuilding a length of 80 feet of timber facing on the upper side of the approach and making up the roadway with gravel and broken stone; the entire pier being thus placed in good condition.

Total expenditure to 30th June, 1900, $9,845.11.

This work was transferred to control of Department of Marine & Fisheries on 24th August, 1888.

POWNAL.

Pownal Pier, Queen's County, is situated at the head of the north-eastern portion of Hillsborough Bay, about 9 miles east of Charlottetown.

The pier as built by the local government many years previous of Confederation, is in all 753 feet long; consisting of a shore abutment 209 feet in length and 16 feet wide and 14 "blocks" with intervening "spans"; the inner blocks are from 14 to 16 feet wide, while the outer ones forming the pier head are 40 feet wide. Originally there was little or no water at the pier when the tide was low, but in 1880-81, in order to afford to large boats and small vessels access at all times of tide, and to permit of large vessels loading when the tide is well up, the department dredged a channel from the deeper water outside, 1,275 feet in length, 50 feet in width, and of a minimum depth of 6 feet at low water, and also formed a basin 250 feet long and 90 feet in width on the eastern side of the outer end of the pier.

During the year 1896 the sum of $132.47 was expended in renewing portions of the planking and floor stringers of the outer "blocks" and "spans," putting on four new fender piles and making up roadway with clay and gravel, thus placing the pier in serviceable condition for fall and spring shipments.

Total expenditure to 30th June, 1900, $2,528.35 including $354.66 for dredging.

This work was transferred to control of Department of Marine & Fisheries on 24th August, 1888.

RED POINT.

Red Point Pier, Queen's County, is situated on the eastern side of the Hillsborough or East River, about 7 miles north-easterly from Charlottetown. The

pier, which was constructed by the local government many years before Confederation, has a length of 650 feet, averaging 21 feet in width, and is composed of a shore abutment 310 feet long and five separate 'blocks' from 29 to 75 feet in length, with intervening 'spans' of 21 to 25 feet in width. The whole of the cribwork is of close-faced solid timber, the shore and inner blocks being filled with brush and stone, with some clay on top to form the roadway, while floor stringers are placed on the outer blocks and spans and planked over. This pier is an important shipping point spring and fall for a large section of a thickly-settled and well-tilled district. Until 1897-8 it remained the property of the local government, to whom the sum of $4,033.31 was paid in the said year by the Dominion to recoup them for moneys expended on it for repairs, etc. Previous to the transfer being made, the department had expended in 1884-5-6-7-90-1 a sum of $1,500.66, $600 being chargeable to 'Construction and Improvements,' and $900.66 to 'Repairs.' Again in 1888-9 and 1890, a sum of $1,749.41 was laid out by the Dominion for dredging a channel 12 feet deep at low water, from the deep water in the river to the outer end of the pier and along the sides of its outer blocks, which previously only reached low water mark.

During the year 1898-9, the sum of $985.83 was expended in levelling up and closely fender-piling the outer blocks.

Total expenditure to 30th June 1900, $4,033.31.

ROCKY POINT.

Rocky Point (so called) Prince Co., is situated on the east side of Egmont Bay, 8 miles north of Cape Egmont and about same distance from Richmond station on line of the P. E. Island Railway. For many years it has been the site of fishing station and several lobster factories, and to within some short time had at it protection of a small breakwater or block that had been erected by residents of the locality; this, however, being of too slight construction, was some time ago destroyed, rendering it necessary for the fishermen each evening to haul up their boats, as also causing them much trouble when landing their catch of fish. To obviate which difficulty the department have, during the past fiscal year, had constructed at the place a cribwork 200 feet in length, that extends out to about low water. The outer 100 feet of this, on its west or exposed side (for its protection from running ice) is formed with sloping face 1 to 1 and is sheathed with planking; all of the work, that has a width of 20 feet on finished top, is full ballasted, floor-stringered, and is planked over and has sides fender piled at 10 feet centres. Its cost was in all $1,447.43.

Total expenditure to 30th June, 1900, $1,447.43.

RUSTICO.

Grand or North Rustico Harbour, Queen's county, the most important fishing station, on the northern coast of the Island, is situated about midway between "East Point" and "North Cape." During 1881-2-3-4, a breakwater or wing dam 1,240 feet long was built on the northern side of the harbour, and a similar work 450 feet long on the southern side of its entrance, for the purpose of concentrating the current at ebb tide and directing it upon an outer obstructing bar, to improve by scouring the depth of water. The desired scour has in a measure been induced and some 2 or 3 feet better water are now carried over the bar, giving at low water 8 to 9 feet, or at high water springs a depth of from 11 to 12 feet, which no doubt would be further improved by the extension and maintenance of the said works.

The breakwater on the northern side, is in a way, the most important work of the two, as it protects an inner low beach on which most of the fishing stages and fish houses have been erected. As already stated, it was originally 1,240 feet

long, but, chiefly on account of the timbers being much weakened by the action of the teredo, suffered severely during various storms; 120 feet being carried away and 150 feet seriously damaged. In 1893-4-5-6 extensive works of restoration and repair were carried out, a head block 30 feet by 60 feet being added and the outer 140 feet widened and otherwise strengthened and secured; the total length of the breakwater was thus reduced to 1,119 feet.

The total expenditure incurred by the Dominion in connection with the maintenance and improvement of North Rustico harbour up to the close of the fiscal year 1897-8 amounts to $41,856.95; of this sum, $21,362.40 may be be charged to "Construction and Improvements" $5,465.59 to "Repairs" and $15,028.96 to "Dredging."

During the year 1898-9 the sum of $182.55 was applied in placing a series of "brush hurdles" on a space varying from 200 feet to 600 feet in width, at a point about 1,000 feet from the western end of Robinson's Island in Rustico harbour, where, by the action of the sea the sand hills had been carried away and the formation of a new or additional channel into the harbour appeared imminent, to the detriment of the latter.

The work done gave most satisfactory results, causing the making of new beach from 3 to 5 feet in height for a width of 200 feet, and preventing damage by storms during the spring of 1899 that would no donbt have been done to Rustico harbour, had no precautionary measures been taken in due time.

Total expenditure to 30th June 1900, including dredging, $42,039.50.

ST. MARY'S BAY.

Saint Mary's Bay Pier, King's county, is situated on the southern side of St. Mary's, which is inside Panmure Island, so called although not properly an island as a long gravel beach connects it with the mainland. The pier was constructed originally by the local government, and is one of those assumed by the Dominion in 1884; it is 407 feet in length; for a distance of 310 feet is 21 feet in width, the outer 97 feet are from 28 to 29 feet in width. The work comprises a shore abutment or approach and seven 'blocks' with intervening 'spans'; but four of these spans were many years ago filled with poles, brush and stone and the roadway out to the pier-head by clay and gravel filling on top.

Since the pier was taken over by the Dominion Government, the approach thereto has been much improved; the outer blocks being levelled up, close-piled &c. In 1892-93 a channel carrying 10 feet at low water was dredged to it with a basin at the end, and loading berths on the sides of the pier 50 feet wide and 100 feet long—the whole at a cost of $4,530.51.

The total expenditure incurred by the Dominion up to June 30, 1898, for works carried out in connection with the St. Mary's Bay pier, amounts to $7,368.88, of this amount $1,336.59 was recouped to the local government for their outlay on the pier from 1873 to 1884, $1,501.78 applied in making repairs and the balance used for dredging purposes.

During the year 1898-99 a sum of $435.17 was applied in filling in two of the outer spans, rebuilding a portion of the inner part of the approach, putting in new floor stringers and planking on the outer span; replacing fenders, guard timbers, &c., and making up the whole of the roadway with broken stone and gravel.

Total expenditure to 30th June, 1900, including dredging, $9,003.89.

This work was transfered to control of Department of Marine and Fisheries on 24th August, 1888.

ST. PETERS BAY BREAKWATER.

St. Peters Bay Breakwater, Kings Co., is situated on the north coast of the Island about 35 miles west from East Point, and on the west side of entrance into

St. Peters Bay and was constructed by the Department in 1878 to improve the entrance and afford better shelter for the fishermen. it has a length of 226 feet built of close faced solid timber work full ballasted, floor stringered and planked over, and has its inner end connected with the high ground or sandhills by a breast work or beach protection 1420 feet long to prevent a channel being formed through the beach on its inner side. After the construction of the western breakwater, it was proposed to further contract the width of the entrance, thus by increasing the current improve the depth of the water over the bar ; to accomplish this a contract was let in 1883 for the construction of a breakwoter 1900 feet long on the eastern side of harbour's mouth, but the contractor abandonned the work after being paid $1,813.92 and when less than one half of it had been built and little now remains of this work, it being destroyed by storms and by being buried in the sands, but for all it has been beneficial by preventing the sea washing over the point and the water of channel over the bar being improved. The cost of the western works, including repair at different times has been $9,066.45 up to end of fiscal year 1898-99 or with added sum of $1,819.32 paid for the work on the eastern side, a total of $10,885.77 expended at the place. During the past season the further sum of $503.56 was spent on putting in a close piling on outer end and seaward side of the western work, and making up with brush and stone parts of beach protection, while the corners on the onter end were covered for a length of 6 feet with iron plate for protection from action of the running ice in spring and fall.

Total expenditure to 30th June, 1900, $13,203.25.

SOURIS HARBOUR.

Souris Harbour, King's County, is situated on the southern side of the Island, about 16 miles westward of East Point, and is most important both as a place of shipment and harbour of refuge, being largely used during season of navigation by coasters and fishermen, the works constructed by the Department affording good accommodation and a perfectly sheltered area carrying from 12 to 20 feet at low water, sufficient for a large fleet of vessels. Souris, is also the eastern terminus of the Prince Edward Island Railway, which has at the harbour a deep water wharf from which shipments can be made later in the fall and earlier in the spring than from any of the other Island harbours. The breakwater that was commenced by the Department in 1877, has now a length of 1250 feet, 270 ft. of which was constructed by the Local Government previous to Confederation, all of it, as when severe storms occur from the southward and generally to more or less action of the ice in the winter time, it has since its construction required extensive repairs, portions of it at times being completely carried away and having to be rebuilt, this owing greatly to the action of the "toredo" and poor description of stone at first used in its ballasting, native timber being either destroyed or so greatly weakened in a few years by the former, and the stone becoming reduced to sand, for a great part rendered it unfit to withstand the forces to which it was exposed, both of which defects in construction, so far as possible latterly, are being guarded against, creosoted timber being used for the outer block last constructed, while the ballast is imported stone of durable nature and description. During the past season, work in connection with the contract entered into 16th August, 1898, for the rebuilding and repairing of the inner end of the breakwater and formation of protection slope on its seaward side was continued, and the work accepted 5th May, 1900. The cost of the work done on this contract including inspection, was $9,330.00.

Total expenditure to 30th June, 1900, $198,818.73.

This work was transferred to control of Department of Marine and Fisheries on 19th February, 1884.

SOUTH RUSTICO.

South Rustico Pier, Queen's county, is situated immediately below the Oyster Bed Bridge, at the mouth of the Wheatley River, which enters Rustico Bay at its southern end. It is distant about six miles from Hunter River Station, on the Prince Edward Island Railway, and about thirteen miles to the northward of the city of Charlottetown.

The pier was constructed by the Local Government, to accommodate the shipping of produce from and the importation of coal and lumber to the locality. It is 593 feet in length and consists of a shore abutment 450 feet long and 17½ feet wide, and of three detached blocks about 25 feet apart. The inner block is 17 feet wide and 23½ feet long, the two outer blocks are respectively 29 and 30 feet wide and 20 and 24 feet in length. The approach or shore abutment and the blocks are built of square timber, filled in with brush, stone and clay. The outer block and the spans are covered with plank

During the storm of the 1st December 1890, the top of the outer block was badly damaged and the span connecting it with the inshore portion also suffered, but with an expenditure of $120, the pier was placed in a serviceable condition.

No important repairs were made since 1892.

Total expenditure to 30th June 1900, $1,041.47.

This work was transferred to control of Department of Marine and Fisheries on 24th August 1888.

STEPHEN'S PIER.

Stephen's Pier, King's county, is situated on the southern side of the Montague River, about 6 miles above its entrance into Cardigan Bay, and immediately below "Lambert's Pier" and Montague Bridge. It consists of two wings or approaches about 50 feet apart and extending out from the bank of the river to the edge of the channel where the pier head has a frontage of 100 feet. The wings or approaches are respectively 90 and 115 feet long and are formed of close-faced timber work, the space between them being filled with brush and ballast discharged from vessels, gravel and clay being placed on top; these wings were originally connected with the pier head by "spans" or openings floor stringered and planked over.

The pier head is formed of pile bents, capped, floor stringered and covered with planking. This head block having become unsafe owing to age and destructive action of "toredo," was almost entirely rebuilt during the summer of 1897; 31 new bearing piles being put in and the floor stringers, covering, guard timbers and mooring posts being renewed. The timber facing of the eastern approach or wing was rebuilt during the year 1897-98. The expenditure incurred during the year for works of renewal and repair amounted to $655.77.

Total expenditure to 30th June 1900, $4,097.57.

This pier was transferred to control of Department of Marine and Fisheries on 25th August 1885.

STURGEON PIER.

Sturgeon Pier, King's Co., is situated on the southern side of Cardigan Bay, about six miles south of Georgetown, the shiretown of the county and the terminus of the Georgetown branch of the P. E. Island Railway. The pier was constructed by the Local Government to give accommodation for the shipment of produce from the locality, and is one of the P. E. I. piers assumed by the Dominion Government in 1884, when a payment was made the Local Government of $847.92 to cover the expense of repair of the pier between 1873 and date when taken over by the Department.

The pier consists of a shore abutment 250 feet long, and originally of four

blocks of from 20 to 25 feet in length, with intervening spans 25 feet wide. The faces of the approach and blocks are constructed of square timber, filled in with brush, stone and gravel the latter forming roadway. The two inner openings were some years ago filled in with brush at the bottom, and with poles, stone and gravel on top, the sides above the brush and poles being of close-faced timber so as to retain the stone and gravel filling, the two outer openings and the outer block are floor stringered and planked over.

During 1892 a cut was dredged from the channel to the wharf 720 feet in length and 100 feet in width; also a basin made at its end 170 feet wide, and berths of 100 feet in length by 55 feet along the sides, all of which carry a depth of 12 feet at low water. This dredging caused a tendency of the wharf to settle, and danger of it, or portions of it, sliding into the new cut; to prevent which, and for execution of some general repairs the sum of $1,400 was expended during 1893-94 in close-piling the portions in danger, and since when, up to the past season, the work has remained in good and serviceable condition. Damage, however, to the roadway by a high tide occurred, repair of which, as also the renewal of some of the mooring posts, etc., were required and effected during the past fall at an expenditure of $101.75.

Total expenditure to 30th June, 1900, $8,763.44.

This pier was transferred to control of Department of Marine and Fisheries on 25th August, 1885.

TIGNISH.

Tignish, Prince County, is situated on the north coast of the Island some 8 miles from "North Cape"; the harbour is at the mouth of the river which here enters the Gulf of St. Lawrence. The coast line on each side of the river's mouth being quite straight for a long distance, gales from the north east to south east throw in a very heavy sea, and this acting on the shifting sands of which the beaches are for most part composed, frequently completely blocked up the entrance, which would remain so closed until broken through by some freshet or on occasion of an extremely high tide.

To keep the entrance permanently open and retain channel always in the same bed the Government of P. E. Island in 1868 began the construction of works on each side of the mouth of the river contracting the stream to width of 40 feet, the effect of which has been, by increasing the current to both, to give general increased depth of water and the entrance has never since been closed to navigation. Since Confederation the original works have been repaired, raised and extended by the Department, breast-works or beach protection has also been constructed on either sides over the low lying beaches to prevent the breaking through of the sea and a portion of the channel has been dredged, all of which has proved of the greatest benefit, increasing the business of the port as well as giving good accommodation for a shelter for the fishing boats and place of shipment for produce, and general merchandise.

Portions of the work having become much decayed and injured by the action of the ice, ravages of the toredo, etc., repair and strengthening of the outer end of the northern breakwater was required during the past season when the block was levelled up, ballasted and sides and end close piled; the beach protection on the north side was also made up for its entire length of 2775 feet, the cost of which works were $1,411.15, the sum of $664.60 was also expended in procuring timber for a proposed extension of the work during the present fiscal year.

Total expenditure to 30th June 1900 including dredging $59,461.04.

VERNON RIVER BRIDGE.

The pier at Vernon River Bridge, Queen's County, is situated at the head of navigation on the Vernon River and about 2 miles above its entrance into Orwell

Bay. It is built on the lower side of and distant 30 feet from the public road bridge, to which it is connected by an approach averaging 30 feet in width. The pier consits of a close faced block 120 feet long by 30 feet wide, lying parallel to the channel; along its outer face there is a depth of 9 feet at low water, or 17 feet at high water springs; it is reached by a channel or approach about 1 mile long, carrying this depth, which has been dredged to it by the department, between 1877 and 1882, through oyster beds on the down stream side, at a cost of $6,326.72. This pier is one of the Prince Edward Island piers the control of which was assumed by the Dominion Government in 1884, at which time the sum of $998.66 was paid to the Island Government to recoup expenditures made upon it for repairs after Confederation up to 1884.

As the pier was an old structure much out of repair at the time it was taken over by the Dominion, some expenditure had to be incurred nearly every year since, to keep it in a passable state for traffic; the outlay for "Construction and Improvements" amounting, at the end of the fiscal year 1897-8, to $1,705.16, and that chargeable to "Repairs" to $741.45. By adding the cost of dredging to these amounts the total expenditure incurred by the Dominion on this pier up to June 30, 1898 is found to be be $8,773.33.

During the year of 1899 a sum of $146.87 was applied in replacing floor stringers, covering, and guard timbers on the outer half of the pier, and making general repairs on the inner part; rebolting fenders, &c.

This pier was transferred to control of Department of Marine and Fisheries, on 24th August, 1888.

VICTORIA (CRAPAUD).

Crapaud or Victoria Pier, Queen's County, is situated at the head of navigation in the Crapaud Basin, at Victoria Village, which is the most important port of shipment after Summerside on the south-western coast of Prince Edward Island. It is about midway between Charlottetown and Summerside harbours, and about 11 miles distant (south) from Emerald Junction on the line of the Prince Edward Island Railway, and is the outlet of probably the most fertile and best tilled district on the island. At different times since Confederation the department has expended considerable sums in dredging to improve the approach, from deep water outside to the pier, and it has also expended in 1884-85, on assuming control of the work, a sum of $953.84 in repairing and improving it.

This pier has a total length of 486 feet, consisting of shore abutment or approach 286 feet long and 20 feet wide, a middle section 143 feet long and 37 feet wide, and a pier head 57 feet long and 58 feet wide; its height is 19 feet at the outer end, where a depth of 9 feet is now found at low water; the channel having during the year 1896 been dredged to that depth for a width of 60 feet and a basin formed in front of the pier where vessels can turn. With the exception of the approach, which is built solid, the work is composed of alternate "blocks" and "spans" floor stringered and planked over. During the spring of 1897 the sum of $199.51 was expended on general repairs; the work done consisted in putting in two new mooring posts, 20 fender piles, 9 span beams, renewing the broken and decayed planking and making up the roadway of the shore abutment with broken stone.

Total expenditure to 30th June 1900, including purchase, $17,422.86.

This pier was transferred to control of Department of Marine and Fisheries on 24th August, 1888.

WEST POINT.

West Point Wharf, Prince county, so called from being at the most extreme western point of the island, is situated on the north side of Egmont Bay along the

eastern shore of Northumberland Strait, about 14 miles west from O'Leary Station on the line of the Prince Edward Island Railway, and 35 miles by water from Summerside. A pier, one of those assumed by the department in 1883, was built previous to Confederation by the local government to afford landing and shipping facilities for the district; there being at the time no wharf nor harbour in existence where vessels drawing more than a few feet could call, along the whole coast between Summerside and North Cape, a distance of 60 miles. West Cape being midway between these points, was considered a favourable site for a pier, and the original work built at this point is said to have proved of great benefit up to the spring of 1884, when it was seriously damaged on the breaking up of the ice. A large field of ice was at that time driven upon it during a severe easterly storm and the entire outer portion of the pier moved out of position, the face timbers being broken and a large quantity of ballast washed out, and subsequent storms, ice shoves and drifts almost completely destroyed the structure.

The original pier proved an expensive one to keep in repair, and expenditures amounting in the aggregate to $4,226 had to be made by the local government between 1873, when Prince Edward Island entered Confederation, and 1884, when full control was assumed by the Dominion, in order to maintain the structure in a passable state for traffic.

With a view of providing urgently called for and much needed improved landing and shipping facilities, the department entered into contract December 17, 1897, for: (*a*) Building up to 4 feet above high water and repairing the remaining portions of the old pier, 290 feet long and 27 feet wide. (*b*) Constructing an extension of close-faced square timber, full ballasted cribwork, 325 feet long by 30 feet wide at top, to reach to 8 feet depth at low and 11 to 12 feet at high water spring tides. The works of reconstruction and extention were commenced on March 3, and fully completed on November 10, 1898, at a total cost of $10,008.36, inclusive of inspection, &c., the contract price being $9,500.00.

Total expenditure to 30th June, 1900, including purchase, $14,272.43.

This work was transferred to control of Department of Marine & Fisheries on 24th August, 1888.

WOOD ISLANDS.

Wood Islands, lot 62, Queen's County, are situated on the Strait of Northumberland, about 15 miles to the westward of Cape Bear, and are the most southerly point of Prince Edward Island. They are two in number, lie parallel with the shore, from which they are distant about half a mile, and are connected by a small sand beach, also by another beach extending from the western end of the western island to the mainland, forming a total length of nearly a mile. A pond is thus enclosed having an area of about 300 acres, with its outlet at the south-eastern corner. This pond is too shallow to serve even as a boat harbour, and an attempt was made to form a shelter for boats and small vessels by the construction of works extending eastwardly, from the sand spit and parallel with the shore, with the expectation that scour would be produced by the tidal outflow from the pond and a deepening of the channel so formed would take place, but the attempt resulted in failure. The work which was constructed by the local government, was 2,530 feet in length, of varying heights and widths, and built of brush and stone for a foundation with a superstructure of timber cribwork.

During 1878-9 a breakwater 350 feet in length was constructed by the department on the western side of the entrance, and during the same year an attempt was made to deepen the channel along the eastern breakwater, but the work had to be abandoned.

Between 1880 and 1885 the sum of $8,871.16 was expended in extending the

western breakwater, and during 1886 the sum of $1,000 was spent in effecting necessary repairs to the eastern breakwater.

In December, 1893, a contract was entered into for the reconstruction and repair of the eastern breakwater, and at the close of the fiscal year about one-third of the work contracted for had been completed.

On the 30th November, 1894, the work under contract was satisfactorily completed, and has already given promise of great benefit to the district as a shipping point, the depth of water having increased two feet, which it is hoped will continue without the aid of a dredge.

During the fiscal year 1895-6 the sum of $686.63 was expended in close-piling the channel or inward side of the work at what is known as the "Loading Berth" so as to prevent undermining and injury to the bottom portion of the breakwater. The piling consists of spruce and hardwood spars 9 inches in diameter at the small ends and driven from 8 to 10 feet into the original bottom, their tops being secured to the face timbers by three and four one inch round iron bolts.

Total expenditure to the 30th June 1900, $29,158.24.

This work was transferred to control of Department of Marine and Fisheries on 25th August, 1885.

PROVINCE OF NEW-BRUNSWICK.

ANDERSON'S HOLLOW.

Anderson's Hollow, Albert county, is a cove of Salisbury Bay, on the north-west side of Chignecto channel in the Bay of Fundy. Spring tides rise 40½ ft., neaps 32½ ft.

The breakwater wharf at this place was begun in 1879 by the construction of a detached block 550 feet from the shore with which it was afterwards connected. In August 1885, the work was 290 feet in length, and three years later was carried to the shore. The structure, 25 ft wide on top, was originally 27 feet high above the bottom at the outer end, but owing to the accumulation of littoral drift is now 3 or 4 feet less. It is built of round cribwork, lightly battered on the inside, but sloped at half to one and sheathed on the weather face. The breakwater was damaged by storm on November 21, 1895, when a small light-house placed at the outer end was swept away, together with part of the break, while some of the top work at the head was simultaneously shaken and started. In 1895-96, a small sum was applied to bolting loosened timbers for temporary security. During the fiscal year 1896-97, the inside face of the wharf at the outer end, which had received a heavy list in the storm of the previous year already mentioned, was taken down and rebuilt for a distance of 75 feet on the top and 44 feet on the bottom. The list was taken out, the new face being carried to a height of 15 feet in order to level the top, and new covering was laid for a length of 75 feet. Seventy feet out of 110 feet of dismantled break were reconstructed, and fenders were placed on the inside of the new face. The total expenditure to the end of 1897-98 amounted to $8,338 13; $7,224.04 of which amount may be charged to "Construction and improvement," and $1.114.09 to "Repairs." In 1898-99, by an expenditure of $121.31, twenty-seven pieces of new sheathing were laid and bolted to the sloping face; a cap and face-timbers were inserted, and the gap in the break 40 feet long, left unfinished at the previous repairs, was built up with four tiers of timbers strengthened with knees. Like many other

works in the Bay of Fundy, Anderson's Hollow crosses the direction of the flood stream and of the prevailing winds. In consequence, an accumulation of littoral drift found on the south-west side, which the work considered as a groyne being now fully charged travelling round the end, is being deposited under the lee of the breakwater, forming a shoal which is an obstacle to vessels coming to Anderson's Hollow for cargoes of lumber.

Total expenditure to 30th June 1900 is $92,888.35.

BAY DU VIN.

Bay du Vin.—The wharf at Bay du Vin in Miramichi Bay, 20 miles from Chatham and almost opposite to Burnt Church, is a provincial government work, originally 760 feet long, composed of blocks and spans of round cribwork 18 feet wide, with a pier-head 80 x 29, standing in 9 feet at L. W. or 14 feet at H. W.

A year or two after completion, the pier-head and two outer blocks were swept away by ice, while a third was considerably injured. A sum of $1,100, voted for expenditure during 1899-1900, being insufficient to effect restoration of the work, a portion of it was devoted to repairing the outer end of the part of the work still remaining. The upper part of blocks 7, 8 and 9 were rebuilt for three tiers in height; stringers were placed over the span between blocks 7 and 8; and block 10, which had settled considerably and had lost a foundation timber, was removed. The wharf was found upon examination to have suffered considerably from the teredo.

The expenditure for the year 1899-1900 (and the total expenditure upon the wharf) amounted to $610.04.

This is really a Provincial work over which the Federal Government has no control.

BAY VERTE.

Bay Verte is situated in Westmorland County, on the eastern coast of New Brunswick, &c., &c.

On the 28th November 1887, a contract was entered into for the construction of a ballast wharf 100 feet long by 40 feet wide near the head of the bay, and the work was satisfactorily completed at the end of the fiscal year.

No important repairs were made to this ballast wharf since 1888.

Total expenditure to 30th June 1900, $4,981.84.

BELLIVEAU.

Belliveau, Westmorland County, is situated on the eastern side of the Petitcodiac River, opposite Hillsboro,' Albert County, and distant about 16 miles south from Moncton or 8 miles north from Dorchester, both important stations on the Intercolonial Railway.

Belliveau and vicinity are thriving and prosperous settlements, the inhabitants being now principally engaged in agricultural pursuits; the destruction, in 1869, of a wharf at the place, having seriously interfered with the shad fisheries, and preventing the shipment of the surplus produce raised in the district, or the cheap import of supplies required. To remedy this, in March, 1888, a contract was entered into for the construction of a wharf 200 feet long and 24 feet in width (measured on top), after which it was arranged with the contractor to extend the work 33 feet, all of which was satisfactorily completed on the 9th November, 1888.

Spring tides rise 45 feet, neaps 38 feet. The end of the work is about 200 feet from line of low water, and there is a depth at ordinary tides of 14 feet of water, or 18 feet at high water spring tides.

No important repairs have been made on this wharf since 1889.

Total expenditure to 30th June 1900 is $2,600.27.

BLACK RIVER.

At Black River, St. John's County, a small cove on the Bay of Fundy, 12 miles east of St. John, where spring tides rise about 25 feet, a breakwater or wharf of square cribwork, 155 feet long, 27 feet wide, and 30 feet in extreme height, was built by the department in 1879, for the use of coasting vessels. Between 1891 and 1893 the work received small repairs, and the total expenditure up to June 30, 1898, amounted to $4,407.92, $3,907.40 of which may be charged to 'Construction and Improvements,' and $500.52 to 'Repairs.' During the year 1898-99, a sum of $450 was expended in replacing 36 fenders, in taking up and re-laying the covering, in building ladders, etc. For some years no shipments were made at Black River; of late, lumber cut by portable mills in the neighbourhood has been loaded at this work.

Total expenditure to 30th June, 1900, is $4,407.92.

BUCTOUCHE.

Buctouche. By a narrow and winding channel, navigable for 11 or 12 miles, and 4 to 5 fathoms deep in some places, but with a ruling depth of only 8 feet, Buctouche River flows into Northumberland Strait, about midway between Richibucto and Shediac, the embouchure being about 18 miles from each of these places.

Four miles from the sea, at the village of Buctouche (pop. 600), in the county of Kent, a quay for local traffic was built at right angles to the bridge and parrallel to the river bank in 1884-6 at a total expenditure, including approaches, of $4,259.55. The work is of round timber fendered with piles, and stands in a depth of 17 feet at low water, or 21 feet at high water spring tide, the length of face and width of top being respectively 300 feet and 40 feet. Some traffic in lumber and coal is carried on here, while the opening of a quarry above the railway bridge renders it probable that stone may also be shipped from this work. A siding of the Moncton & Buctouche railway is carried for a part of the way along the back of the wharf, but on an independent foundation. From 1886 to 1894 no repairs were made, but in 1894, the wharf having been partially destroyed by fire, repairs were begun though not completed.

In the year 1898-9, a sum of $978.13 was applied towards procuring materials, and repairs to the the upper portion of the wharf were made during the fiscal year, the comtemplated work being completed, except the fastening of the fender piles and covering, and placing the cap-timber. The work done consisted in driving 111 piles in 20 bents, in order to remove the weight of the superstructure from the worm-eaten cribwork. These bents, spaced 8 feet apart and braced both longitudinally and transversely sustain the weight of the stringers and covering. An extent of wharf 158 feet long and 25 feet wide was thus renewed.

Total expenditure to 30th June, 1900, $7,949.99.

This work was transferred to control of Department of Marine and Fisheries, on 19th August, 1885.

BURNT CHURCH.

Burnt Church, a fishing and farming settlement in Northumberland is situated on the shore of Miramichi Bay, about 22 miles north east of Chatham and 5 or 6 miles south of Neguac.

During the year, a contract was let for a block and span wharf of round cribwork, 1,180 feet in length, composed of blocks 21 feet long and 20 feet wide, placed 20 feet apart, forming an approach to a pier-head 60 feet long and 40 feet wide, standing in 9 feet at low water. Spring tides rise 5 feet.

By the end of June 1900, the cribwork of the shore approach 200 feet in length, had been brought to within a couple of feet of full height; while 12 out of 23

blocks had been sunk in place and brought nearly to the level of high water. The progress made represented about one eight of the total contract.

Total expenditure to 30th June 1900, $3,304.08.

BURTON.

Assistance was given by the Department in 1897-8, towards the payment for a wharf built by the Provincial Government of New Brunswick at Burton in Sunbury County.

The wharf is 56 feet long in the face standing in about 4 feet in low water, is situated near Oromocto on the main river St. John.

Total expenditure to 30th June, 1900, is $180.00.

CAMPBELLTON.

Campbellton, Restigouche County, a thriving town and a station of the Intercolonial Railway, stands on the south bank of the River Restigouche, 14 miles above Dalhousie and about 6 miles below the head of tide. The Restigouche, for many miles the boundary of Quebec and New Brunswick, traverses large areas of well-wooded country. By this waterway, timber is brought to the mills of Campbellton and Dalhousie, whence in the form of deals, boards and shingles it is shipped to foreign and domestic markets. Three fathoms are found at the town, but the ruling depth given by an extensive shoal of sandy material styled "The Traverse," a couple of miles below, is only 11 feet at L.W.S.T. Spring tides rise 11 feet.

For reception of the ballast of vessels engaged in the deal trade, the Department began in 1889 a detached block of square cribwork 140 feet long and 35 ft. wide, in about 21 feet at low water. Three years later, this work was connected with an adjacent private wharf, upon which is laid the siding of the International railway, by a block similar in character to the first but only 110 feet in length. The combined structures are used as a ballast and loading wharf. Immediately at the face of the work the depth has shoaled to 11 and 15 feet, but at a little distance out a maximum depth of 20 feet at L.W. is found.

The deal shipments for 1899, principally trans-Atlantic, were 18,146,988 superficial feet. During the past fiscal year, 112 close-piles were driven along the outer face of the upper block; new fenders, either long or short, were placed on all sides of the lower block; while both (originally unequal in height) were levelled up and brought flush on the top, receiving new upper cross-ties, stringers, covering and cap-timbers. Three new mooring-posts were also placed in position.

Total expenditure to 30th June, 1900, $20,589.01.

This work was transferred to control of Department of Marine and Fisheries on 29th May 1891.

CAPE TORMENTINE.

Cape Tormentine, at the extreme eastern end of Westmoreland county, is the most prominent headland on Northumberland Strait and the south-western terminus of the winter ferry route between Cape Traverse or Prince Edward Island and the mainland. Spring tides rise 7¾ feet; neaps, 3¼.

Between 1886 and 1892, a breakwater pier was constructed at this cape with a view of forming an artificial harbour for purposes of interprovincial communication, at the extremity of a peninsula which is the nearest point on the continent to Prince Edward Island. The harbour works comprise a straight pier 2,500 feet long with head and return, each 400 feet in length, enclosing a basin about four acres in area with a ruling depth of 15 feet at low water, or 22 feet 6 inches at high water spring tides. For a distance of 1,300 feet from the shore, the pier is

a rubble mound 20 feet wide on top with pitched slopes of 2 to 1, while the remainder of the straight portion (400 lineal yards) is built of close-faced cribwork 30 feet in width. The head and return are of similar cribwork, but are 40 feet in breadth from the base to low water, decreasing to 30 feet at the finished top (4 feet above high water spring tides) and presenting a sloping face sheathed with hardwood to the north and east. The waters of this part of Northumberland Strait are infested by the teredo. A branch line thirty-six miles long connects the pier with the Intercolonial railway at Sackville.

There being a storm wave at least six feet in height at Cape Tormentine, it was found that although the rails were secure where spiked to the covering of the cribwork, they were liable at the elevation of 4 feet above high water to be washed off the embankment or rubble mound, which afforded no facilities for bolting. To prevent interruption in the traffic from this cause, the rails were raised two feet along the embankment in 1893-4. At the same time, a freight shed was built and protected by a break. The tops of the cribs receiving the foot of the hardwood sheathing composing the sloping, having been destroyed by the toredo, the planks thus left hanging are exposed below to upward wave motion, a force found by Stevenson to be eighty-four times greater when exerted vertically than when directed against the side of the breakwater. These planks were secured in 1893-4, as far as the worm-eaten condition of the timber permitted. In the following fiscal year, 321 lineal feet of worm-eaten longitudinals supporting the sloping hardwood were replaced by new timber, a space of 90 lineal feet of new planking was laid and the remainder of the face secured wherever bolt-hold could be found in the honeycombed wood.

In 1895-6, similar temporary repairs were made, 414 lineal feet of worm-eaten longitudinals being renewed with fresh timber and 117 lineal feet of sloping face being re-laid.

In 1896-97, repairs of the same kind were made for 154 lineal feet of the sloping face, in which 534 lineal feet of longitudinals were used. There being some slight difference of duration in favour of hardwood, birch longitudinals were for the most part inserted and secured with screw bolts. The ramp, 165 feet long, leading from the embankment to the cribwork was also covered with 3 inch plank in order to permit the passage of carts for occasional local traffic.

In the following year, new hardwood longitudinals (generally four tiers) were placed in the work and secured with screw bolts for a distance of 252 feet, to which the planks of the sloping face were secured. For a further distance of 50 feet the face timbers were partially renewed.

During the year 1898-99 the talus on the northern side, begun at the time of the construction of the work in 1890, was extended 500 feet, or to the end of the straight pier, by a deposit of 2,313 cubic yards of large stone, brought generally at the top to low water mark. About 80 cubic yards in total quantity were added to the talus, also begun nine years ago on the inside of the pier. For 103 lineal feet, the sheating and face timbers of the sloping face were renewed, 200 lineal feet of face timbers were inserted, and 102 close piles were driven. The mail room in the boat house was enlarged and refitted in time for the winter service between the mainland and Prince Edward Island.

In the past fiscal year, the talus was reenforced and extended around the pier head, a distance of nearly 200 feet, by the addition of 1,232 cubic yards of large stone. The sheating of the sloping face was either renewed or relaid for a distance of 182 lineal feet; close piles were driven on the inside of the work; and the sides of the ramp were planked. The harbour is used during the season of navigation by vessels engaged in the deal trade with the United Kingdom, since it affords facilities, not only for quick despatch, but also for transferring deals in clean condition from train to ship without the loss of class, and so of price, occasioned by rafting.

On account of the prevalence of the teredo, any works built in Northum-

berland Strait should properly be constructed of creosoted timber, stone, or concrete. The worm-eaten condition of these works requires that the course hitherto customorily taken in similar cases, and now adopted at Cape Tormentine (i. e. external protection with stone) should be continued to completion. For the quay-face of the winter berth when permanently made, concrete would be desirable. Although the top appears to be in fair condition, the substructure of the cribwork of the pier has been so injured by the teredo that the upper works, though sound, are liable to be sheared off the impaired foundation by ice or storm.

Total expenditure to 30th June 1900, $251,700.97.

This work was transferred to control of Department of Railways and Canals on 12th April 1893.

CARAQUET

Caraquet, Gloucester county, is situated on the southern shore of the Baie des Chaleurs, about 42 miles to the eastward of Bathurst, the shiretown of the county.

To a block and span wharf 1,205 feet long, built by the local government, a pier-head of square timber cribwork was added by the department in 1884. The block is 100 feet long by 24 feet wide, height and breadth being equal. It is placed in 9 feet at low water, above which level spring tides rise six feet. Caraquet, a good harbour for coasting vessels and a station on the Caraquet Railway, is the headquarters of a large fishing fleet which proceeds to sea usually by way of Shippegan Gully.

No repairs were made to this work from the time of completion until 1898; the total expenditure to the end of 1897-8 amounted to $4,471.54. During the year 1898-9 a sum of $499-88 was applied as follows, viz.: the whole of the stringers and covering was renewed, two mooring post were placed in position, and thirty-nine hardwood fender-piles were driven round the blocks.

Total expenditure to 30th June 1900, is $4,986.23.

CHATHAM.

Chatham.—On the Miramichi stand two principal towns, Chatham and Newcastle, the former 5 miles below the latter. The exports of both, principally lumber and wood pulp, and the clearances for the fiscal year 1899, were respectively as follows:

1899.

Chatham, exports	$1,402,231
Newcastle, exports	651,405
Total	2,053,636

SEA-GOING VESSELS, CLEARED.

	No.	Tonnage.
Chatham	78	74,745
Newcastle	71	38,842
Total	149	113,587

For the calendar year, the deal shipments of the Miramichi aggregated 129 million superficial feet; while for the fiscal year the output of the two pulp mills was valued at $420,500.

Chatham, ranking second in order of commercial importance among the ports of New Brunswick, has a population of about 6,000, and is a station of the Canada Eastern Railway.

The Custom House wharf at Chatham consists of 3 faces, viz : two sides, respectively 171 feet and 89 feet long, and a river face 112 feet in length. This old structure, doubtless originally used as a place of deposit for ship's ballast, had become much dilapidated, and repairs were begun by the Department in May, 1900.

By the end of the fiscal year, the greater part of the longest side had been rebuilt and nearly completed. A considerable part of the grading intended to be done between the faces had also been finished.

The expenditure for the year 1899-1900 (and the total expenditure upon the wharf) amounted to $2,046.18.

CHIPMAN.

Assistance was given by the department in 1897-98, towards the payment for a wharf built by the Provincial Government of New Brunswick at Chipman in Sunbury County.

This wharf is 80 feet long in the face, standing in about 8 feet at low water, is situated on the Salmon River at the head of the Grand Lake system of navigation.

Total expenditure to 30th June 1900 is $300.00.

CLIFTON.

Clifton.—At Clifton, in Gloucester County, a station of the Caraquet railway 10 miles west of Grand Anse and 7 miles east of Bathurst, a breakwater originally 425 feet long, built by private entreprise to facilitate the shipment of stone from the adjacent quarries, was acquired by the department in 1878, and was extended in the same year to the present dimensions at a cost of $9,681.75. The work of round and square cribwork, partly protected by random stone, is now 750 feet long over all, 220 feet of this length being a pier head placed at an acute angle to the approach in order to give shelter between east to north-west.

General repairs were made in 1886-87 and in 1887-88, consisting of ballasting, sheathing, fendering and restoration of breaches in the work.

General repairs were continued from 1891 to 1893 and the foundation of a talus was placed on the outside.

In 1897-98 general repairs were again made and a slope of heavy stone, averaging nearly one cubic yard each, was placed for 145 feet around the angle of the work.

Formerly the deepest berth was said to give 11 to 12 feet at low water, but this depth has now been reduced by shoaling. This artificial harbour affords the only shelter for fishing boats between Caraquet and Bathurst, a distance of about 37 miles. Spring tides rise 7 feet.

The face-timbers of this work, now much shaken, are protected by vertical hardwood fenders, which, as there is little bolt-hold, are frequently displaced.

In 1898-99, ordinary repairs were made to fenders, covering, and break. During the past fiscal year, the talus was continued by the addition of 196 cubic yards of large granite ; two serious breaks in the face, respectively 16 and 19 feet, were thoroughly repaired by the insertion of cross-ties and face-timbers, secured by screw bolts to fenders on the outside, and to shores on the inside of the work. New stringers and covering were placed for a total distance of 209 lineal feet.

Preparations were also made for construction of the talus by laying a tramway for carriage of heavy stone from the quarry along and around the work, a turn-table being placed at the angle. Materials were procured for a new hardwood block, 70 x 40 feet, intended to be placed on a dredged foundation for the purpose of stopping the talus at the pier-head, and a part of the materials

were framed ready for building. The absence, however, of a dredge to prepare the foundation prevented the actual construction of this block from being begun.

Total expenditure to 30th June 1900, $24,135.89.

This work was transferred to control of Department of Marine & Fisheries on 9th November 1894.

COCAGNE.

Cocagne, Kent County, on the west coast of Northumberland Strait, is ten miles south of Buctouche, another harbour with sandy entrance under conditions similar to those which obtain at this place, at Miramichi and Richibucto, and has a depth of 10 feet on the bar at low water, or 14 feet at high water spring tides. Inside, from $2\frac{1}{2}$ to 4 fathoms are found in a narrow channel for about three-quarters of a mile. Afterwards, mud flats $1\frac{1}{2}$ mile in length, covered by 4 to 6 feet at low water, extend nearly to the highway bridge, where a depth of from 2 to $2\frac{1}{2}$ fathoms is found in mid-channel.

In 1881-82, the department began the construction of a cribwork quay 400 feet long and 20 feet wide, leading from the bridge and carrying a depth of from 9 to 11 feet at the face. In 1888, the wharf having settled irregularly was levelled up and widened for a distance of 100 feet, and in 1892 received similar attention.

The structure having become worm-eaten and settlement having taken place, repairs were begun in 1898-99 on a part 176 feet long (sufficient for local needs), and by the end of the year were almost completed with the exception of the ballasting, some stringers, and the covering. The method adopted for carrying on the required repairs consisted in driving twenty-four bents of four piles each, which, secured by walings and bracing, would support the new superstructure independently of the worm-eaten cribwork.

During the year 1899-1900 the repairs undertaken in 1898-99 were finished by the addition of the covering, cap, some stringers, bracing, and ballasting. The new top was also widened 10 feet at the back by the deposition of 253 cubic yards of stone, brought flush with the covering.

Total expenditure to 30th June, 1900, $11,919.32.

COLE'S ISLAND.

Assistance was given by the Department in 1897-98 towards the payment for a wharf built by the Provincial Government of New-Brunswick at Cole's Island, in Queen's county.

During the year 1898-99, certificate was given for payment of the following sum as contribution towards the Provincial Government wharfs:

To Cole's Island, in Queen's county, at the head of navigation of the Washademoak, a combined high and low water wharf, 135 feet long in the face, standing in about six feet at low water, $388.50.

Total expenditure to 30th June 1900 is $388.50.

COURT HOUSE.

Assistance was given by the Department in 1897-8, towards the payment for a wharf built by the Provincial Government of New Brunswick at Court House in Sunbury County.

The wharf is 42 feet long in the face, standing in about 6 feet at low water and is situated on the main river St. John.

Total expenditure to 30th June 1900 is $240.00.

DALHOUSIE.

Dalhousie, a seaport in the county of Restigouche at the head of Baie des Chaleurs and a station of the Intercolonial Railway, possesses a secure harbour, from 6 to 7 fathoms deep, which, during the season of navigation, is the best in New Brunswick. It is the only one on the gulf coast of the province suitable for a coaling station for the fleet.

For the use of vessels engaged in the deal trade, the department added in 1887-88 to the Intercolonial Railway pier a ballast wharf, 300 feet long, 23 feet wide on top, placed parallel to the shore in about 15 feet at low water, a depth now reduced by shoaling to about 5 feet in some places. Spring tides rise 10 feet.

Repairs were made in 1891-92-93 and 1895-96.

Expansion of the ice, consequent upon the cracks caused by tidal fluctuation, exerts from the shore a shearing stress against the top of this work, which was in 1897 thrust over about 10 feet, the displacement extending for about 118 feet along the work.

The shipments, principally trans-Atlantic, of deals and boards, &c, for 1897 amounted to 27,240.080 superficial feet.

During the past fiscal year, seven tiers of the sheared top have been rebuilt for a length of 163 feet, and about half ballasted. The work is now four tiers below the finished height. Most of the materials necessary for completion of the repairs are now on hand.

Total expenditure to 30th June, 1900, is $13,084.81.

DIPPER HARBOUR.

Dipper Harbour, St. John Harbour, and on the eastern side of Point Lepreau. In 1874, a breakwater, 450 feet long, was built on its western shore. The structure was much damaged by a destructive gale which visited the Bay of Fundy in the winter of the same year. The total expenditure has been $22,244.52.

No expenditure has been incurred on this breakwater since 1880.

Total expenditure to 30th June 1900 is $22,244.52.

EDGETT'S LANDING.

Edgett's Landing in Albert is on the west side of the Petitcodiac River, two miles below the village of Hillsborough.

To replace an old provincial government work, destroyed by the Saxby Gale in 1869, the construction of a wharf was begun 20 years later by the department, and was finally completed in the fiscal year ended June 1893. The wharf is 400 feet long, composed of an earthen approach 20 feet wide, and 50 feet in length; round cribwork 250 feet and square crib-work 100 feet long. The head is 40 feet wide. Spring tides rise 46 feet. The pier head, 35 feet high, stands in 30 feet at high water and is dry at low water.

Renewal of the covering, which had become decayed, was begun in May 1900, and some progress had been made by the end of the fiscal year.

Total expenditure to 30th June, 1900, $9,646.09.

This work was transferred to control of Department of Marine and Fisheries, on 19th June, 1895.

FORT DUFFERIN

Fort Dufferin (St. John Harbour), a 10 gun battery built by the British Government on a headland to command the western entrance to St. John Harbour, stands at the shore end, but much above the level, of Negropoint breakwater.

In order to preserve the headland from erosion by the waves, this department began in 1882 a retaining wall of sheathed cribwork 430 feet in length, and in the following year constructed a further length of 303 feet. The work is exposed on the one hand to the force of the waves, and on the other to land-slips. In 1886-7 it was much disturbed by the sea, and repairs were made in that, and the following year, 205 feet of the original work being rebuilt. From 1887 to 1889 repairs were also made, and in 1890 the work was extended 100 feet. General repairs were made in 1893-4. The work is 7 to 14 feet wide on top and about 9 feet in mean height. The crest for almost the whole length is surrounded by a break 2½ feet high.

During the year 1896-7 a gap 81 feet long in the break was repaired, 200 lineal feet of longitudinals were renewed inside, and 128 cubic yards of ballast were restored to the work, while the sheathing was patched at intervals along the face with hardwood planking. In order to raise the beach and reduce the area of timber face necessary to be repaired, towards the end of 1896 a groyne, 40 feet long, 10 feet wide, and 4 feet in mean height, was built of hardwood piles, timber and stone. In 1897 the final extension of the cribwork, a distance of 130 feet, was begun, and by the end of the year 1896-7 was brought within two tiers of the full height.

In 1897-8 the new extension was completed, ballasted and sheathed. Small repairs were also made to the sheathing of the old work.

In 1898-9, four groynes, in all 232 lineal feet each built of hardwood piles 4 feet apart, driven from 9 to 12 feet into the bottom and planked with birch 9 inches square, securely strapped and bolted, were placed along the beach to protect the lower part of the sheathing of the breastwork; some ballast was also placed in the cribwork.

Ordinary repairs, comprising restoration of a breach in the face, ballasting, and renewal of sheathing, were made during the year.

The total expenditure to the 30th June, 1900, is included in the total for Negro-point. In 1899-1900, the expenditure has been $800.

GARDNER'S CREEK.

Gardner's Creek, St. John County, enters the Bay of Fundy some 20 miles east of St John Harbour, and 14 miles from St. Martin's Railway station. Spring tides rise 30 feet, neaps 25 feet.

On the 1st of July 1895, a contract was let for the construction of a wharf near the mouth of this creek, intended to facilitate the shipment of the lumber and piling sent coastwise from this locality

The wharf, placed in a cove sheltered from direct south-west winds by McCoy's Head, consists of substantial open-faced cribwork 215 feet long, sheathed on the north and east. The head stands in a depth of 21 feet at high water spring tides, and affords one berth for coasters; but, as in the case of all other wharfs on this coast, is dry at low water.

This wharf was completed on the 29th October, 1896, for the stipulated price of $7,400; the workmanship is of superior character. The total expenditure incurred during the fiscal year 1896-97, amounts to $5,308.75.

Total expenditure to 30th June, 1900 is $8,089.32.

GEROW.

During the year 1898-99, certificate was given for payment of the following sum as contribution towards the provincial government wharf at Gerow, which is 50 feet long in the face, standing in five feet at low water, three miles from Thompson's wharf in Queen's county, $341.25.

Total expenditure to 30th June 1900 is $341.25.

GRANDE ANSE.

Grande Anse, Gloucester County, is situated on the southern shore of the Baie des Chaleurs, about midway between Bathurst and Shippegan harbours. It is a thriving settlement, having a railway and telegraph station on the line of the "Caraquet Railway." The cove from which it takes its name is near excellent fishing grounds and fishing as an industry is largely followed by the inhabitants of the district, some 90 fishing boats being engaged.

To afford protection to these, the department, in 1875, began the construction of an isolated breakwater, placed at about 600 feet from the shore, sheltering an area carrying a depth of from 5 to 7 feet at low water; this work, which was seriously damaged by the action of the ice during the winter of 1886, was reconstructed and added to during 1887-88-89, and consists of the main structure, 230 feet long and 30 feet wide and an L or return on the western end 150 feet long by 20 feet in width, forming a safe and convenient refuge.

The sheltered area, however, is in part obstructed by ballast and remains of old work that was carried into it by the ice during the storm of 1886, and the removal of a portion of this debris has been effected during the fiscal year 1894 at a cost of $182.17, advantage being taken of low spring tides.

No important repairs have been made on this breakwater since 1894.

Total expenditure to 30th June 1900, is $19,929.72.

GRAY'S ISLAND.

Gray's Island, Albert county, is situated on the western bank of the river Petitcodiac, about 2 miles to the northward of the village of Hillsboro'. Properly it is not an island, being a hill of gravel on the bank of the river, rising some 20 feet above the general level of the surrounding marsh lands.

An extensive shipping business is carried on from this locality, it being provided with good wharfs which are approached by a public highway, and by a branch line extending from the Albert County Railway.

The wharfs, however, at times, are difficult and dangerous for the approach or departure of large vessels, and great difficulty being experienced in holding them to the wharfs during the ebb tide, which sets very strongly against them.

The construction of a breakwater, 300 feet in extreme length, and placed at a point some 2,000 feet above the wharfs, was decided on, and during 1891-92 the work was completed.

The first 100 feet, or inner end of the work, is merely ordinary "clay dyking" 5 feet wide on top, sloping one to one on the sides. The next 100 feet outwards is of round logs, open crib work, 15 feet wide on the top, sloping 1 to 4 on the sides. The next 50 feet has its upper 30 feet built in a similar manner to that last described, excepting that the upper or northern face has the outer longitudinal face built of square timber, which is close-sheathed with square spars, flatted to 6 inches in thickness, the bottom portion being built plumb, and its northern face protected by close-piling. The outer 50 feet is 25 feet wide on top, and its upper 30 feet, is built to a batter of 1 in 4 on the northern side, 1 in 12 on the end, and 1 in 2 on the southern or down-stream side, the bottom portion being built plumb, and having both the sides and the end protected by close-piling, and the upper portion by close-sheating of spruce and hardwood. Ballast floors were placed at the specified heights, and sufficient ballast provided to about one half fill the structure.

During July 1893, the sum of $400 was expended in restoring a portion of the "clay-dyking" damaged during high tides by the wash of the sea, and protecting the whole northern face with sheating; and where settlement in the breakwater had taken place owing to the soft nature of the foundation, the work was raised to its original level.

No important repairs have been made on this breakwater since 1894.
Total expenditure to 30th June 1900 is $6,395.29.

GRAY'S POINT.

Assistance was given by the Department in 1896-97, towards the payment for a wharf built by the Provincial Government of New-Brunswick at Gray's Point, in King's county.

The wharf, at Gray's Point, on Belleisle Bay, a tidal reach of the St. John, is 196 feet in length over all (181 feet being cribwork) about 18 feet in general width and 42 feet broad at the pier head, which stands in a little over 3 feet depth at low water. It is built in the usual style of round cribwork with square cap, fendered and loaded with ballast 2¼ feet deep topped with sand.

Total expenditure to 30th June 1900 is $500.

HERRING COVE.

Herring Cove, Albert county, is situated 11½ miles west of Cape Enragé, forming the western extremity of Salisbury Bay an indentation of the Albert coast of the Bay of Fundy. Spring tides rise 37 feet, neaps 30 feet.

A breakwater 215 feet long, 31 feet wide on top and 43 feet high at the outer end, was built in this cove by the Federal Government in 1873, at a cost of $13,113.45. The inside face of the work is of square timber, while the outside, strongly battered, is of round timber close-fendered. Founded on a reef under the lee of Mathew's Head and directed towards Owl's Head, the work trending towards the land lies in the general direction of southwest waves and affords, during storms, some slight protection from under-tow to small craft, if beached in the extreme angle of the cove.

The cove is noted for good holding-ground and is one of the two places on the New Brunswick coast of the Bay of Fundy, east of St. John, considered to present natural features favourable for the construction of a harbour of refuge.

The vessels carrying deals from Alma to the United Kingdom, anchor off this breakwater to receive cargoes by lighter. Alma, two miles distant is the terminus of the Albert Southern railway.

During the year 1896-97, works of repair were carried out, on the upper works of this breakwater, generally decayed from age. The cribwork break extending the whole length of the work was removed and rebuilt, while the decayed part of the close fendering was almost entirely replaced by sound material. The expenditure amounted to $990.75.

During 1897-98, the work performed consisted in placing five rows of new floor stringers, each row extending for 200 feet; in laying about 18,000 feet B.M. of new covering on the top of the breakwater; in renewing the cap-timber, 12 inches square, for a distance of 160 feet; in placing 15 new fenders, varying from 13 to 30 feet in length, against the side of the work; and in completing the repairs to the close-sheathing of the seaward face by the addition of 51 pieces, five to nine feet long. Eighty-two yards of rock were also blasted from a reef which prevented vessels from coming along-side the work. The expenditure was $500.

Total expenditure to 30th June 1900 is $14,603.70.

HILLSBORO'.

Hillsboro', Albert County, is on the west bank of the Peticodiac River, about 14 miles below Moncton.

In 1874 the Department built a small pier, 130 feet in length for the protection of shipping.

During the year 1885 the work was raised 4 feet, re-ballasted, covered with new 3-inch planking, and the outer end, and 20 feet on each side, close fendered.

No important repairs have been made on this breakwater since 1885.

Total expenditure to 30th June, 1900, is $3,749.06.

HOPEWELL CAPE.

Hopewell Cape, in Albert County, near the mouth of the Petitcodiac River, and at the head of deep water navigation, is one of the several works on that stream intended for the convenience of shipping. For the use of vessels proceeding to Moncton, Hillsborough, and Dorchester for cargoes, the department in 1883 began the construction of a ballast wharf of round crib-work, 300 feet in length and 22 feet wide, which was completed in the following year. In 1885, the work was extended to the present length of 583 ft. by an addition built of square timber. The covering, stringers, and other upper timbers having become decayed, preparations were made (the appropriation being very small) for repairing the work, by the purchase of materials. By the end of the year a part of the timber had been delivered. Repairs were completed during the following year.

This work was transferred to control of Department of Marine and Fisheries on 13th April, 1886.

Total expenditure to 30th June, 1900, is $9,242.19.

KINGSTON.

Kingston, Kent County, is situated on the Richibucto River, 3 miles south of Richibucto, the shire town, and 6 miles from the mouth of the river, which enters the Strait of Northumberland.

The river above Kingston being poorly provided with shipping facilities, a contract was entered into in May, 1890, for the construction of a wharf on the upper side of the Kingston bridge, to provide additional accommodation and a means of warping vessels through the "draw." The work is 200 feet long and 35 feet wide on top, the ends and outer or north face, being built close faced of square timber, and the inner or south side open faced, both sides and ends having a slope of 1 in 18. It is connected with the public road bridge by an approach 63 feet long (measured along its centre) and 20 feet wide, built of round logs, open cribwork, ballasted, with floor stringers and planked over, the whole having been completed on the 1st December, 1891.

No important repairs have been made to this wharf since 1892.

Total expenditure to 30th June 1900 is $4,397.15.

This wharf was transferred to control of Department of Marine & Fisheries on 22nd. December 1896.

LAMEQUE.

Lameque is a post settlement in Gloucester Co. on Shippegan Island and 3½ miles from Shippegan.

A contract was let during the year for the construction of a block and span wharf, 990 feet in total length.

Work had not been started at the end of the fiscal year, but the contractor expected to begin operations in September.

Total expenditure to 30th June 1900, is $114.63.

L'ETANG.

L'Etang, in the County of Charlotte, is one of the best harbours on the coast of New Brunswick, and according to the Admiralty Sailing Directions, one of the

most convenient in North America, in point of entrance, capacity, shelter, depth and holding ground. The harbour is famous for sardines, and close beside a small provincial government wharf, a cannery, for the purpose of preserving the fish, has been erected, the output of which is expected to be worth from $50,000 to $75,000 annually. Since spring tides rise 23½ feet, the provincial government wharf, only 12 feet in height at the outer end, was of course dry at low water. Greater depth being necessary to allow shipment of the cases of sardines, a sum of $400 was allowed by the department towards procuring the depth (20 feet at H. W.) required by the vessels engaged in carrying the output of the factory. During the month of June 1900, a block of round crib-work, made of small timber, 30 feet long, 20 feet wide, and 15 feet high, standing in 20 feet at H. W. was built, but not completed, at a distance of 110 feet from the end of the old wharf. With a small grant from the provincial government, an approach of trestle bents was made to the new block, which is still unfinished, the sum granted being quite insufficient to carry out a suitable extension in the depth required by this industry.

Total expenditure to 30th June 1900, is $388.84.

LETITE.

At Letite, situated in Charlotte Co., is a minor channel or passage from the Bay of Fundy into Passamaquoddy Bay, where the provincial government recently built, at a fishing settlement 9 miles from St. George, for convenience of the traffic of the neighbourhood, a slightly constructed wharf at which a small local steamer touches. To make an addition to the pier-head, $500 (a sum insufficient for the purpose) was utilized, as far as was found practicable by the end of the fiscal year, in purchasing timber and iron.

Total expenditure to 30th June 1900, is $313.65.

LINCOLN.

Lincoln Wharf.—During 1892, a wharf was built at Lincoln, Sunbury County, situated about 9 miles below Fredericton on the south-western side of the river. It is constructed of round and square timber, built in the shape of an **L**, and is of the following dimensions: 95 feet long, 19 feet wide on top over the inner 55 feet, and 55½ feet wide over the outer 40 feet. The upper face is built sloping and sheathed, the outer or river face plumb, partly open cribwork and partly close faced and the remaining faces of open cribwork. The work is filled with ballast and the outer portion of the **L** planked over, the inner portion being finished with earth and gravel on top, the cost to the Department being $500.

No important repairs have been made on this wharf since 1893.

Total expenditure to 30th June, 1900, is $1,499.62.

MAIN RIVER.

Main River is situated in Kent County, about 12 miles above Richibucto on the river of the same name.

The construction of a new wharf was begun early in 1900.

This work, 150 feet in length and 30 feet wide, is composed of round crib-work in two blocks, respectively 45 and 75 feet long, with an intervening span of 30 ft. The face gives 11 ft. at L.W. By the end of June, this new wharf had been brought up to 16 tiers of longitudinals and cross-ties in height. All the stringers had beside been laid, and a length of 45 feet of wharf had been covered with planking. Twenty-one fenders and two mooring-posts had also been placed in position, and the approach (54 feet long) from the main road had besides been completed.

Total expenditure to 30th June, 1900, is $2,448.66.

MCGOWANS.

Assistance was given by the Department in 1898-9, towards the payment for two wharfs built by the Provincial Government of New Brunswick at McGowans, in Sunbury County.

These high and low level wharfs are 85 feet long in the face and built in the usual style of tidal wharfs.

Total expenditure to 30th June, 1900, is $445.27.

MISPEC.

At Mispec, St. John County, eight miles east of St. John, to shelter the upper end of a narrow cove which receives the discharge of Mispec River, a breakwater of square cribwork strongly battered on the seaward side, 197 feet long, 25 feet in mean width, and 30 feet high at the outer end, was built by the department in 1885 Repairs were made in 1889-90 to the seaward face, and again in 1892-3. The total expenditure up to 1898 amounted to $10,289.16, which may be subdivided into $9,567.71 chargeable to 'Construction and Improvements,' and $721.45 to 'Repairs.'

In consequence of the establishment of a pulp mill at this place, repairs to the work were begun in 1898-9, when a sum of $800 was expended in replacing seven tiers of the face for a distance of 74 feet along the work with heavy birch timbers 16 inches square, secured by screw bolts; in procuring materials, and in ballasting the work.

Spring tides rise about 26 feet. The work is dry at low water.

Total expenditure to 30th June, 1900, is $11,089.16.

MIZZONETTE.

This work, nine miles east of Grande Anse, Gloucester county, was built by the department in 1889 on the southern shore of Mizzonette (Maisonnette) Point, and inside Caraquette harbour for a local boat landing. The wharf, 12 feet wide on top, and 500 feet in total length, is constructed of round timber in the form of blocks and spans of 12 and 20 feet respectively. The head, also of round timber, is 20 feet square and stands in about two feet at low water. Spring tides rise six feet.

For an unimportant boat landing, this work, already becoming worm-eaten, is very long, and since there appears to be the same depth of water at a point 300 feet distant from the shore, as was found at the outer end, it is proposed to shorten the work and reduce the cost of maintenance. To this end, a cribwork block 17 feet long, 12 feet wide, and 10 feet high, was built during 1897-98 with the object of forming a new pier head; the covering between the new block and the shore was also repaired in places and the approach restored. The expenditure incurred amounted to $249.75.

Total expenditure to 30th June 1900, is $2,224.54.

MOSS GLEN.

Moss Glen, King's County, is situated on the northern side of Kennebecasis Bay, about 10 miles from its entrance, the entrance being 5 miles from the mouth of the river.

During the latter part of the year 1890, a wharf at this place which was originally 160 feet long and 22 wide, was raised from 3 to 6 feet, ballasted, fendered and otherwise repaired, and a block 22 feet long on the face with an average width of about 25 feet was built at its outer end forming an L. The work is of round logs open cribwork, filled with ballast and gravelled on top. The total

expenditure was $402.06, of this the department contributed the sum of $200 and the local government a like amount.

In 1895 considerable dredging was done to make a channel drawing 6 to 10 feet of water 45 to 60 feet wide and about 700 long.

No expenditure has been incurred since 1895.

Total expenditure to 30th June 1900 is $1,768.83.

NEGROPOINT (ST. JOHN HARBOUR).

Negropoint is a headland about sixty feet above high water mark, at the western entrance to St. John Harbour, which is formed by the estuary of the River St. John on the northern side of the Bay of Fundy, and situated in the County of St. John.

Spring tides rise 25.3 feet ; neaps 20.

In addition to convenience of position for distribution by rail of cargoes landed at the city of St. John, St. John harbour is remarkable principally for great tidal range and for consequent freedom from ice in the winter months. The harbour is open, broadly speaking, from south-east to south-west, but southerly waves are broken by Partridge Island, and south-west waves are mitigated by Negropoint breakwater, while the foul ground, a shoal tailing down from the peninsula on which the city is built, must have more or less effect in moderating the force of south-easterly seas rolling around Mispec Point.

By Partridge Island, a rocky eminence devoted to quarantine and lighthouse purposes, the entrance of St. John harbour is divided into east and west channels. In the former or main channel a minimum navigable depth of 19 feet is found on the bar at low water ordinary spring tides. Two hundred yards inside the crest of the bar, a depth of 5 fathoms is found in the narrow fairway, while higher up and between the principal wharfs on either side of the harbour (450 yards broad at that point) 12 fathoms are given in mid channel. The west channel, 10 to 14 feet deep at low water, and originally 1,200 yards wide, has been contracted by the Negropoint breakwater extending 2,200 feet in a S. E. by S. direction from the headland, so styled.

The official reasons for undertaking this work are thus stated in the reports of the Midister of Public Works for 1875 and 1882 :—

" 1875. This breakwater extends south easterly from Negropoint at the " western entrance of St. John. When completed, it will extent a distance of " 2,250 feet, closing up the west channel to that extent, leaving, however, a " width of 1,100 feet between the outer end and Partridge Island. The object " is to break the force of the seas which roll into the harbour of St. John during " the south-west gales in the Bay of Fundy, and which render it dangerous and " almost impossible at such times for vessels to make the harbour."

" 1882. South-westerly winds threw in a heavy sea through the western " channel which rendered it difficult for vessels to make the harbour, as they " were in danger of being carried on the foul ground on the eastern side of the " channel. In the spring of 1875 a breakwater 2,250 feet long, to partially close " the western channel, was begun and in September, 1877, completed.'

Reference to the chart will show that as long as the present opening remains, the object of the breakwater has been only partially fulfilled. In dealing with reduction of the bar, a more cogent reason than improvement of shelter may be found for the extension of the work to Partridge Island.

The breakwater consisted at first of a cribwork core, 30 feet wide at the base and 15 feet wide at the top (5 feet above high water ordinary spring tides), protected on both sides by stones sloping to seaward at the rate of two horizontal to one vertical, and landward at the rate of one to one. In the month of February 1879, 1,300 lineal feet of cribwork had been swept away to a depth varying between 13 and 19 feet from the top, the stones having been raked down

by wave action to a slope more nearly approaching the angle of repose of the material. In 1889, temporary repairs were made, and in 1881 a contract, completed six years afterwards, was entered into whereby the lost cribwork was replaced by heavy stones and the seaward slope made three to one. Even this flatter inclination proved too steep for stability; consequently, notwithstanding their size, the stones, though smoothly laid, were soon displaced by the sea. A length of fifty feet of the breakwater, extending at full height beyond a masonry pier built under the same contract to support a beacon, was also swept away. From 1891 to 1894 desultory repairs were made by the addition of large stones, chiefly deposited about the end to prevent the lighthouse from being undermined.

In May and June 1895, four large blocks of concrete were placed for the same purpose in front of the pier at its base. In 1895-96, seven concrete blocks founded at about the level of low water neaps, were built *in situ* around a quadrant of the outer end, to receive the foot of a slope proposed to be laid of heavy granite blocks inclined 4 to 1. The blocks were 59 to 91 tons each, all but the heaviest being laid in one tide. The granite pier was also reenforced by a semi-circular skin of concrete 7 feet in average thickness and strongly battered, placed around the front and brought to the level of high water springs. The footing blocks were 15 feet long, 12 feet wide, and unless varied for the sake of foundation, 3 feet high in the face, sloping upward at the rate of 4 to 1 on the top. Each block was free to settle independently, but all were keyed together by splayed concrete joggles. Inside part of the space within the quadrant, stones of the original work added to the small granite were collected and grouted as far as funds permitted, in default of the heavy granite (which will require special plant) necessary for the slopes of this breakwater; but weight is the great desideratum.

Pending consideration of works necessary for deepening the entrance to the harbour, which might possibly involve the extension of the breakwater, nothing more was done during the year 1896-97 than appeared requisite to protect the unfinished superstructure just begun, and to preserve the lighthouse, except the completion of a break at the shore end.

To this end, fifteen blocks of concrete forming aprons, were laid in position at the outer end of the work between October 1896 and June 1897. A quantity of stone which had been swept around the point of the breakwater from the seaward to the harbour side was also replaced in position. Some of this stone was laid outside the heavy footing-blocks built in the previous year and some applied to restoration of the crest of the work at the back of the lighthouse. Breaches carried below the level of high water have been made by the sea at five or six points in the rubble mound between the lighthouse and the shore. An illustration of the violence of the seas which break against the Negropoint breakwater is afforded by the removal of a 5 ton stone a distance of 76 feet in one winter. A marine dynamometer secured to the masonry of the lighthouse records the wave-force at 4,000 pounds and upwards per square foot.

In order to retain along the seaward face of the work, for natural protection, the littoral drift formerly swept by the waves over the top into the harbour, a break of piles, brush, stone and timber 270 feet long, 8 feet wide and 4 feet high, begun in 1895, was completed in 1896-7 and was also extended 140 feet along the timber work during that year with good effect. As a result of the construction of the break, the foreshore has advanced seaward, while the beach has increased in height and in breadth.

A general accretion of the beach has taken place. In addition, a tongue of drift observed after the erection of the break, when near the shore, has at the foot of the talus on the seaward side travelled 200 yards or more towards the end of the breakwater. The formation of this spit, generally 10 feet wide and 2 feet high, against the work, indicates that the drifting sand, gravel, shingle, etc., which formerly went over the breakwater into the harbour, will in time afford

important natural protection to the work and will reduce the length of the face to be maintained.

During the year 1897-98, as a measure of precaution, 152 yards of granite were obtained and deposited about the lighthouse for protection during the winter, while stones, previously removed by the sea, were replaced in position.

The advance of the foreshore rendered necessary in that year the extension of the timber break, which was carried a distance of 80 feet farther along the top of the breakwater. A small groyne was also built for the purpose of obtaining some information as to the extent of the littoral drift near the shore end. To preserve the timber, the tops of the piles and the knees of the break were given two coats of pitch.

One thousand and nineteen cubic yards of granite were supplied and laid in place in 1898-99; while 285 yards of the original stone of the work, displaced by the sea, were restored to position.

During 1899-1900, 414 cubic yards of granite were delivered and placed around the light-house. Six hundred and six cubic yards of stone, displaced by the sea, were restored to position. Five concrete blocks containing 52.1 cubic yards were also made in place.

Total expenditure on Negro Point and Fort Dufferin to 30th June 1900 is $486,627.46.

NEGUAC.

Neguac, Northumberland County, is situated near the northern entrance to Miramichi Bay, about 35 miles east from Newcastle, and some 20 miles south from Tracadie. Having good and safe shelter for boats and small vessels, and being in the centre of one of the best fishing grounds in the Gulf of St. Lawrence, and the district possessing excellent soil, an extensive business is carried on from the place, principally by water. A steamer of the Miramichi Steam Navigation Company, during the season of navigation, makes daily trips between Neguac, Chatham, Newcastle and other points on the bay and river.

The shipping facilities at Neguac consisted of an isolated crib-work block, built about the year 1888 by the steam navigation, company, assisted by the local government, to and from which access was gained by a plank walk, supported on trestles, necessitating the carrying of all freight by hand or boating it to the steamer or other vessel calling for cargo. To better accommodate the large business, a contract was entered into on April 14, 1892, for the construction of a public wharf, consisting of a shore abutment 370 feet long, nineteen "blocks" 20 feet each, and an outer block or landing pier 40 x 62 feet, making in all a length of 1,190 feet. Work was commenced July, 1892, and carried on from time to time up to 11th November, when it was discontinued until spring.

During the fiscal year 1893 progress was made in the construction of this wharf, and it was brought to a satisfactory completion on 30th May, 1894.

No important repairs have been made on this wharf since 1894.

Total expenditure to 30th June 1900 is $8,076.56.

This wharf was transferred to control of Department of Marine & Fisheries on 27th May 1897.

NEWCASTLE.

During the year 1898-9, certificate was given for payment of the following sum as contribution towards the provincial government wharf at Newcastle, 57 feet long in the face, on Grand Lake in Queen's, $340.20. The face of this work is eighty-five feet long.

Total expenditure to 30th June 1900 is $340.20.

OROMOCTO.

During the year 1898-9, certificate was given for payment of the following sum as contribution towards the Provincial Government wharf at Oromocto, Sunbury County, 12 miles below Fredericton, $208.23.

Total expenditure to 30th June, 1900, is $208.23.

PARTRIDGE ISLAND.

Partridge Island is a rocky eminence standing at the mouth of St. John harbour and dividing the entrance into east and west channels. The island is devoted to quarantine and lighthouse purposes.

At the northern end of Partridge Island two narrow piers of cribwork give shelter to the boat landing of the station. Between them a substantial block of cribwork 50 feet long and 22 feet wide, begun and nearly finished in 1896-7 as a foundation for the disinfecting house, was completed in the succeeding year; a boat slip, intended for use at low stages of the tide was partially built and a new mooring post put in and minor repairs made at the end of the west pier.

The expenditure for the year ended 30th June, 1898, amounted to $676.69.

Total expenditure to 30th June, 1900, is $6,955.52.

POINT DU CHENE (SHEDIAC).

Point du Chene (Shediac) is situated in Westmoreland County. In a bight formed by an abrupt easterly trend of a coast line north and south in general direction, is a natural harbour giving about 14 feet at low water or 18 feet at high water spring tides. This place, in Westmoreland county, 40 miles south of Richibucto and about the same distance west of Cape Tormentine, is a station of the Intercolonial Railway, a point of steam communication with Prince Edward Island, and a deal port.

To protect the Intercolonial Railway pier at Point du Chene in Shediac harbour, a work weakened by the teredo, the department built in 1875 a detached breakwater 600 feet in length. Four years later the outer end of the breakwater was connected with the head of the railway pier by a wharf 205 feet long intended for the reception of ballast discharged by deal vessels. In 1881, another independent breakwater, similar to the first, and of the same length, was built to protect the shore end of the railway pier.

The breakwater built in 1875 having become worm-eaten, notwithstanding repairs made in 1883-4 and 1888-9, was destroyed by a storm in 1891. In 1893 a contract was made for reconstruction, and by the end of the following year the work was completed. The new breakwater proper is 600 feet long and generally 27 feet wide at the base, sloping at the rate of one to one from low water to 6 feet above high water spring tides. At the northern end, connection was made with the damaged ballast wharf by an additional length of 40 feet of similar work. The outside faces and cross-ties of the substructure are creosoted timber, protected by close piles and by fender piles, also creosoted. The remaining timbers and also the superstructure are untreated wood.

In 1896, the close-piling of the ballast wharf having been cut off by the teredo, repairs to the face, 183 feet long, were undertaken. In order to remove weight from the worm-eaten block, the superstructure was supported at the face on creosoted piles, and in the body of the work by untreated hardwood piles driven through it. This new top, 20 feet wide and 8 feet high, was faced with square timber, ballasted and well braced with short piles driven into the ship's ballast deposited behind the cribwork.

In 1898-99, the sum of $33 was applied to bolting 23 fenders which had started from the face of the work. In the past fiscal year, 7 fenders, split and

chafed by the surging of a vessel during a storm, were retopped; while 36 bridles in all were placed between the whole of the fenders along the face.

Total expenditure to 30th June 1900, is $80,670.31.

QUACO.

Quaco, St. John County, is on the northern coast of the Bay of Fundy, about 30 miles to the north-eastward of the entrance to St. John harbour. The bay is semi-circular and lies open to the south-east between Quaco Head and Macomber Point, some two miles apart; its depth from a straight line drawn between these two points being about a mile. A small river discharges into the eastern end of the bay near its mouth, and a harbour of refuge has been formed there by the construction of breakwaters, each 300 feet in length, one on each side of the mouth The harbour is dry at low tide, and only accessible for coasting vessels and schooners which come to load timber, etc., or to seek shelter for about six hours during each tide. Spring tides rise about 30 feet, and neaps 23 feet.

The west breakwater which had been damaged by storms for a distance of 149 feet, the sheathing and several longitudinals of the sloping outside face being stripped off and a quantity of ballast washed out, was repaired during the year ended 30th June, 1897; besides which the east breakwater was protected by brush and stone placed along the foot of the cribwork to prevent scour from the fresh water stream.

On the western breakwater the longitudinal face-timbers of the damaged part were generally renewed with birch, 14 inches square, and secured, where possible, with screw bolts. The stone washed out was replaced, and some additional ballasting done. The face was also covered with new sheathing for the distance mentioned, two fenders were renewed and a ladder placed near the shore end. Thirteen new fenders were also placed on the east pier, and the decayed tops of five others replaced by sound material. Small repairs were made to the covering and sheathing, and another ladder placed against that work. The expenditure in 1896-97 amounted to $1,377.51.

In 1897-98, by the striking of a schooner, the corner fenders and sheathing of the west pier were started from their position. The damage thus done was repaired by an expenditure of $50 applied to closing a small opening and strapping the angle,

Total expenditure to June 30th, 1900, is $37,900.37.

This wharf was transferred to control of Department of Marine and Fisheries on 21st June, 1892.

RAM PASTURE NECK.

This place, in Westmoreland county, is situated near the western boundary of the "Great Tantramar Marsh" and village of Sackville. The Tantramar River at this point is very crooked and two of its bends approach within 100 feet of each other, the dividing strip of marsh being known as the "Ram Pasture Neck." As the water at high spring tides was found to pass over this, it appeared probable that in time the river would form a new channel and so be diverted from its course past the wharfs at Sackville, rendering them and the branch line of railway connecting with the Intercolonial useless.

To prevent this, the department, in 1875, at an expenditure of $900, constructed a brush breakwater or breastwork 600 feet in length to fill in and protect the lower and most exposed portion of the "Neck." This work was raised and repaired in 1880, lengthened 265 feet, and its western end connected by a dyke 600 feet in length, with the end of the dyke surrounding the portion of marsh lying to the westward and known as the "Ram Pasture Marsh."

The action of the river has since entirely carried away 200 feet of the breast-

work and seriously injured a further length of 365 feet and destroyed the 600 feet of dyking connecting with the Ram Pasture dyke, allowing the water at high tides to pass over the neck, and the reconstruction and repair of the works having become necessary, these were effected during the past fiscal year and 120 feet in length added. The work built is of a substantial nature, more so than that first constructed, and as its outer side, where exposed, is protected by a plank slope, it will likely prove effective for some years.

The sum expended has been $2,000.

No important repairs have been made to this work since 1893.

Total expenditure to 30th June 1900 is $4,050.

RICHIBUCTO.

Richibucto harbour, Kent County, is a deal port on Northumberland Strait and a terminus of the Kent Northern railway, 38 miles south of Miramichi and about the same distance north of Shediac, is formed by the mouth of a river which is tidal for 22 miles.

At the entrance, and generally to a little above the town (3 miles from the sea), the Richibucto may be considered to be half a mile broad and to give a ruling depth of 4 fathoms in a channel 250 yards wide. The river discharges into the sea between two long sandy beaches overgrown with bent grass. These beaches, which represent the effect of the littoral drift brought down an extensive sandy coast by the preponderance of northerly gales and currents, would entirely close the harbour but for the scour of the river. Through the shoal flats formed by the passage of the northerly drift, three openings, known as the North, Albion, and South channels, are found. The best gives about 9¾ feet at L. W. S. T., or at H. W. S. T. 4 feet more. On the flats constituting the bar, many vessels have been wrecked. The works originally proposed for the improvement of the harbour were two breakwaters, one to extend from the southern point of the north beach in a south-easterly direction 1,200 feet, and the other to run in a north-easterly direction from the south beach, the object being to confine the water in one permanent channel, and so scour the bar. In February 1873, the north pier was begun, and by September 1874 had been constructed for a distance of 1,200 feet. In 1876, it was found that the sea during easterly storms followed the inside of the breakwater, swirled around the upper end, and endangered the beach. From 1880 to 1882 protection works were extended westward along the face of the beach to prevent erosion. Extension in the same direction was continued in 1888 for 200 feet, in 1889 for 300 feet, in 1890 for 94 feet, and in 1891 for 140 feet. The whole works are now 2,158 feet in length, and are composed principally of brush, stone, and piling. No pier has yet been started from the south beach, and consequently no increase of the depth on the bar has yet been effected. Without dredging, but including an allowance of $13,000 for tug service, made while the works were in progress between 1871 and 1875, the total expenditure at Richibucto up to June the 30th 1899 amounted to $73,479.37.

The works have suffered much from decay, from the sea, and from ice action. During the year 1898-99, repairs were undertaken and reconstruction of a part 238 feet long was nearly completed by the end of June, while repairs to the adjacent part 593 feet long, including raising the structure 3 feet, were also nearly finished.

In detail, the repairs consisted in replacing missing face-timbers; in refilling with ballast; in strengthening the old work by driving two extra piles at each bent; in capping all, in bracing some, of the bents; and in raising the whole 3 feet higher by means of a solid timber break, in order to prevent erosion of the beach by the waves which formerly mounted the top of the work. In this part of the work, 64 new face-timbers, each 17 feet long, were inserted; 77 new piles

were driven ; 75 caps applied ; as many knees placed ; 31 bents braced ; and a quantity of stone was placed in the work. Twenty-two old piles were also redriven.

The break extends four tiers in height for the whole distance of 593 feet. In the reconstructed part, the work was made of much more substantial character than before. Thirty bents of 3 piles each and as many of 2 piles each were driven, braced, and faced with 10 tiers of 10 inch hemlock, spaced 4 inches apart by means of chocks. The new bents are 15 feet broad and are carried to the same height as the adjacent new break, viz., 7½ feet above H. W. S. T., and for the same reason. From the upper end of the beach protection, a groyne 59 feet long, composed of stakes, brush, and stone, was built to intercept the sand drift.

In 1899-1900, the repairs of the inner part of the north pier were completed; a groyne, 33 feet long and 15 feet wide, made of a brush mattress, piles and large stone, was built ; and another groyne 33 ft. long was rebuilt outside. Two brush groynes, 191 feet in total length were built inside ; while a new breastwork, 470 long and 8½ feet wide, composed of pile framework sheated on the outside and filled with brush and stone, was constructed on the seaward of the beach with the object of intercepting the drifting sand, and preventing erosion. In this, the work has been eminently successful.

Total expenditure to 30th June, 1900, is $77,461.64.

RIVER ST. JOHN AND TRIBUTARIES.

The River St. John proper, 450 miles long, takes its rise from sources in the province of Quebec and State of Maine, at a reputed maximum altitude of 2,159 feet above the sea level. Entering New Brunswick at the confluence of the St. Francis, a little below the borders of Quebec, it continues to be the international boundary almost to Grand Falls, and after flowing through the province for nearly 300 miles (by way of the counties of Madawaska, Victoria, Carleton, York, Sunbury, Kings's and Queen's) discharges into the Bay of Fundy at St. John. Many tributaries, some being of considerable magnitude, are received by the main stream. Among them are the St Francis, Madawaska, Green River, Grand River, Salmon River, Aroostock, Tobique, Presqu'Ile, Maduxikeag, Eel River, Nackawick, Keswick, Nashwaak, Oromocto, Jemseg (Grand Lake), Washedomoak, Belleisle, and Kennebecasis. Except the last five, which are slightly tidal for some distance, they are fresh water streams.

The total basin from source to mouth is computed to be 26,000 square miles, an area almost equal to the whole of New Brunswick, but as a part of the water shed lies outside, only a little more than one-half the province is drained by the river. The St. John is considered navigable for vessels 15 feet in draught for a distance of more than 50 miles from the mouth, but no positive information on this point has yet been obtained. About 8 feet at low water can be carried to Fredericton, 84 miles from the sea and 6 miles below the head of tide at Springhill. Three natural features of the river are remarkable, viz., The tidal falls, Grand Fall, and the annual floods Although in summer the fresh water stream between Woodstock and Fredericton is in places 400 to 1,000 feet wide, expanding at the latter place after reaching tide-level to half a mile in breadth ; yet the actual mouth of the river, a rocky gorge 400 yards long, immediately at the head of St. John harbour measures but as many feet across at high water. Here at low water the level of the river water is from 11 to 15 feet above the sea, and as the ordinary tides flow from 23 to 27 feet, the sea level at high water is from 8 to 13 feet higher than the waters of the river. Thus there are two falls at every tide, viz : one outward and one inward, and vessels can only pass when the waters of the ocean and river are on a level. This occurs only for the space of about 10 minutes during each ebb and flow of the tide ; at all other times it is either impassable or extremely dangerous.

At Grand Falls, 223 miles from the sea, the whole volume of the river plunges over an almost perpendicular face of limestone 60 feet high, into a deep ravine 250 feet across, somewhat similar to the narrow pass at St. John. Flanked for nearly a mile by lofty rugged cliffs, the confined current dashes from the foot of the falls with excessive strength, mining deep pot-holes in the rocky bottom of the channel in the course of a farther descent estimated to be slightly less than the first. In the harbour of St. John, ordinary spring tides are considered to rise 25¼ feet. At the wharfs of the river steamers, a mile above the falls, while summer range is but 3 feet, the highest flood mark is given as 17 feet above extreme low water. At Oromocto, 73 miles from the sea, where the tidal range is 10 to 12 inches, the flood of 1887 reached a bridge 20 feet above low water. At Andover, 200 miles from the sea, floods attain an elevation of more than 27 feet above summer level. By contrast, the Tobique and St. Francis swell 9 and 6 feet respectively. After the first spate due to the melting of the snow in the catchment basins of the Kennebecasis, Belleisle Bay, and Washademoak, a secondary flood occurs, caused by the back water of the main river, which is fed from sources farther north, and consequently later in thawing.

The harbour of St. John is open all the year round, but the ice bound from November to April, an average period of 144 days The water usually begins to rise in April, reaching flood pitch early in May, and maintaining a high level for two or three weeks. The ice run takes place before the time of highest water. By the middle or end of July the water has fallen to summer level, a stage lasting with some variations dependent upon the rain fall, for about 60 or 70 days.

In addition to a little coal, a considerable quantity of cordwood, and the ordinary food supplies yielded by the farms of a lengthy fertile valley, the trade of the river comprehends an abundance of valuable timber, fluctuating each season in amount, but generally at least equal to 135 million superficial feet annually. Most of the logs are floated loose down the tributaries and upper river to Fredericton, some being manufactured there and shipped coastwise or to the United States The remainder, or major part, is towed from the provincial capital to St. John in rafts, giving employment to a fleet of tugs.

For the purpose of works, three divisions may be made of the river :

1. Tidal navigation for steamers and sailing vessels, between St. John and Fredericton, 84 miles, requiring 11 feet at low water. Principal obstructions : the Oromocto shoals, about 1½ mile ; the middle ground above Oromocto Island, about 1 mile ; and the shoals abreast Fredericton, rather more than ½ mile in length. The last are now dredged, but the other obstacles remain.

2. Inland navigation from Fredericton to Woodstock, a distance of about 65 miles, requiring 3½ feet at low water. The obstacles to inland navigation, besides boulders in some places and perhaps bed rock at Meductic, are shoals of material more or less coarse, according to the strength of the current varying in composition from sandy gravel to stones. The chief bars are at Springhill and Bear Island ; while Knapp's, Perley's, Coac, Nackawick, Belvisor, Moore's, Bett's Dibblee's, and Bedell's Bars, with Meductic Rapids, constitute, according to present information, lesser obstructions. Dividing above Springhill into two main channels, and from a general width of 350 yards, opening to a stretch of 1½ miles between banks, with a waterway increased by at least one-third, the river becomes dotted with eyots and shallows. Two gravel shoals, known as the Russel and Chapel Bars, together about ½ mile in length, compose the obstacle at Springhill. At Bear Island, 25 miles above Fredericton, in consequence of another division of the river into three channels aggregating 600 yards in breadth, a shoal of gravel and stones, 1 mile long giving twenty-one inches at low water, has been formed. Besides dredging, a long training-dike will be necessary for the maintenance of this channel. After re-uniting below the island, the width of waterway in the single channel is only 250 yards.

3. The upper river, including with the tributaries all that part above

Woodstock. This division is now used for the passage of timber only. On some of the tributaries beyond the reach of railways, supplies for the lumber camps are transported in tow boats, for which channels are required to be made and tow paths provided.

INLAND NAVIGATION.

For a distance of 8 milesfrom Middle Southampton, the tow-pats were repaired in many places, and widened sufficiently for two horses abreast. The work done consisted in grading, blasting, clearing, and the construction of dry rubble retaining walls. The expenditure during the past year, 1899-1900, has been $247.77.

RIVER ST. JOHN, UPPER.

On the upper river, 59 cubic yards were removed by blasting from Rapid de Femme Rock, near Grand Falls, at an expenditure of $300.

On the Tobique, channels aggregating 1,165 feet in total length and from 30 to 40 feet wide, were made by removing boulders, or by scraping the gravel through 12 bars. For a distance of 3 ¾ miles on the right hand branch, a channel 12 feet wide for boats and logs was made by removing boulders. One hundred and eight cubic yards of rock were also blasted at Serpentine Falls, 51 miles above Plaster Rock. The expenditure for the year 1899-1900 was $688.62.

On Green River, between second and third falls, a distance of 16 miles, boulders were removed in various places, in order to make channels, by an expenditure of $298.98.

On the St. Francis, channels 460 feet in length, for the tow boats were made through half a dozen gravel bars. By removing boulders and rock through Horseback, DesRosières, and Cross Lake Rapids, channels were made for 1,108 feet farther.

This work was performed at a cost of $300.

Total expenditure to 30th June 1900, exclusive of dredging, $144,719.93.

SCOVIL'S POINT.

During the year 1893, a wharf was constructed at Scovil's Point, situated about 44 miles above the mouth of the river and a short distance below Gagetown, the shiretown of Queen's County.

The work was built for the landing of passengers, freight, etc., and was finally completed in the spring. It is constructed principally of round timber, open cribwork and partially filled with ballast. It has a frontage on the river of 142 feet, 17½ feet having a width of 37 feet on top, and the balance an average width of about 18 feet. There is a depth of from 6 to 10 feet along the face at low water summer level. The department's contribution towards the construction of this work was $500.

No important repairs have been made on this work since 1893.

Total expenditure to 30th June, 1900, is $2,000.

SEWELL.

During the year 1898-99, certificate was given for payment of the following sum as contribution towards the provincial government wharf at Sewell, on the Main River, St. John, fifty-four feet long in the face, in four feet at low water, nine miles below Fredericton, $276.50.

Total expenditure to 30th June, 1900, is $276.50.

ST. LOUIS

St. Louis, Kent County, is a closely built and rapidly growing village exclusively settled by Acadian French situated on the south bank of the Kouchibouguacis River, about 4 miles from its mouth where it enters the Gulf of St. Lawrence, and 7 miles northward from Richibucto, the shire town of the county; it is the terminus of the "Kent Northern Railway."

The Kouchibouguacis at St. Louis has a width of about 700 feet and is spanned by the highway bridge, a swing span in this admitting of the passage of vessels farther up the stream which is navigable for some miles.

To provide wharfage accommodation a contract was entered into 6th November, 1888, for the construction of a wharf 200 feet in length and 30 feet wide on top, to extend in a north-easterly direction from the outer end of the south abutment of the bridge, and was satisfactorily completed on the 21st September, 1889.

The wharf is built of round logs, open cribwork fendered on face at 10 feet centres, and after being well filled with ballast, floor stringered and planked over and has along its face a depth of 7 feet of water at low water spring tides, which here rise 3½ feet; neaps, 2 feet.

No important repairs have been made by this Department on this wharf since 1890.

Total expenditure to 30th of June, 1900, is $2,075.15.

This wharf was transferred to control of Department of Marine and Fisheries, on 13th February, 1890.

ST. MARY'S.

St. Mary's Kent County, is situated on the Buctouche River, about 7 miles above the village of Buctouche.

At St. Mary's a highway bridge has been constructed across the river, and at right angles to this bridge a wharf 120 feet in length has been contructed, for the accommodation of the residents of the locality, and to enable them to ship the large quantities of lumber, hemlock bark, wood and general produce, obtained in the neighbourhood.

The wharf was completed in 1885. No important works of repair to this wharf since 1885.

Total expenditure to 30th June 1900 is $1,714.22.

This wharf was transferred to control of Department of Marine & Fisheries on 22nd. December 1896.

ST. NICHOLAS RIVER WHARF.

St. Nicholas River wharf is situated in Kent county. The construction of a new wharf was begun in the spring, near the mouth of St. Nicholas River (a tributary of the Richibucton), 4 or 5 miles below Main River, 3½ miles above Kingston, and 7 from Richibucton.

By the end of the fiscal year, the work, consisting of 3 blocks of round cribwork, composing a block and span wharf 159 feet in total length, with a pier head 34 x 24 feet, standing in about 7 feet at low water, had been brought up to the under side of the stringers, fully ballasted, and partially fendered

Total expenditure to 30th June 1900, $1,500.

SHIPPEGAN GULLY.

Shippegan Gully is situated in Gloucester County, fifty-six miles east of Bathurst and two miles from Shippegan, a station of the Caraquet Railway; is a passage much used by fishing craft from Baie des Chaleurs to the Gulf of St.

Lawrence, between Shippegan Island and the mainland. But for a shoal, two fathoms could be carried through this channel. The obstruction of the strait lies at the southern end and consists in a bar of littoral drift 800 yards wide, between the 12-foot contour lines, over which formerly only $3\frac{1}{4}$ feet, but since the construction of the work undertaken by the department for the improvement of this passage nearly $6\frac{1}{2}$ feet are found at low water, equivalent to 12.3 feet at high water spring tides.

For the fishing fleets of Shippegan, Caraquet and other parts of Baie des Chaleurs, the outlet to the gulf by way of Shippegan Gully is of the utmost importance, since it furnishes means of avoiding a long and hazardous voyage around Point Miscou, besides effecting a gain of two days a week in reaching and returning from the fishing banks. The mouth of the gully (lying 16 miles north of Tracadie and about the same distance east of Caraquet) is bordered by beaches of sand in some places only a little above the level of high water spring tides. The works at Shippegan are intended to preserve and deepen the channel between the sandy beaches by which access is given for the fishing boats to the sheltered waters of Shippegan Harbour. As this channel is maintained by tidal scour, it is of the utmost importance that no other opening of any kind than the navigable waterway should occur in these beaches. Broadly speaking, the works consist of a pier at the point of each beach, and of breastworks running either continuously or intermittently along the beaches to prevent their being cut through by the sea from the outside, or by the pent-up waters of Shippegan harbour from the inside.

From 1875 to 1890, the works were confined to the east side of the gully, and consisted principally of a short pier at the point and long breastworks along the face of the beach, the whole 1,220 feet in length, one-third being of cribwork and the remainder of brush and piling. In addition a dam 890 feet long, also of pile and brush work, was built near the junction of the east beach with the land, to prevent erosion.

In October 1879, a storm, accompanied by an unusually high tide, seriously injured the dam ; while the unfinished outer portion, 500 feet long, of the pier was destroyed and the inner part much damaged.

In 1880-81 and again in 1883, the dam was repaired, raised and strengthened ; while in the latter year the pier was repaired and extended 120 feet.

General repairs were made again in 1883-4 also in 1886-87 ; while in 1888-89 an additional block of 50 feet was added to the outer end.

Until 1890-2 only one pier had been built, and therefore no material improvement of the entrance could have been effected, but at that period a pile structure, 1,104 feet long ballasted with stone, was built at the point of the western beach. At the same time, a length of 137 feet of the work built in 1875 was reconstructed. On the construction of this work scour took place in consequence of the contraction of the waterway. The beaches, however, if not all over at least in places, are liable to be cut through by the water.

In 1892-3, and also in the following year, repairs were continued.

In 1897-8 general repairs to the works were begun, and efforts were made to elevate the beaches by means of the natural forces to a height sufficient to exclude the sea, to promote the growth of bent grass, and to prevent further denudation by the strong winds of that locality.

The east pier having been breached by the sea in three places, the west pierhead having been damaged and the west beach so denuded of sand by the wind as to become completely cut through, to the danger of the channel, the extensive repairs begun in 1897 were continued until the winter of the following year. By that time the dam had been raised about 3 ft. for a distance of 452 feet, and had been extended a distance of 185 feet after a false channel 6 feet deep had been closed by a brush mattress 30 feet wide, and an apron of brush and stone 375 feet long had been applied to stop leaks in the original structure. On the northern

side of the dam, 10 rows of stakes or handpiles were driven in such manner as to form groynes in order to give protection to the work by arresting the drift of seaweed and sand.

To prevent the traffic from wearing a cartway into a runnel and causing a false channel through the eastern beach, it became necessary to raise the beach and to confine the cartway over this elevation to a single track. An inclined roadway 12 feet wide and 60 feet in length, raised $2\frac{1}{2}$ to 3 feet above the level of the beach, was accordingly made of brush and shingle bordered with fascines. Four hurdles, 155 feet in total length, were carried to the sand dunes on each side in order to restrict the traffic to the new way. A gap made in the sand dunes near this road was closed by a work of stakes, brush and shingle, 46 feet long, 13 feet wide and 4 feet high. Near Fruing & Co's. fishing establishment, an opening on the harbour side of the beach was closed by 24 bents of piles driven 5 feet apart, enclosing fascines, brush and stone. A further length of 119 feet was filled with brush and stone only.

A gap, originally 50 feet long, near the inner end of the east pier, was closed by driving 22 piles, to which were secured transverse caps and longitudinal walings, the whole being filled with brush and stone extending for a total distance of 63 feet. Immediately adjoining this piling, a breach in the old work 22 feet long was rebuilt with fascines, brush and stone. Three hundred and twenty-five feet from the eastern pier-head, a breach in the old work, 62 feet long and 14 feet wide, was closed with piles, brush and stone, and faced with fascines. Immediately adjoining, another gap in the old pier, 70 feet long, was closed in the same manner. In the eastern pier-head a gap 90 feet long was closed by a block of close-faced cribwork 45 feet long, and by pile and brush work of the same length $33\frac{1}{2}$ feet wide. Some details of the pile and brush work yet remain to be finished. A block of old cribwork inside these gaps was strengthened by driving piles along the inner face connected by cross-walings and close-piling on the seaward side, the cap was renewed, and the top of the work levelled with brush and stone. The eastern pier head was protected at the angle with close-piling, and received some ballast.

On the west side of the gully, 62 piles, generally 26 feet long, were driven at the pier head; while for 180 feet the work was refilled with brush and stone. At the shore end of the west pier the covering was laid.

In order to raise the crest of the west beach and so prevent the sea from forming false channels, a brush breastwork, 1,669 feet long with hurdle groynes on each side at intervals of 40 feet, was carried from a point near the shore end of the west pier to the sand dunes. The work is intended to catch the sand when driven by the wind and to raise the beach high enough to allow bent grass to be planted, when further denudation will be arrested. Already this work has by collection of the sand begun to raise the beach along nearly the whole length. About 150 feet from the west end of the breastwork, a gap between the sand dunes, through which the sea entered, was closed with a work 43 feet long, $17\frac{1}{2}$ feet wide, and $4\frac{1}{2}$ feet high, of brush, stakes and shingle.

In the past fiscal year, with the exception of placing some stakes and brush on the west beach, repairs were confined to the eastern pier. The works before left unfinished were completed by the addition of covering, fenders, sheathing and ballast; a length of 455 feet of old work was rebuilt with fascines, brush and stone; a new pile groyne 26 feet long, and another of brush and stakes, 220 feet long, were constructed; additional brush and stone were applied to levelling up the works; two fences, intended to confine the cartway to one road (to prevent destruction of the bent grass), also to act as groynes, were erected on the east beach. At the dam, a length of 492 feet was raised generally a height of 3 feet with brush and stone; an apron, 476 feet long and 8 feet wide, was added to the face; an extension of 17 feet was made, ending in a groyne 175 feet in length, and an opening in the sand dunes was closed. The effect of the works

undertaken since 1897 has been to prevent further erosion, and to cause restoration of the beach. It is besides reported that the depth of water in the harbour entrance has consequently increased.

Total expenditure to 30th June 1900 is $73,491.90

STONY CREEK.

At Stony Creek, Albert County, eight miles below Moncton, on the Petitcodiac, there is a groyne of round and square timber 290 feet long, 20 feet wide on top and 36 feet high at the outer end, which has been built by the department, 1873 to 1875; the object being to deflect the current from a reef said to be dangerous to vessels and to protect the river bank from erosion.

During the year ended 30th June, 1898, four tiers of the end were rebuilt and the corners fendered, one being sheathed and strapped. The cap-timber was also renewed for a distance of 294 feet, and fenders were placed against the sides. The work was filled with brush and stone for a distance of 140 feet and a new mooring-post was placed at the end. The expenditure was $500.

Total expenditure to 30th June 1900, is $12,936.50.

THOMPSON'S WHARF.

During the year 1898-99, certificate was given for payment of the following sum as contribution towards the Provincial Government wharf.

To the high water portion of Thompson's wharf at Hampstead in Queen's County, on the main river St. John about 33 miles from St. John $76.10. This wharf is thirty-five feet long and stands in six feet at low water.

Total expenditure to 30th June 1900 is $76.10.

TRACADIE.

Tracadie Harbour, Gloucester County, is situated on the east coast of New Brunswick, about midway between Shippegan gully and the entrance into Miramichi Bay, and is entered from the Gulf of St. Lawrence by what is known as the "north" and, "south" and "old" gullies. The harbour is some 6 miles in length, by $\frac{1}{4}$ to one mile or more in width, but, excepting in the river channels (north and south Tracadie Rivers) and in the channels entering from the different gullies, is quite shoal being almost dry at low water spring tides.

To provide wharfage facilities for the district, which is a large and populous one, containing fully 2,000 inhabitants, a public landing pier, 1,430 feet in length, extending to the end of the channel of the "north gully" was constructed during the fiscal year 1894, the materials therefor having been obtained during 1892-93.

The work consists of a stone abutment or approach, 250 feet in length, of twenty-eight blocks, 20 by 25 feet, one block 40 by 25 feet, and 29 spans or openings of 20 feet each, which are spanned by 7 floor stringers 10 by 12 inches, the entire top of the work being covered with 3 inch planking. The blocks and the shore approach are built of round logs, open crib-work, and are fully ballasted, their sides being fendered, capped, etc., the expenditure during the year amounting to $3,615.96.

Petty repairs were made in 1899 at an expense of $76.19.

Total expenditure to 30th June 1900, is $4,749.95.

This work was transferred to control of Department of Marine and Fisheries on 9th March 1897.

TWO RIVERS.

Two Rivers is a small cove of Chignecto Bay on the shore of the county of Albert, about 6 miles from Anderson's Hollow and the same distance from Harvey.

The work is dry at low water and the head stands in 14 feet at high water spring tide.

Under contact dated April 6, 1898, the construction of a wharf intended to facilitate the shipment of farm products, was begun on the 25th of the following month. The work consists of a pier-hand 40 x 35 feet, connected by stringers crossing and opening of 20 feet with a shore block 40 feet wide and 56 feet in mean length. The whole is of round cribwork approached by a ramp 35 feet long and 25 feet wide. The expenditure to the end of the fiscal year 1898 was $442.82.

The work was completed by December, 1898, at a total cost of $2,237.21. A further sum of $356.98 was expended in making beds for vessels to lie aground alongside the wharf, and in removing large boulders from the mouth of the creek.

Total expenditure to 30th June 1900, is $2,594.19.

TYNEMOUTH.

Tynemouth Creek, St. John county, 21 miles east of the city of St. John, is one of the several small havens, dry at low water, found on both shores of the Bay of Fundy, which are only useful on account of the high range of tide. Tides rise here about 28 feet. Inside a beach of gravel and stones, is a tidal basin, accessible to small vessels at high water by an opening at the east end of the beach.

In 1874-75 the department built a substantial cribwork pier on the rocky foreshore of the eastern cliff to prevent vessels from taking ground on that side.

In 1882-83, another work to maintain the channel was built on the point of the beach on the opposite side.

In 1894-95, a sum of $225 was applied in replacing some of the fenders and covering of the east pier and in removing part of a rocky ledge obstructing the channel.

In 1897-98, a sum of $510 was expended in removing 813 cubic yards of shingle from a shoal obstructing the entrance, and in effecting minor repairs to the west pier.

Total expenditure to 30th June 1900, is $7,233.07.

UPPER CARAQUET.

Bridgetown, Gloucester County, is the name of the railway station situated at the upper or western end of Caraquet Harbour and Settlement, and is 2 miles east of the bridge crossing the Caraquet River, and 6 miles west of the existing public wharf near Caraquet church.

Directly off Bridgetown, extensive oyster beds are situated, causing this portion of Caraquet Harbour to be known as the "Oyster Grounds."

To provide shelter and a landing place for boats, a contract was entered into on the 25th October, 1890, for the construction of a work 350 feet long, consisting of a shore approach 160 feet long, 4 blocks each 15 by 15 feet, 5 spans or openings of 20 feet each and an outer block 30 by 30 feet. The shore approach and the several blocks to be constructed of round logs open cribwork, the spaces or spans between each being spanned with four 10 by 12 stringers, the blocks and approach to be fendered on the sides and full ballasted, the whole being covered with 3 inch planking.

This work, which was in progress during the previous year, was completed in October, 1891, the expenditure thereon amounting to $1,308.72.

As built, the work only extends out to extreme low water springs, although at low tide there is generally from 1 to 1½ feet of water at the end, thus giving fair accommodation to those engaged in the oyster fishery.

No important repairs have been made to this wharf since 1892.

Total expenditure to 30th June 1900 is $1,308.72.

UPPER SALMON RIVER.

Upper Salmon River, otherwise called Alma, the terminus of the Albert Southern Railway, is situated in the county of Albert, 5 miles from Rocher Bay, and 2 from Herring Cove. From Alma, deals are either sent in coasting vessels to St. John for trans-shipment, or directly to sea-going vessels lying at the anchorage of Grindstone Island, or in the roadstead off Herring Cove. For protection of the coasters lying at the private wharfs inside the river mouth, which afford four or five berths, the department built in 1883-84 a breakwater 26 feet in mean width, and 180 feet long. In 1886-87, this breakwater was extended to a total length of 420 feet. By position, the work lies across the path of the littoral drift. In consequence, the foreshore has advanced nearly 500 feet on the weather side, and the drift, having fully charged the outside of the breakwater, is now working around the end. Accordingly, inside the point of the breakwater, a bar 11 feet in height was formed, which extended across the mouth of the river. By means of a temporary groyne, inducing scour, the channel, which had become contracted to a width of only 34 feet, was increased during the months of April and May 1900 to 125 feet in breath; but a middle ground 160 feet long, 45 feet wide, and about a foot above low water was left.

Total expenditure to 30th June 1900 is $10,741.99.

VANWART'S LANDING.

Vanwart's Landing, King's County, is situated on the western side of the river, about 30 miles from the mouth, and about 45 miles below Fredericton.

During 1892-3, a wharf 205 feet long, the inner 155 feet being 25 feet wide on top and the outer 50 feet, 62½ feet wide, was built, the ends and sides being of square timber, close faced, the interior of round logs, and the whole filled with ballast, with earth and gravel on top. The structure was completed in June, and is one of the best pieces of work on the river, the cost to the department amounting to $500.

No important repairs were made on this wharf since 1893.

Total expenditure to 30th June 1900, $500.00.

WESTFIELD LANDING.

Assistance was given by the Department in 1896-7, towards the payment for a wharf built by the Provincial Government of New Brunswick at Westfield Landing in King's County.

The wharf at Westfield Landing is of the common type of those built on the St. John for the use of river steamers; being of round cribwork and covered with plank all over. It is 116 feet long over the timber work; the head which stands in 7 feet depth at low water measuring 44 feet by 30 feet.

Total expenditure to 30th June 1900 is $338.62.

WILSON'S BEACH.

At Wilson's Beach, a fishing settlement in a slight identation of the coast, on the west side of Campobello, an island in the Bay of Fundy belonging to the county of Charlotte, a breakwater 373 in length was built to shelter the cove, by the joint contribution of the local and federal governments between the years 1874 and 1878. The outer arm having become dilapidated and the cove having silted up, preparations were made to repair the inner end, 248 feet in length, by day labour. Owing to the backward state of the spring, which prevented the delivery of timber, in time, no work of reconstruction had been begun by the end of the fiscal year.

Total expenditure to 30th June 1900 is $4,124.05.

PROVINCE OF QUEBEC.

AGNÈS.

Agnès (Moriuville), is situated at the mouth of the Chaudière River in the County of Beauce.

The construction of this wharf was commenced in 1882-3 and completed in 1884.

Total expenditure to 30th June 1900 $7,276.20.

This wharf was transferred to control of Department of Marine and Fisheries on 27th November, 1891.

ANSE A BEAUFILS.

During the last fiscal year the sum of $4,911.19 was expended in continuing the retaining wall of round cribwork commenced in 1898 on west side of Anse à Beaufils river, Gaspé County, and starting a similar construction on the opposite side of the stream.

At close of fiscal year both structures were laid out some 500 feet in length from bridge on the public highway to low water with the object of keeping the sand from being blown or carried into the small harbor for fishing boats, and completely filling it up at certain times of the year.

So far the hopes that a safe harbor has been made, are beyond the general expectations.

ANSE A L'EAU OR TADOUSSAC.

Tadoussac, the *chef-lieu* of Saguenay County, is a watering place on the north-eastern side of the Saguenay River, about 5 miles above its mouth on the estuary of the St. Lawrence, which is much frequented by tourists and health seekers during the summer season. The village contains three churches, one of which is the oldest church built in Canada, being erected in 1747, four hotels and stores, a telegraph office, a post office and many handsome villas; a fish hatchery has also been established here by the Department of Marine and Fisheries. Population of village about 900, of parish 2,440.

Some 50 years ago, or more, the ex-lumbering firm of Price Brothers & Co., of Chicoutimi, built at Anse à l'Eau, which constitutes the harbour of Tadoussac, a wharf for their own use and convenience, of round logs and slabs, and partly faced the same with square timber and ballasted the work with stone. This wharf had a total length of 366 feet and a general width of 26 feet, excepting a block at the west end which measured 4 feet by 50 feet by 29 feet in height; the depth available along its outer face at lowest water being about 7½ feet. In the absence of any other landing this wharf was not used alone by the firm who built it, but was also taken advantage of by the Richelieu Company as well as the general public.

The structure having become too delapidated to be of further service for the public, the Federal Government decided in 1888 to carry out the works of repair required, to permit of the wharf being used for general shipping and landing purposes as in previous years. Accordingly, in 1887-8 and 1888-9 the whole wharf was raised 3 feet, and a new plank floor put on throughout; a new inclined slip was also built. In 1889-90 a block, 30 x 30 x 43 feet in height, was sunk 30 ft. to the westward of the main structure, and in the following year the two works

were connected by a timber span 30 x 30 feet, and in 1893-94 a new roadway or approach to the pier from the upland, or embankment of earth, 525 ft. long by 25 feet wide was built.

The wharf, as completed in 1894, has a total length of 225 feet on the outer or channel face, and is 108 feet wide for 165 feet in length at the eastern end, and 30 feet for the remaining 60 feet at the western end.

By a deed of sale dated 10th December, 1896, Messrs Price Brothers & Co. have conveyed to the Federal Government all their right and interest to the wharf and the land on which it stands as also to the roads and approaches thereto, for the sum of one dollar; reserving, however, the right of using in perpetuity a portion of the wharf 35 x 25 feet, for the purpose of piling firewood thereon and the right of access to the wharf in perpetuity, to land or ship merchandise as they may require, whether with steamers, schooners or other craft.

During the fiscal year ended 30th June, 1897, a combined shelter and freight shed with waiting room, covering an area of 60 x 30 feet was erected close to the channel or southern side of the wharf, and this face has been sheated with 5-inch tamarack for a length of 160 feet; moreover the hand rails on the approach have been painted. Expenditure incurred in 1896-7, $1,474.93.

Total expenditure to 30th June, 1900, is $14,956.06.

This work was transferred to control of Department of Marine and Fisheries on 20th July 1895.

ANSE AUX GASCONS.

The village of Anse aux Gascons, in the county of Bonaventure, is situated on the north shore of Baie des Chaleurs, in the municipality of Port Daniel East, 7 miles to the eastward of Port Daniel and 42 miles west of Percé. Spring tides rise 6 feet, neap tides 3 feet. The locality is considered to be one of the best fishing stations on the Baie des Chaleurs, the fleet consisting of over 60 boats in summer and 100 in the fall. The codfish catch averages from 4,000 to 5,000 quintals every season, beside which large quantities of salmon and lobsters are also obtained. The bay is entirely open to southerly gales, against which it affords no protection. In order to inclose and protect an area with sufficient depth of water at extreme low water spring tides to accommodate the largest class of fishing boats and trading vessels of moderate draught, a sum of $5,000 was appropriated by parliament at its session of 1897 towards the construction of a breakwater 400 feet long and 20 feet wide. Tenders were called for the work, and on February 1, 1898, a contract was entered into for its construction for the bulk sum of $11,494. The work was well under way at the close of the fiscal year 1898, when a sum of $5,000 had been expended.

During the fiscal year 1899, the work commenced in 1898 was completed.

The structure is of close-faced cribwork, sheathed over the seaside and outer end face and ten feet on return inside corner with five-inch hardwood extending down 14 feet.

The width at bottom is 24 feet, top 20 feet, height outer end corner 23 feet 10 inches to top of cap; total length outside on cap is 436 feet 6 inches (including an extra length over contract work of 36.6 feet).

The total amount expended on construction is $10,047.57.

ANSE ST. JEAN.

Anse St. Jean is situated on the south-west shore of River Saguenay, 25 miles above its mouth.

The public landing pier at this place is 366 feet long, 26 feet wide, with the

exception of the head block, which measures 50 feet along the channel face, by 40 feet in length, and is 33 feet in height.

At low water spring tides there is a depth of 7 ½ feet at the outer end of the pier.

Ordinary spring tides rise 17 feet, neap tides 12 feet.

During the fiscal year 1899 a landing slip was built on the eastern side of the pier; the slip is 75 feet long at the base, 25 feet on top and 14 feet wide, filled with stone ballast.

The top planking of the pier has been renewed on a length of 200 feet.

The work was done by day labour at a cost of $1,000.27.

During the past fiscal year 50 feet of the outer end was sheathed with 6 inch. tamarac. About 200 feet of planking was renewed also the planking of the inclined slip at a cost of $501.00.

Total expenditure to 30th June 1900 is $12,373.12.

BAIE DES PÈRES (VILLE-MARIE).

Baie des Pères is situated on Lake Temiscamingue, where a wharf is constructed 444 feet long, 20 feet wide and 18 feet high at the outer end where the head is 30 feet wide.

The work was thoroughly repaired in 1895 at an expense of $945.63; in 1896 $25,65 was expended.

There is a warehouse on the pier 20 by 36 feet.

This wharf was purchased by the Dominion Government from the Lake Témi-camingue Colonization Railway Company in December, 1897 for the sum of $3,000.00 (See O. C. 83,568; 20-12-87).

Total expenditure to 30th June, 1900, $4,039.40.

This wharf was transferred to control of Department of Marine & Fisheries

BAIE ST. PAUL.

The village of Baie St. Paul, in the county of Charlevoix, with a population of about 1,400, is situated on the north shore of the St. Lawrence, 60 miles east of Quebec. It is built on both sides of the River du Gouffre, which empties into a bay one mile and a quarter deep and three miles wide at its entrance. The bay is dry at low tides with the exception of some small channels. Spring tides rise 20 feet, neap tides 13 feet. In 1874-5 an isolated block 200 feet long and 25 feet wide, with a head 60 feet long and 50 feet wide, was built in 12 feet of water at low water spring tides, on the west side of the bay at a distance of 3,000 feet from shore at high tide and 600 feet at low tide. This block was built for the accommodation of lightships when taken to or removed from their mooring in the St. Lawrence, and was also used by steamers as a landing pier. But as it was not connected with the shore the accommodation it afforded to passengers and freight was so poor that it was decided to build a landing pier on the east side of the bay, at Cap aux Corbeaux, three miles from the village.

Construction.—During the winter of 1881-2, timber was procured for the proposed structure, which was completed in 1885, at a total cost of $35,933.71. It was then 712 feet long, 30 feet wide, and its head stood in 7 feet of water at low water spring tides. In 1887, an earth embankment and cribwork approach was built at a total cost of $1,170.60 to connect its shore end to the road built by the municipality. Owing, however, to the insufficient depth of water at its head the pier could not be and was not used by steamboats, and passengers and freight were still landed on the isolated block from which they had to be conveyed in row boats or scows to shore. It was therefore decided, in 1888, to add yearly to its length until a depth of about 14 feet at low water spring tides was reached.

With this end in view four extensions, aggregating 354 feet in length and 30 feet wide, were built by contract, at a total cost of $24,512.84 including superintendence. The first extension, 60 feet in length was constructed in 1889, at a cost of $4,867.92; the second, 94 feet in length, in 1890-1, at a cost of $7,327.13; the third, 100 feet in length, in 1893, at a cost of $6,372.79; and the fourth, also 109 feet in length, in 1895, at a cost of $5,945. The depth of water at the head of the pier at low water spring tides was therefore increased from 7 feet in 1885 to 8 feet in 1889, 9 feet in 1891, 10½ feet in 1893 and 11½ feet in 1895. The pier, as it then stood, was 1066 feet long, 30 feet wide throughout, and 35 feet high at its outer end. Its top stands 4 feet above high water spring tides. It is built throughout of close-faced cribwork filled with stone ballast. The face timbers are 12 x 12 dimensions, and the cross ties and longitudinals are round logs 14 inches diameter at the small end.

In order to reach the proposed depth of 14 feet, and complete the pier in accordance with the scheme laid out in 1888, a contract was entered into in the fall of 1898 with Messrs. Viau, Lachance & Hamel to build a further extension of 145 feet in length and 50 feet wide, forming the head of the pier, the contract price being $12,500. At the end of the fiscal year the sum of $4,227.41 had been paid to the contractors.

During the fiscal year the work was completed.

Repairs.—In 1886 some minor repairs amounting to $82.16 were effected, and in 1888 a further sum of $35.66 was expended. In 1893 the spring thaw and rains caused an extensive land slide, which completely obstructed the road leading to the pier for a length of 200 feet. Another approach has therefore been built on the continuation of the one built in 1887 and some distance out, in order that, should another landslide occur, which is very probable, the new approach would not be interfered with. The new approach, which is 268 feet long, 15 feet wide and of an average height of 9 feet, was built of cribwork filled with stone and gravel at a cost of $898.47.

In November, 1893, a sum of $124.27 was expended in renewing 234 deals in the flooring of the old portion of the wharf. In 1895 general minor repairs were effected to the amount of $378.77. In November, 1896, the approach built in 1893 was raised 2½ feet on its total length of 268 feet, 18 toises of stone ballast were placed in it, and it was covered with three-inch deals. Thirty fenders were placed on its seaward face to strengthen the work. Part of the flooring of the pier was also renewed, 300 deals being employed. These repairs were executed by day labour at a cost of $900.42.

During the year 1897-8 the earth embankment, which constituted a portion of the approach built in 1893, was washed away and was rebuilt of cribwork filled with stone ballast on a length of 100 feet abutting against the solid rock. The width of the new work is 15 feet, and its average height is 10 feet. Two courses of face timbers and cross-ties at the shore end of the pier were renewed on a length of 550 feet and new floor stringers, floor and snubbing posts put in. Some 12 x 12 timbers in the western face of the structure at its outer end, which had been broken by ice, were renewed and this face was sheathed with 6-inch maple 15 feet long on a distance of 200 feet. The work was done by day labour at a cost of $3,505.75.

During the fiscal year 1899 the outer end of the pier completed in 1885 and the four extensions built subsequently, which had all settled, in some places as much as 4 feet, were raised to the proper level on a length of 600 feet, the floor

stringers, flooring and snubbing posts had to be for the most part renewed. The two slips on the eastern side, which had been damaged by ice, were repaired, and 16 toises of stone ballast were put in the wharf where required. The work was done by day labour at a cost of $3,036.59.

The total amount expended at this place is $85,247.95 as follows:—

Construction	$76,285.86
Repairs	8,962.09
	$85,247.95

BEAUPORT.

The village of Beauport, in the county of Quebec, is situated at the mouth of the river of the same name, on the north shore of the River St. Lawrence, two miles below the city of Quebec. It contains two large flour and grist mills, nail, match, grindstone, cement, lime and cotton factories, and the building stone, of which there are extensive quarries, is in great demand, large quantities of it being annually shipped. Spring tides rise 21 feet, neap tides 13 feet. At low water spring tides, the water of the St. Lawrence recedes about 3,700 feet from the mouth of the Beauport River.

In 1888 a wharf 200 feet long, 25 feet wide and 8 feet high at its outer end, situated on the west shore of the Beauport River at its mouth, was purchased from Mr. Edouard Caron for the sum of $800. The purchase was made subject to the structure being thoroughly repaired and raised 3 feet by the vendor. The work was completed to the satisfaction of the department in 1890, when the total amount paid out, including legal expenses, was $932.07. The wharf was then 11 feet high at its outer end, which stood in 10·80 feet of water at high water spring tides. In 1890 the filling of the wharf with stone ballast was completed, and its approach raised at a cost of $300. In order to provide increased shipping accommodation a close-faced cribwork extension, 121 feet long and 30 feet wide, was built to the old work during 1898, at a total cost of $3,352.58. The new work is 14 feet high for half its width, and from 7 to 9 feet high for the other half, and affords an increased depth of 6 inches of water at its outer end at high water spring tides. Its foundation has been carried down to a depth of five feet below the level of the beach in order to render dredging along its face possible should it be required.

During the fiscal year 1899 the sum of $3,998.62 was spent in extending the pier at the mouth of River Beauport, or rather of enlarging what was already done. The old wharf was raised 16 inches and three tiers of face timbers put in one half of it; this portion was rough crib with one full face only on river side (200 feet long), filled with stone and gravel 20 feet wide, giving an area of 20,800 square feet of wharfage.

The whole work done during the year is built up with cedar, red spruce and white pine.

The whole contour of both old and new work is sheathed full height with white pine and red spruce deals.

During the last fiscal year an additional length of 200 feet of close-faced cribwork was laid out at the end of work previously done on government wharf at mouth of Beauport River.

The amount spent was $4,000 in building up 200 feet long by 40 feet wide and 8 feet high on one-half this width, fronting the channel, and 3½ feet on the other rear half. In order to secure better foundations, the bank had to be cut

down on a length of 205 feet to a depth of 4½ feet for rear line sloping down towards bed of river, taking in a width or strip of 34 feet of mud, clay and loose sand all mixed; some 733 yards of which were removed; 9,500 feet of ballast flooring, 6,626 cubic feet square timber, and 538 feet of round 12" to 14" were used. The work was above the average.

Total expenditure to 30th June, 1900 $18,650.47.

This wharf was transferred to control of Department of Marine and Fisheries on 10th October, 1891.

BELŒIL (GUARD PIERS AND GUIDE WALL).

Belœil is a post village in Verchères county, on the north side of the Richelieu river, and a station on the Grand Trunk Railway, 21 miles north-east of Montreal. It has an express office, one store, two hotels, one saw mill and the works of the Hamilton Powder Company. Population four hundred. The Richelieu River leaves Lake Champlain at its northern extremity and after a course of 80 miles enters the St. Lawrence at Sorel. It is broader and more rapid in the former than the latter part of its course, and near its center it expands into the Basin of Chambly. The Richelieu forms an important part of the navigation between the St. Lawrence and the Hudson River.

South of the Grand Trunk Railway bridge which crosses the river at Belœil, the government built a number of piers and booms on both sides of the channel to facilitate the passage of steamers and barges coming down the rapid current of the river and going through the narrow passage of the draw-bridge, and to prevent them from being carried out into shallow water. There are eight piers or four an each side of the channel, distant from 80 to 100 feet from one another.

From 1885 until 1888 some slight repairs were made to the booms at a cost of $353.43. In 1890-91 three of the piers were rebuilt from the water line and some slight repairs were made to the booms at a cost of $1,500.35. In 1891-2 two other piers were rebuilt from the water line at a cost of $1,193.38. In 1895-6 some slight repairs were made to the booms at a cost of $144.79.

In 1896-7 it was found that the guide piers on the west side of the river—four in number—built many years ago, were in such bad condition that they could not be properly repaired, and an entirely new line of guide works was adopted. It was decided to build a solid cribwork wall from the Grand Trunk Railway pile abutment upward, following the line of a 15 curve (above the natural curve of the shore) for a distance of 337 feet; to remove the four old piers and booms, and to dredge a wider channel for the free passage of boats. During the year some dredging was done amounting to $730.45 and $2,170.12 was expended in procuring stone, iron, etc., required for the construction of the cribwork. In 1897-8 the sum of $5,974.28 was expended in building the cribwork up to an elevation of 15 feet. This work when completed will be 337 feet long, 15 feet high.

During the fiscal year 1898-9 the cribwork wall was completed to a height of 20 feet on its whole length of 337 feet, terminated at its upper end by an ice-breaker, and the filling of the space between the guide wall and the bank of the river was commenced.

The work was done by day labour at a cost of $5,496.39.

In 1899-1900, the inner face of the guide wall was sheated a length of 150 feet from its up stream end, with 3 inch pine planks, and the filling of the space between the guide wall and the bank of the river was completed at a cost of $3,073.43.

The work is now all completed and has given general satisfaction.

The total amount expended on this channel since 1895 is $19,636.62 as follows :

Repairs and reconstruction of mooring piers.....	$ 2,191.95
Construction of guide wall.....	17,444.67
Total.....	$19,636.62

BERTHIER (EN BAS).

The village of Berthier, in the county of Montmagny, is on the south shore of the St. Lawrence, 24 miles below Quebec. Spring tides rise 20 feet, neap tides 13 feet.

Construction.—A landing pier was completed at this place in 1853 at a cost of $37,724.14 and a sum of $1,760.00 was expended for repairs up to June 30, 1867. The pier, which was built of cribwork filled with stone ballast, was 466 feet long, of a uniform width of 32 feet with the exception of the outer 57 feet which was 60 feet wide and 34 feet high at its outer end, standing in from 6 to 11 feet of water at low water spring tides. In 1883 an appropriation was made for the construction an extension 100 feet long and 30 feet wide, with the outer end standing in 14 feet at low water spring tides. It was built by contract and completed in 1886 at a total cost of $11,310.39.

Repairs.—In 1877–8 the pier was thoroughly repaired; some of the face timbers and ties which were decayed, were renewed, and the whole roadway was planked over to prevent the broken stones of which it was made, from being washed out by the heavy seas which frequently broke over the pier. The total expenditure for repairs to this work since Confederation was then $9.024.15. Owing, however, to the age of the main portion of the work, constant repairs were required, and up to 1896, a further sum of $3,656.14 was expended in renewing portions of the flooring, cap pieces, corner sheating and moving parts, and for the reconstruction of the movable slip which was broken during the fall of 1889. In the year 1898, 250 planks were renewed in the top flooring at a cost of $98.15.

During the fiscal year 1899 the two last courses of face timbers were renewed on a length of 125 feet at the outer end, the planking of the movable slip, the flooring on a length of 75 feet, the posts and cross beam supporting the end of the movable slip, four snubbing posts and 175 feet of capping were renewed ; a winch used for raising the slip, which was broken by ice was replaced by a new one, new one, the amount expended was $385.07.

The total amount expended at this place is $63,957.04 as follows :—

During the last fiscal year the top of the pier was renewed on a length of 510 feet, 32 feet wide and 6 feet high, the slip on the eastern side has been rebuilt on a length of 65 and 10 feet wide, other trifling repairs were effected, the work was done by day labour at a cost of $4,738.12.

The total amount expended on this work is $68,696.16 as follows :—

Construction and repairs prior to Confederation.....	$39,484.14
" since Confederation	11,310.39
Repairs and reconstruction.....	17,901.63
	$68,696.16

This work was transferred to control of Department of Marine and Fisheries on 26th April, 1895.

BERTHIER (EN HAUT).

Berthier (en haut), in the county of the same name, is a town of 1,600 inhabitants situate on the north shore of the St. Lawrence, 45 miles below Montreal, and opposite the town of Sorel.

Construction.—In order to protect the village and wharfs against the action of drift ice, the sum of $2,000 was appropriated by Parliament in 1886 for the construction of an ice pier which was completed in 1887, at a total cost of $1,611.04. Being found too low, it was raised three feet in 1888 at a cost of $99.97.

Sufficient protection was not, however, afforded by the work to prevent considerable damage being done by the ice during the spring floods of 1896. A new ice pier 25 by 30 feet high, was therefore constructed in 1897 on the edge of the beach, at the upper end of the town, at a total cost of $2,584.16. The piers have answered all expectations.

Repairs.—In 1892, minor repairs were effected to the ice pier built in 1887, at a cost of $13.50. In 1897 attention was called to the fact that the only protection the lower part of the town had against ice shoves, was a low ice breaker at the head of the Richelieu and Ontario Navigation Company's wharf. The ice breaker being very much out of repair, and the formation of the shore such that the construction of a new pier, in an equally good position would have been costly and an impediment to navigation, permission was obtained from the company to repair and increase the height of their work. This was done at a cost of $733.22.

Minor repairs were effected in 1898 to the ice pier built in 1897 at a cost of $8.50.

The total amount expended on the above mentioned works is $5,050.46, as follows:

Construction	$4,295 17
Repairs	755 29
Total	$5,050 46

BIC.

Bic is an important village and summer resort, in the county of Rimouski, on the south shore of the St. Lawrence, 170 miles below Quebec. It contains a number of flour, saw and carding mills and two cheese factories. Spring tides rise 16 feet, neap tides 11 feet.

Construction.—In 1884 it was decided to build a landing pier to accommodate the extensive local trade of the village. The work was carried out by day labour and completed in 1887 at a cost of $15,931.08. It is situated to the eastward of a group of islets which lie at the mouth of the Bic River, and is 1,120 ft. long over all, of a uniform width of 20 feet, apart from its outer 85 ft. which is 30 ft. wide, and 15 feet high of its outer end, which stands in 12 feet of water at high water spring tides, and dries at low water of both spring and neap tides. The pier consists of 22 cribs placed 25 feet apart connected with platforms. The shore end crib is 35 feet long and 20 ft. wide, the two outer ones, which constitute the head of the pier, are 30 feet square and the remaining nineteen are 25 feet long and 20 feet wide. An opening 50 feet wide has been left between the second and third cribs from shore, in order not to interfere with a branch channel of the river. The cribs are substantially built of close-faced cribwork, with 12 x 12-in. timber, and filled with stone ballast.

Repairs.—Minor repairs were effected to the work in 1894 at a cost of $197.50, and in 1896 a further amount of $587.22 was expended in renewing portions of the flooring, cap pieces and stringers which had become decayed. During 1898, 16,215 square feet of the flooring out a total area of 22,952 square ft. were

renewed with 3-in. spruce deals; also 1,500 ft. of 8 x 8-inch capping. The floor stringers were raised and strengthened where required, placing upright posts under them, and a crib 9 feet long 20 ft. wide and 6 feet high with vertical posts to support the flooring, was built in the centre of the 50-foot opening originally left in the shore end of the work. These repairs were effected by day labour at a cost of $1,248.85.

During the fiscal year 1899, the sum of $90.91 was spent in effecting sundry repairs to Bic wharf which consisted in putting some spruce sheating (deals 3in.) on some of the detached cribs and filling same with ballast.

The total expenditure on this work is $18,061.76.

Construction	$15,931 08
Repairs	2,130 68
Total	$18,061 76

BOUCHERVILLE.

The village of Boucherville is situated on the south shore of the St. Lawrence, in the county of Chambly, 9 miles below Montreal.

Construction.—During the winter of 1888-9 the Boucherville Navigation Company built a block 54½ feet long and 23 feet wide, with a breakwater 10 feet long at the upper end, at a distance of 175 feet from the shore. The block was handed over by the company to the municipality of Boucherville in the summer of 1890. During the winter of the same year the Department was asked to connect the block with the shore, and an examination of the locality was made at a cost of $20.85. In 1891 an approach of solid cribwood, 175 feet long and 24 feet wide, was built at a cost of $3,663.68.

Repairs. — During the year 1898 the sum of $1,079.19 was expended for general repairs. The upper or western face of the work, the breakwater and the outer face of the head of the pier were sheathed down to low water line, with 3 inch hemlock deals, the flooring of the slip was renewed, and the corners of the head of the pier and of the slip, the slanting face of the breakwater and the angle formed by the flooring and face-timbers along the whole length of the western face of the approach were entirely covered with boiler plate ⅜ inch in tickness.

The total amount expended on this work is $4,763.72, as follows:—

Construction	$3,684 53
Repairs	1,079 19
Total	$4,763 72

CACOUNA.

Cacouna, one of the favourite summer resorts of Canada, is an important village in the county of Témiscouata, on the south shore of the River St. Lawrence, 120 miles below Quebec. Spring tides rise 19½ feet, neap tides 9½ feet.

In order to accommodate the trade of the village and surrounding localities it was decided in 1891 to commence the construction of a landing pier off Indian Point and to add yearly to its length until a depth of about 13 feet of water, at high water spring tides, would be reached. To more promptly provide the needed landing accommodation the construction of the pier was commenced by day labour, during the same year, at its outer end, by the building of an isolated block 103 feet long, 24 feet wide at the top and 27 wide at the base, and respectively 17 feet 3

inches and 16½ feet high at the outer and inner ends. The work, which was built of openfaced cribwork, with 12 by 12 inch timber and sheathed on all its faces with 3 inch spruce deals, was completed in 1894 at a cost of $6,828.03. Its head stands in 12 feet 9 inches of water at high water spring tides, and is about midway between high and low water lines of spring tides, about 875 feet distant from the former. In 1895 an extension shorewards 60 feet long, 22 feet wide and 16 feet high at its inner end, was built in the same manner as the main block at a cost of $2,017.34.

During the year 1898 a further extension towards Indian Point, 143 feet 8 inches long, 22 feet wide and 15 feet high at its inner end, built of close-faced cribwork and sheathed on all faces with 3 inch spruce deals was added to the structure at a cost of $3,679. Materials, timber and iron, worth $1,300 were left on hand to be used in the extension built the next year. The work was 306 feet 8 inches long, which left a length of aboot 568 feet yet to be built to connect it with Indian Point.

During the fiscal year ending June 30 1898, a sum of $3,984.93 was spent in extending the Cacouna isolated block some 305 feet towards the shore. The work is close-faced cribwork, the flooring is of 3 inch spruce deals but not capped.

During the fiscal year 1898-9 the cribwork wall was completed to a height of 20 feet on its whole length of 337 feet, terminated at its upper end by an ice-breaker, and the filling of the space between the guard wall and the bank of the river was commenced.

The work was done by day labour at a cost of $5,496.39.

During the last fiscal year the pier was completed to the shore by the construction of a further length of 290 feet, which was built by contract at a cost of $5,931.00.

The pier is now 901 feet long, 24 feet wide on a length of 103 feet at the outer end and 22 feet wide for the remaining length of 798 feet, the outer end is 17 feet 3 inches in height and stands in 12 feet 9 inches of water at high water spring tides.

The total amount expended on the construction of this pier is $23,440.30.

CAP A L'AIGLE.

Cap à l'Aigle is on the north shore of the River St. Lawrence, in the county of Charlevoix, 87 miles east of Quebec and 3 miles below Murray Bay, the place is becoming more frequented every year as a summer resort.

Spring tides rise 20 feet, neap tides 13 feet.

Construction.—During the year 1881-2 a landing pier, 160 feet long, 25 feet wide at the inner end and 35 feet wide at the outer end, with a depth of 17 feet at the outer face, at low water spring tides, was built to accommodate the local trade, at a cost of $2,946.25. In 1882-3 a combined waiting room and freight shed was erected on the pier at a cost of $250, and in 1883-4 fenders and posts were placed on the structure, the amount expended being $345. In order to meet the requirements of the fast increasing traffic of the locality, which is without railway communication, and to provide more accommodation to the steamers calling at the pier, an extension 50 feet long, 40 feet wide and of an average height of 42 feet, was built in 1897-8, on the eastern side, at a cost of $4,754.44.

During the last fiscal year the inner end of the pier was widened by 13 feet on a length of 66 feet, the addition being 16 feet high. An open shed, 58 x 23 feet was built at the outer end, with a waiting room 10 x 18 feet at the eastern end of this shed. A movable slip, raised and lowered by means of chains and winches, was built in the new extension constructed in 1898 and the old slip filled with stone ballast and covered over. The sheathing on the western side was renewed on a length of 80 feet and a railing placed on a length of 75 feet on the western side of the pier. The work was done by day labour at a cost of $1,488.62.

The pier is now 160 feet long with 85 feet of mooring face at the outer end and 35 feet wide at the inner end, the depth of water at the outer face is 17 feet at the western corner, and 13 feet at the eastern corner. The pier is entirely built with cribwork filled with stone ballast and sheathed with rock, elm and maple 6 inches thick.

Repairs.—Owing to its exposed situation the pier has been frequently damaged by ice, and up to June, 1898, the sum of $2,086.62 had been expended for repairs, of which $1,270.13 up to 1894, and $816.49 in 1897. In 1898, after the completion of the new extension, it was found necessary to repair the planking of the old part of the pier, the amount expended being $259.95.

The total amount expended on this work is $12,130.79, viz :

Construction	$9,784.32
Repairs	2,346.47
	$12,130.79

This work was transferred to control of Department of Marine and Fisheries on 13th July, 1895.

CAP CHATTE.

Cap Chatte is situated in the County of Gaspé. In 1897 a small landing pier was constructed.

During the last fiscal year the training pier, along the upper side followed by the channel of the river Chatte, across the foreshore of the St. Lawrence, which was commenced in May, 1900, was brought to a length of 368 feet in the following August at a cost of $5,500.00.

The object of this pier is to facilitate the passing of vessels from the inner basin or anchorage at upper part of river, and to prolong the time of the vessels remaining afloat in the basin, also to induce a scouring by which the channel would be deepened.

The dimensions of this pier are :—length 368 feet, average width 21 feet, average height 13½ feet, the whole strongly built on the very edge of the west bank of river. Total cost $5,500.00.

At present moment the river has deepened from 2 to 3 feet by scouring.

Total amount expended to 30th October, 1900—$5,600.00.

CAP DE LA MADELEINE.

Cap de la Madeleine is situated in the County of Champlain, on the River St. Lawrence, three miles from Three Rivers.

In 1887 a wharf was built and in 1894 an extension of pile work 40 feet long, 24 feet wide and 19 feet 6 inch in height was constructed; the old work was raised to level of new and the whole work put in good order.

The work is now 87 feet long in front, 22½ feet wide with a landing 11 feet wide, the length is 250 by 23½ feet wide and 14½ feet high above low water with five feet of water at its outer end.

Total expenditure to 30th June, 1900, $7,881.85.

CAP SANTÉ.

The village of Cap Santé, the chief town of the county of Portneuf, is situated on the north shore of the St. Lawrence, five miles below Portneuf, and 31 miles above Quebec. Spring tides rise 14½ feet, neap tides 8½ feet. At neap tides the boats can only approach the landing pier when the water has risen to the height of 7 feet 9 inches, and even then only with danger, owing to the numerous boulders which are strewn along the foreshore of the river. The boulders form part of a reef which extends along the line of low water at a distance of about 1,100 feet from the head of the pier. The work of blasting the most dangerous boulder from the channel leading to the pier was commenced in 1889 when a sum of $252.43 was expended. The channel was further improved in 1890 at a cost of $500.85. During the year 1898 a number of other boulders was blasted and removed at a cost of $423.49.

The wharf at this place is bult parallel with the shore and consists of four cribs of different dimensions laid close together, making a landing 118 feet long, is the property of Mr. Flavien Morissette, of Cap Santé.

This wharf is visited generally twice a week by a boat called "L'Etoile," plying between Quebec and St. John des Chaillons, and also at different times by schooners, this landing being high and dry at low tide can be approached by boats only during three hours of each high tide and very often cannot be landed at all during high tides. As the bed of this river, in front of the wharf, gradually slopes down, an extension of 50 feet out from the present wharf would increase the depth of water by 5 feet and would prove sufficient for boats drawing 4½ feet (like "L'Etoile") to land mostly at every stage of the tide as the channel to the wharf has been cleared of boulders from the outer chain leaving it 5 feet during low water neap tides.

The wharf is built of round and flatted timber of many sizes, not well secured and badly put together, the outer face is covered with three inch plank and some of the face timbers bulge out considerably, being pressed out by the ballast filling. It is loaded to the top with stones and the cover is formed of a layer of gravel about one foot thick.

The wharf in question, in its present condition, will either collapse or be carried away by the ice very soon, and is accessible only for a very limited time each tide, proves to be a great disadvantage to the population of the village and of the surrounding country, who find it their only commodious outlet for their shipments to the Quebec market the railway being 6½ miles from the village.

The sum of $190 was expended in repairs to the old wharf and the starting of an extension outwards of 50 feet north and south and 85 feet east and west, the latter fronting on the St. Lawrence. The work on the old wharf consisted in

stone filling, cutting down some portion of the useless old timbers, renewing and strengthening nearly almost all the remainder, the whole thing being almost ready to fall to pieces over the beach; the ground and open space in rear was levelled and filled up, and both sides embanked with dry stone walls.

Next year the block will be thoroughly packed, by hand, with stone ballast, broken stone and coarse gravel laid on top for roadway, instead of planking. The slope produced northwards to depth of old wharf and the shed.

Boulders in vicinity of wharf will be removed.

Total expenditure to 30th June 1900 is $3,076.77.

CARLETON.

Carleton is the most flourishing parish on the Baie des Chaleurs, in the county of Bonaventure, and 12 miles by water from Dalhousie, N.B.

The village is built on the shore of the Tracadigèche Bay, at the foot of a mountain over 1,800 feet high, and is one of the most picturesque sites of the coast; it is already in great repute as a watering place.

The sum of $55.09 was expended in course of the year 1899 in effecting some minor repairs to planking, sheathing of steps, etc.

The Carleton wharf, built in 1882-3, has a total length of 234 feet, including an outer end block of 39 x 39 feet, the inshore end of 195 feet is only 20 feet wide on top. The average depth of water at outer end is 10 feet at low water spring tides.

Total expenditure to 30th June, 1900, $8,466.03.

This wharf was transferred to control of Department of Marine and Fisheries on 27th April, 1889.

CASCADES.

Cascades wharf is situated on the Ottawa River, in the county of Vaudreuil, and six miles east of Cedars Village.

The wharf is 100 feet in length, 25 feet in width, the top being 5½ feet above low water, with two approaches and a shed 40 by 24 feet erected thereon.

Total expenditure to 30th June, 1900, $3,416.90.

This wharf was transferred to control of Department of Marine and Fisheries on 29th January, 1887.

CEDARS.

Cedars is situated on the north shore of the River St. Lawrence, 15 miles east of Coteau Landing, in the county of Soulanges.

The landing wharf is 115 feet in length and 24 feet in width.

There is at the outer face 7½ feet of water at its lowest stage.

During the fiscal year 1899 the decayed upper structure was removed to one foot below the low water level, and rebuilt.

The timber used is hemlock, 12-inch x 12-inch. The work was done by day labour at a total cost of $1,498.96.

Total expenditure to 30th June, 1900, $6,035.83.

This wharf was transferred to control of Department of Marine and Fisheries on 16th September, 1896.

CHICOUTIMI.

The town of Chicoutimi, in the county of the same name, is situated on the south shore of the Saguenay River 71½ miles above Tadousac, and at the head of navigation. The Richelieu and Ontario Navigation Company's boats call two to six times a week at the Chicoutimi pier, during the season of navigation, with passengers, freight and mails.

At the mouth of the River Chicoutimi, about 1 mile above the pier, there is an extensive lumbering establishment belonging to the Messrs. Price who export large quantities of sawed lumber, laths, shingles, &c., to Europe and elsewhere, in ocean vessels and large schooners which ascend the Saguenay to the town. Spring tides rise 15 feet, neap tides 8 feet.

Construction.—The landing pier was commenced in 1873 by the St. Lawrence Tow Boat Company and completed by the Dominion Government to whom it was handed over in 1874, at a cost of $14,193.40. From 1874 to 1882 inclusively, it was extended and improved at a total cost of $2,823.73. The pier was then 282 feet long, and consisted of an approach 248 feet long and 30 feet wide and of a head block 34 feet long and 127 feet wide forming two wings respectively 70 and 27 feet wide. On the upper or 70-foot wing was a combined waiting-room and office 20 feet square.

The depth of water at the end of the pier, which was originally 10 feet at low water spring tides, was then reduced to 7 feet by the accumulation of slabs and sawdust from the mills at the mouth of the Chicoutimi River.

In 1883 the shore end portion of the approach on a length of 38 feet was embedded in an embankment upon which the station and sheds of the Chicoutimi branch of the Lake St. John Railway are now erected. The length of the approach was thereby reduced to 210 feet. In 1884 the approach was widened 70 foot by filling in with slabs the whole space, 210 feet in length, between the upper or 70-foot wing and the shore, and a storehouse 40 feet long and 24 feet wide was erected on this extension at a total cost of $2,145.84. The filling was not, however, carried up to the level of the top of the pier until 1885, when the extension was floored in a manner similar to the rest of the work. A separate waiting-room was also erected on the lower or 27 foot wing. The amount expended was $2,042.11. In 1890 a cribwork retaining wall 14 feet wide was commenced along the slab filling built in 1884, and the flooring was repaired where required at a total cost of $1,005.81. In 1891 the cribwork retaining wall was completed, a shed 28 x 29 feet built at the southern end of the pier and the flooring was repaired at various places at a cost of $1,802.70. In 1897 the pier was again widened by the addition of cribwork 30 feet wide along its lower or eastern face, from the lower or 27-foot wing to shore, a distance of 210 feet. The cribwork was fully balasted and floored with 3-inch tamarack planks, and twenty-five fenders were placed along its face. The pier was also sheated for a length of 50 feet along its northern face in order to complete the sheating all around the work. The total expenditure incurred was $4,992.96.

As now completed the pier is 245 feet long and 130 feet wide. It is 29 feet high above the bottom of the river at its onter end, which stands in about 8 feet of water at low water spring tides.

Repairs.—In 1883 aud 1886 minor repairs were efiected to the flooring, &c., at an aggregate cost of $288.55. In 1887 a slip was built at the outer end of the pier, the waiting-room was painted and general repairs performed at a cost of $1,390.35. In 1889 the flooring of the pier was almost entirely renewed and six fenders, 14 inches square, were placed along its outer face at a cost of $1,631.65. In 1892 and 1893 the flooring of the pier was completely renewed on a length of 210 feet and a width of 110 feet, with red spruce planks 5 inches in thickness; the east side of the structure was raised 18 inches; the waiting-room was painted both inside and outside, and two mooring posts were renewed. The expenditure incurred during the two years was $3,024.04. In 1894 a sum of $1,999.60 was expended for the construction of a movable slip and the purchase of two crab winches to raise it. During the years 1895 and 1896 a portion of the outer face and the whole of the eastern face of the strueture were resheathed with red spruce six inches in thickness, and the portion of the flooring not completed in 1893 was laid. Expenditure during the two years $3,991.88. During the year 1898 a sum

of $239.79 was expended on minor repairs to the flooring, sheds and waiting-room.

During the fiscal year 1890 a freight shed 60 x 30 feet was constructed on the south side of the pier for the storage of butter and cheese. Part of the top planking was renewed. The work was done by day labour at a cost of $1,499.27

During the past fiscal year the pier was raised 3 to 5 feet over the whole surface, stone ballast was placed in the outer end which was also sheated with tamarack and covering renewed with 3 inch plank at a cost of $5,050.59.

Total expenditure to 30th June, 1900 is $48,122.30.

COTEAU DU LAC.

The village of Coteau du Lac, in the county of Soulanges, is situated on the north shore of the St. Lawrence, thirty-six miles and a half above Montreal.

Construction.—In 1888 the construction of a landing pier was commenced, and was completed in 1889 at a cost of $6,918.71. It consists of a head block of solid cribwork, 101 feet long and 21 feet wide, with a cribwork extension, 40 feet long and 47 feet wide, built along the middle of its inner face, and a block and span approach 75 feet long and 26 feet wide. The outer face of the head block is 15 feet high above the bottom of the river and stands in 10 feet of water at ordinary low water. Across the inner end of the extension to the head block is built a freight shed of the full width of the extension and 20 feet long, with a passageway for vehicles through its centre.

Repairs.—During the year 1894-5, sundry repairs were effected to the structure at a cost of $249.99. In 1896-7 most of the floor stringers and the whole flooring of the pier, which were decayed, were removed, new floor stringers were put in and the whole structure was refloored with 4-inch hemlock planks at a cost of $694.58.

In 1897-8 sundry repairs were made to the corner sheating, capping, etc., at a cost of $200.41.

Total expenditure on this work is $8,063.69 as follows:

Construction	$6,918 71
Repairs	1,144 98
Total	$8,063 69

This pier was transferred to control of Department of Marine and Fisheries on 28th August, 1896.

COTEAU LANDING.

Coteau Landing, the chief-lieu of the county of Soulanges, is situate on the north shore of the St. Lawrence, at the foot of Lake St. Francis, thirty-six miles above Montreal, and two miles from Coteau Station on the Grand Trunk Railway.

Construction.—In 1871, a mooring pier was built by the department at a distance of 880 feet from shore, and in February, 1872, a contract was entered into for the enlargement of the pier and its connection with the shore by a block and span approach. The work was completed in October, 1875, at a cost of $11,453.88. It consists of a head block 249 feet long and 24 feet wide, with an ice breaker 30 feet long at its up-stream end, and of an approach 880 feet long and 12 feet wide except for a length of 92 feet near the head block where it is 24 feet wide, to give vehicles room to pass. The head block, and the portion of the approach 92 feet in length immediately adjoining, are built of open-face cribwork filled with stone ballast, and the remaining portion 788 feet in length of the approach, is a block and span structure. The outer face of the head block is 18

feet high above the bottom of the river and stands in 12 feet of water at low water.

Repairs.—Minor repairs were effected to the pier in 1882 at a cost of $8.00. The structive was considerably damaged by ice in the spring of 1896 and was thoroughly repaired during the same year at a cost of $1,544.42. In 1889 the department commenced the reconstrction of the block and span approach, which was completed during the year 1889-90 at a cost of $4,005.91. The new approach has a general width of 12 feet, with two sidings 115 feet long and 12 feet wide for the passing of teams In 1991, the reconstrnction of the head block 279 feet long, 24 feet wide was commenced, and was completed in 1892 at a cost of $5,-658.42. In 1897, the wharf was again thoroughly repaired. Some of the stringers were renewed and the whole of the approach, and a portion of the head block were refloored with hemlock planks 4 inches in thickness at a cost of $1,797.03. During the year 1898 the outer face of the head block was resheathed with 6 inch hemlock at a cost of $314.20.

The total amount expended on this work is $24,781.86 as follows :—

Construction	$11,453 88
Repairs and Construction	13,327 98
Total	$24,781 86

During the past few years considerable dredging has been done in the vicinity of Cotean Landing.

This pier was transferred to control of Department of Marine and Fisheries on 28th August, 1896.

CÔTE STE. CATHERINE.

Côte Ste. Catherine is a landing place, situated on the south shore of the River St. Lawrence, in the county of Laprairie, at about 5 miles west of the village of Laprairie. A steamboat ferry is open to Verdun for passengers and carriages, making four trips daily.

In order to give better accommodation to the farmers to take their produces to Montreal by the ferry boat, it was decided to build a permanent wharf at Côte Ste. Catherine.

The structure consists of a head block of close-faced cribwork 82 feet long, 20 feet wide parallel to the current, terminated at its upper end by an ice-breaker ; the approach from the shore to the block is also of close-faced cribwork, 115 feet long by 18 feet wide. The outer face of the block stands in 6 feet at low water level.

The work commenced in October 1899 and completed in June 1900, was carried out by day labour at a cost of $3,199 46.

DITCHFIELD.

Ditchfield is situated on Lake Megantic, a small pier was built at this place in 1887.

Total expenditure to 30th June 1900, $1,484.75.

ETANG DU NORD.

Etang du Nord is at the western end of Grindstone Island, one of the Magdeleine Islands, in the Gulf of St. Lawrence and in the county of Gaspé.

During the fiscal year 1899, the outer face of the breakwater at this place, having sustained considerable damage, was repaired.

The face timbers and sheeting were renewed on a length of 100 feet, and

stone ballast was put in the breakwater where required, other trifling repairs were effected. The work was done by day labour at a cost of $1,528.44.

Total expenditure to 30th June 1900, $73,801.87.

FLINT'S WHARF.

Flint's wharf is situated on Lake Megantic, was constructed in 1885, repaired in 1886 again in 1890.

Total expenditure to 30th June 1900, $2,192.45.

GATINEAU POINT.

Gatineau Point Village, county of Wright, is situated at the mouth of the Gatineau River, near the junction of this river with the Ottawa, and about one mile below the city of Hull.

In 1885-6, a wharf 107 feet in length, 29 feet in width, and having a depth of 8 ft. along its outer face at lowest water, was built at this place, together with two approaches, each 70 feet in length; also a retaining wall 230 feet long running north-westerly from the north approach. The space inclosed by the wharf and approaches was filled in with brush and earth. The object being to afford suitable landing and shipping accommodation for freight and passengers, not only to the permanent residents of the village, which number some 1,500, and to the inhabitants of the thickly settled surrounding country; but also for the benefit of the steadily increasing number of families, from the capital of the Dominion, who find it to their advantage to spend the hot summer months in this locality every year.

The expenditure being $3,850.84.

During the fiscal year 1896-7, repairs were made to the face timbers, sheathing and mooring posts of the wharf, and the flooring was partly renewed; the total expenditure amounting to $245.76.

In November, 1899, some repairs were done, consisting of renewal of one of the high protection posts, also to renew some planks, at a cost of $92.35.

The total amount expended on the work is as follows, viz:—

Construction	$3,850 84
Repairs	338 11
Total	$4,188 95

GEORGEVILLE.

Georgeville is a village on the eastern side of Lake Memphremagog, in the county of Stanstead, and 11 miles to the southward of the village of Magog, at the head of the lake. It is a port of entry of considerable importance, and all steamers plying between Magog and Newport (State of Vermont, U.S.A.), call at the wharf.

This landing pier was built by subscription from the several steamboat companies, which kept it in repair until 1888, when its control was assumed by the Government. At that time it had a total length of 210 feet and a breadth of 18½ feet, and was supported on six cribs; a wing of say 56 feet by 12 feet had been added at the outer end where the depth available at ordinary low water was about 9½ feet. As originally completed it stood 18 inches above extreme high water, but owing to a permanent rise in the lake, caused by the construction of a dam at Magog, its top was, till 1888, level with the surface of the water, the consequence being that during periods of high water or when the wind blew strongly from the south, the paddles of steamers fouled with the pier and received more or less

damage. The top of the wharf, including the arm down to low water mark, was moved bodily to the west by ice in the spring of 1888 and many timbers were either completely torn away or broken, the platforms also sustaining considerable damage.

During the year 1888-89 some urgent repairs were made: the top timbers of each crib excepting the two shore ones, being renewed, as well as the platforms and flooring over the whole surface of the wharf at a cost of $661.43. In 1889-90 the sum of $1,995.27 was expended for the construction of two cribs 12 feet wide, 37 feet long and 16 feet high, which were set in front of and firmly bound to the two which actually formed the head of the wharf, to increase its resistance against ice shoves. The whole wharf was rebuilt from low water mark and raised two feet higher than its actual level. In the course of 1895 the approach to the landing block being defective, the municipality removed the flooring and platforms between the shore and the fifth pier and filled the whole with a solid earth and stone embankment 160 feet long. In 1897-98 some stringers were renewed and the whole outer block was replanked. A new waiting room was also built at a cost of $678.96.

The cost of repairs made to this wharf may be summarized as follows:

1888-89	Urgent repairs	$ 661 43
1889-90	—Construction and repairs	1,995 27
1897-98	—Repairs to outer block	678 96
	Total	$3,335 66

Total expenditure to 30th June, 1900, $3,335.66.

GRAHAM.

Graham, a post village in the municipality of Como, is situated on the south shore of the Lake of Two Mountains, in the county of Vaudreuil, 13 miles west of Vaudreuil and 4 miles east of Rigaud, it is a station of the Canadian Pacific Railway called "Lavigne."

Mr. William Graham of the locality owned an old wharf which he transfered to the government together with a right of way from the public road, at the foot of La Montée Ste. Marthe, to the wharf, a distance of 435 feet by a width of 30 feet.

The wharf was so much dilapidated that it had to be entirely rebuilt.

During September and October 1899 the approach of a new wharf was commenced, it consists of a solid stone embankment 230 ft. wide with side slopes 1 to 1. The embankment is now almost completed exceptiug 3 feet in height.

The work was done by day labour at a cost of $1,125.76.

GRANDE DÉCHARGE.

Grande Décharge is situated on Lake St. John, 17 miles from Roberval. the Island House floating dock was transferred to the Department in 1895 and $500.00 was expended in building an extension of 40 by 20 feet.

GRAND PABOS.

The harbour of Grand Pabos, in the county of Gaspé, is situated at the mouth of the river of the same name on the north shore of Baie des Chaleurs, 30 miles west of Percé, and about midway between Cape Despair and Pointe Maquereau.

In 1885 the department commenced the improvement of the harbour, which lies within the mouth of the river, by the removal of dangerous rocks which

obstructed its entrance. This work was continued in 1887 and 1889, when a sum of $2,582.93 was expended. In 1890 a combined training pier and breakwater of close-faced cribwork, 215 feet wide and about 10 feet high along its western face, was built on a reef which extends in an easterly direction off the west shore of the river into the bay. The amount expended was $2,906.95. In 1893-4 the pier was extended to shore, the dimensions of the new work being: length 120 feet, width 21 feet, average height 11 feet. It was built of close-faced cribwork and completed during the year with the exception of the flooring, outside sheathing and some ballasting, at a cost of $1,999.53. Work was resumed on the extension in 1894-5 and the portions unfinished were completed. Some dangerous rocks lying in mid-channel of the river and along the face of the work were also removed, the amount expended being $1,558.99.

The training pier, which is now 335 feet long, has confined the river waters into one channel about 75 feet wide, 7 feet deep at low water spring tides, and practically clear of all obstructions. A few jutting points of rock will, however, have to be removed to make it perfectly safe at all times of tide.

Repairs.—In 1896-7 a sum of $500 was applied in sheathing with spruce flatted to 10 inches in thicknes, a length of 200 feet of the inner face of the training pier which had been damaged by ice. The repairs commenced in 1896-7 were completed during the year 1898 at a cost of $799.15. The seaward face of the pier for a length of 309 feet and its outer end were sheathed with spruce flatted to 8 inches in thickness and from 10½ to 15 feet in length. The outer end of the work on a length of 150 feet was raised about 15 inches, and new stringers and flooring put in. During the fiscal year 1898 the sum of $422.87 was expended in removing a shoal of rock 20 feet diameter, and 3½ to 4½ feet in height. The work was done by day labour in the months of August and September.

The total amount expended on this work since it was undertaken in 1885 is $10,770.42, as follows:—

Improvement of channel	$ 3,005 80
Construction of training pier	6,465 47
Repairs to "	1,299 15
Total	$10,770 42

GRANDE RIVIÈRE.

Grande Rivière, in the county of Gaspé, is situated on the Baie des Chaleurs, 21 miles south-west from Percé, and about 30 miles north-east of Port Daniel. Spring tides rise 6 feet 6 inches.

During the fiscal year 1899 the following repairs were effected to the wharf at this place: the sides were sheathed on a length of 556 feet with birch and hemlock timbers 8 inches and 5 inches thick respectively, birch fenders were placed on both inside and outside faces of the three landing stairs; the old sheathing was further secured on a length of 180 feet, the mooring posts were capped with galvanized iron and painted, and the top planking was levelled and partly renewed.

The work was done by day labour at a cost of $773.28.

Total expenditure to 30th June 1900, $41,555.66.

This wharf was transferred to control of Department of Marine & Fisheries on 6th July, 1892.

GROSSE ISLE.

Grosse Isle is an island in the River St. Lawrence thirty-three miles below Quebec and about midway in the river which is nine miles wide at this part.

A quarantine station was established here in 1832 and extensive buildings

have been erected. In 1848 a pier 345 feet long by 48 feet wide, was built at the south-western extremity of the island. In 1866 a small pier 120 feet in length by 28 feet in width was erected at the eastern end of the island for the special accommodation of the sick.

In 1872 the eastern pier was extended and in 1876-7 the western pier, which was much decayed, was repaired and partly rebuilt. The pier was repaired and extended so as to reach 10 feet at low water. During 1881 and 1882, a block 30 x 50 feet dimensions was built at the end of the eastern pier to admit the approach of vessels during low tide. A cribwork block 100 feet in length, was built from the inner end of the pier to the shore and a road 250 ft. long constructed to the main highway.

Neap tides rise 13 feet; springs rise 18 feet.

IBERVILLE.

The town of Iberville, the *chef-lieu* of the county of the same name, is situated on the eastern shore of River Richelieu, opposite the town of St. Johns, to which it is connected by a bridge for pedestrians and carriages. Population, about 2,000.

In 1897 the Government decided to built a wharf to facilitate the trade by water way.

The structure commenced in March, 1899, is situated at the foot of Market Street, and consists of the following, viz:—

(*a*). A stone embarkment 130 ft. long and 24 ft. wide with slopes of 1 to 1.

(*b*). A trestle approach 150 feet long by a width of 24 feet.

(*c*). A head of pile work 150 feet long, parallel to the channel, by a width of 40 feet, with two slips, and a storehouse 20 by 24 feet. The outer face of the wharf is 15 feet above the bottom of the river, and stands 3 feet above high water and 9 feet above low water levels.

The work done by day labour was not completed at the end of the fiscal year. Amount expended, $6,784.32.

During the next fiscal year (1899-1900) the sum of $2,098.94 was expended to complete the work and place a crane on the wharf, to accommodate the traffic.

The total expenditure on this work is $8,883.26.

ILE BIZARD.

Ile Bizard is situated on the Rivière des Prairies in the county of Jacques Cartier 27 miles from Montreal.

In 1890 a pier was built consisting of four cribs with ice breakers, 20 x 30 feet at low water line and 20 feet square on top, placed 20 feet apart with a roadway covered with 3-in. pine plank. The approach is 43 ft. in length, the total length of the pier is 206 feet.

Total expenditure to 30th June, 1900, is $8,708.42.

ILE AUX COUDRES.

Ile aux Coudres, with a population of about 1,500, is in the county of Charlevoix, 62 miles east of Quebec and 1½ miles from the north shore of the St. Lawrence, the upper end being opposite Baie St. Paul. The island is 9 miles long and 3 miles broad. It is divided into sixty-five farms, from which potatoes are the main produce. Spring tides rise 20 feet, neap tides 13 feet.

Construction.—In November, 1880, a contract was entered into with a large number of the inhabitants of the island on behalf of the municipality, which had voted $4,000, to supplement a like amount voted by parliament for the construc-

tion of a landing pier on the north shore of the island. The pier was commenced in 1881 and completed in 1882, the amount expended being $3,718. The structure is 272 feet long and 20 feet wide, with the exception of a length of 74 feet at the the outer end, which is 32 feet wide. It is 40 feet high at the outer end, where a dept of 16 feet is available at low water spring tides. In 1883 a freight shed was constructed at the inner end of the pier at a cost $250. It 1884 the outer end of the pier having sunk considerably and the outer face being damaged by ice, repairs were commenced and completed in 1885 at a cost of $1,298.51. In 1888 the sum of $249.94 was expended in repairing fenders broken by ice. In 1890 two spans between inner piers were filled with cribwork to prevent a strong current running across the pier, at a cost of $861.92. In 1893 and 1894 general repairs were effected ; the outer end was raised 3 feet on a length of 50 feet, part of the planking was renewed and ballast put in, the amounts expended being $252.46 and $1,199.14 respectively in each year. In 1896 the broken timbers at the end were replaced and sheathed over, 100 feet of floor stringers were renewed and ten toise of stone ballast was put in at a cost of $359.02. In 1897 trifling repairs to the corner sheating were done at a cost of $147.66.

During the fiscal year 1899 the top of the pier was entirely renewed on a length of 125 feet, 4 feet high. The face timbers which had been broken by ice at the outer end were renewed on a height of 6 feet and a length of 10 feet, with short pieces of ties put in. The sheathing on the outer end and 20 feet on each side, making a total of 70 feet, was renewed with maple timber 6 inches thick. The 3 inch sheathing on each side was repaired as well as the outer slip. The work was done by day labour at a cost of $998.34.

During the last fical year 100 planks were renewed in the top flooring at a cost of $50.09.

The total amount expended at this place is $9,385.38, as follows :

Construction	$4,829 92
Repairs	3,557 12
Renewal of top	998 34
Total	$9,385 38

ILE AUX GRUES.

Iles aux Grues, or Crane Island, with a population of about 640, is an island of 7,873 acres in extent which lies in the St. Lawrence, opposite Cape St. Ignace, 30 miles below Quebec. Spring tides rise 18 feet. Neap tides, 10 feet.

Construction.—In 1862, an isolated block and lighthouse were erected near the upper end of the island, in the harbour of Pointe aux Pins, at a cost of $10,334.42. The block was placed about 140 feet above low water line of spring tides and was used as a landing for passengers and freight during the period of high water. To enable vessels to call and land passengers and freight at low water, a contract was entered into in November, 1881, for the construction of a pier 171 feet long, 25 feet wide at its inner end, 35 feet wide at its head, and 27 feet high, projecting from the block into four feet of water at low water spring tides. The work was completed in 1883 at a cost of $11,716.17, but as it was not connected with the shore the accommodation it afforded to passengers and freight was so poor that it was decided to complete the structure. On the 30th January, 1884, a contract was therefore entered into for the construction of cribwood extension to shore, 468 feet long, 25 feet wide and from 7 to 15 feet high, which was completed in 1885 at a cost of $9,848.27. The right of way from the shore end of the pier to the main road which had not been secured was purchased in 1894 at a cost of of $200, and in 1895 a sum of $45.55 was paid for professional services in connection with the purchase.

The pier is now 639 feet long, of a uniform width of 25 feet apart from its outer 75 feet which is 35 feet wide, and 27 feet high at its head which stands in four feet of water at low water spring tides. A portion of the block built in 1862 still remains, on the eastern side of the present pier. The whole work is built of close-faced cribwork, with square timber 12 by 12 inch dimensions, and is filled with stone ballast. Its outer end and corners, and the inner corner of the portion 35 feet wide are sheathed with timber eight inches in thickness. The cross-ties and longitudinals are round logs not less than 14 inches diameter at the small end.

Repairs.—No repairs were effected to the pier up to the year 1899; but, during the month of August, 1898, a portion of the flooring which had become dangerous was renewed, a path four planks wide was laid over the old flooring on the whole length of the structure; two ladders were placed, one on each side of outer end, and a snubbing post renewed. The work was done by day labour at a cost of $105.58.

The total amount expended on the work is $32,249.99, made up as follows;—

Construction, before Confederation	$10,334 42
do since do	21,809 99
Repairs	105 58
Total	$32,249 99

ILE PERROT (SOUTH).

Ile Perrot is an island in the county of Vaudreuil, at the confluence of the Rivers Ottawa and St. Lawrence, and between the Lake of the Two Mountains and Lake St. Louis. This island divides the Ottawa into two branches.

Both the Grand Trunk and the Canadian Pacific Railways cross the northern part of the island; but the nearest railway station to the parish and village of Ile Perrot, on the north shore of St. Louis are those of Vaudreuil and Ste. Anne de Bellevue. The population of the parish is 860, and trade is principally carried on with the city of Montreal, viz., farm produce.

In 1887-88-89, a public wharf was built on the south shore of the island, on Lake St. Louis, about 1½ mile below the parish church of the village of Ile Perrot. This wharf, as completed in 1889, is 611 feet long, and consists of: (*a*) a head block 120 feet by 30 feet sunk in 8 feet depth at low water, with return 34 by 16 in the rear of the east end; (*b*) nine cribs 24 feet wide, five being 20 feet long and four 12 feet long, and which are placed at intervals of from 22 to 25 feet and connected at top by timber spans of stringers and planking; (*c*) a shore abutment or approach 182 feet long and 16 feet wide. A freight and shelter shed 16 feet by 20 feet has also been erected in connection with this wharf.

In September 1899 a number of planks on the approach were renewed at a cost of $165.81.

The amount expended on this work is as follows, viz:

Construction	$12,420 55
Repairs	559 74
Total	$12,980 29

ISLE PERROT (NORTH).

Ile Perrot is in the St. Lawrence, south-west of the island of Montreal, between Lake of Two Mountains and Lake St. Louis. The island is about 7 miles long, and is in the county of Vaudreuil.

In 1897-8 a small wharf with a right of way on the north side of the island

was purchased from Mr. Joseph Leduc for the purpose of providing a convenient landing on the Ottawa River shore. This right of way is 400 feet long and extends from the public road to the wharf, the first 355 feet having a width of 30 feet, and the remainder near the river a width of 100 feet. The wharf is close to and parallel with the shore, and is 20 feet wide by 52 feet long, at the head, being inadequate to the requirements of the traffic and in a dilapidated condition. An outer block was built close to the old wharf with a landing face of 80 feet and a width of 20 feet. This work, done by day labour, was commenced in June, 1898, and was not completed at the end of the fiscal year. It is built of close-faced timbers to a height of 19 feet and is sunk in 13 feet water.

A good road on the site of the right of way was also built from the public road to the wharf.

Amount expended, $841.98.

During the last fiscal year the wharf commenced in 1898 was completed by day labour at a cost of $2,486.73.

Total amount expended is $3,328.71.

This wharf was transferred to control of Department of Marine and Fisheries on 6th October, 1897.

ISLE VERTE.

The village of Isle Verte, the chief town of the county of Témiscouata, is situated on the south shore of the St. Lawrence, 16 miles below Rivière du Loup and 131 miles east of Quebec. It has a population of 4,500 and contains flour, carding and saw mills, and carriage and threshing machine factories. Spring tides rise 19 feet. Neap tides, 12 feet.

Construction.—In 1888 the construction of a landing pier was commenced by the building of an isolated block 50 feet long, 40 feet wide and 20 feet high at a distance of 1,300 feet from high water line of ordinary spring tides. The sum expended was $3,606.30. The approach was commenced in 1889 and completed in 1893 at a cost of $15,991.50. The pier is now 1,307 feet long, and consists of an open-faced cribwork approach 1,257 feet long, 21 feet wide, of an average height of seven feet, and of a head block 50 feet long and 40 feet wide. The head of the pier, which is 18 feet high above the bottom of the river, is dry at low water spring tides, but stands in 16 feet of water at high water. The top of the pier is two feet above high water spring tides.

Repairs.—In 1894, the north and east sides of the head block were sheathed with rock elm four inches in thickness, and strengthened by three iron straps four inches wide and 5/8 inch in thickness. The outer block was also floored and four ladders were fixed to its sides; expenditure $998.28. In 1895 the south and west sides of the head block were sheathed with rock elm, and other work performed at a cost of $903.02. In 1898 the flooring of the approach at its inner end, was entirely renewed on a length of 350 feet and the rest repaired. The middle pathway, 4 planks wide, was renewed from end to end of the approach, the cap pieces were partly renewed and the snubbing posts were painted. The work was performed by day labour at a cost of $600.

During the last fiscal year the face timbers on the eastern side of the pier, which had been broken by ice, were renewed on a length of 250 feet, 2 and and 3 courses in height and short pieces of cross ties inserted, 193 planks were renewed in the top planking, 52 birch fenders, 18 feet long, were placed on the eastern side and at the end and 10 toises of stone ballast were put in where required.

The work was done by day labour at a cost of $500.93.

The total amount expended on this work is $22,600.03 as follows:

Construction	$19,597.80
Repairs	3,002.23
	$22,600.03

KAMOURASKA.

The village of Kamouraska is a favourite summer resort, situated on the south shore of the St. Lawrence, in the county of Kamouraska, 90 miles below Quebec. Spring tides rise 19 feet, neap tides, 12 feet.

Construction.—In 1887, a landing pier 190 feet long, 35 feet wide and 15 feet high at its outer end, was purchased for the sum of $1,000.00, thoroughly repaired, and portions of it were rebuilt at a cost of $2,818.37. In 1890 a close faced cribwork extension 109 feet long, 25 feet wide, and 19½ feet high at its outer end, was built at a cost of $2,855.09. The pier is dry at low water, but at high water of ordinary spring tides, a depth of 16 feet is available along the end and sides of the extension built in 1890. The top of the work stands 3½ feet above ordinary high water spring tides. During the fiscal year 1899 an extension 150 feet long and 25 feet wide was partly constructed but not completed, as at the end of the fiscal year there still remained 9 feet in height to be built, the amount expended was $5,020.22.

Repairs.—In 1891, the outer portion of the eastern face of the old work purchased in 1884 was demolished and rebuilt with an inclined slip 76 feet long and 10 feet wide at a cost of $898.63. In 1897 the whole western face of the same work, 180 feet in length, was taken down and rebuilt for a width of 12 feet. The work was performed by day labour at a cost of $995.62. In the year 1898 the inner portion of the eastern face of the old work, 110 feet in length, not rebuilt in 1891, was taken down and rebuilt for a height of 5 feet, the floor stringers and flooring were renewed on a length of 80 feet, both faces of the structure were sheathed with 3 inch deals on a total length of 190 feet, 48 cubic yards of stone ballast were placed in the slip, three snubbing posts were renewed and four ladders were placed, two on each side of the structure. The work was done by day labour at a cost of $743.63.

During the last fiscal year the 150 feet extension was completed and covered with 3-inch planks, and two ladders were placed on each side of the extension, the amount expended was $2,005.45. The total amount expended is as follows :—

Purchase of the work	$ 1,000.00
Construction	12,700.03
Repairs	2,637.88
	$16,337.91

KNOWLTON LANDING.

Knowlton Landing is situated on the west shore of Lake Memphremagog, in the county of Brome, P. Q., and about 11 miles from the town of Magog, which is at the foot of the Lake.

During the fiscal year 1891-92 an extension to the wharf was constructed. This extension of 51 feet by 75 feet was built of hemlock piles, covered with stringers and 3 inches planking at a cost of $971.22. There is a depth of nine feet at low water at the end of the present wharf, which will permit of the steamers calling at all stages of water.

During the next year six fender piles were driven along the front of the wharf and three at each corner. A warehouse, with waiting-room, 40 feet by 23 feet was built and covered with an iron plate roof at an expenditure of $918.09.

In the fiscal year 1899-1900, all the stringers and planking were renewed, also the corners fenders piles, and some repairs to the storehouse and stone approach, and the wharf is now in good condition. The work was carried out by labour day at a cost of $714.12.

The total expenditure of this work is as follows :

Construction	$1,889.31
Repairs	714.12
	$2,603.43

LACOLLE.

The village of Lacolle is situated in St. John's County. The wharf generally known as the Lacolle wharf is, however, situated on the east shore of the Richelieu River in the County of Missisquoi, 2 miles from Lacolle.

The wharf is built of piles and is 100 feet long by 100 feet wide and stands 6 feet above high water level. There is a depth of 16 feet 6 inches at its head.

LAKE MEGANTIC.

Lake Megantic, is about 73 miles S.E. of Sherbrooke ; length, 12 miles ; average breadth, two to four miles, with a coast line of over 36 miles. This lake and the rivers that run into it, form the head waters of the Chaudiere River.

From the year 1882 to 1886, six wharfs were built on the shores of this lake to accommodate the trade of the several localities at St. Agnes, Lourdes, Flint, Victoria Bay, Ditchfield, Lake Magantic and Piopolis.

St. Agnes (late Morinville) is situated at the mouth of the Chaudiere River in the county of Beauce. The construction of the wharf was commenced in the year 1882-3 and completed during 1883-4 at a cost of $5,876.78.

Lourdes is situated on the south-east corner of Lake Megantic, in the county of Compton. In 1883-4 a small wharf 190 feet long was built at a cost of $1,194.71. In 1889-90 some slight repairs were made at a cost of $169.68. In 1890-1 it was damaged by an ice shove and was repaired at a cost of $500.

The total amount expended on this work is $1,864.39.

Flint's wharf was built in 1884-5 at a cost of $1,712.41. In 1886-7 it was damaged by ice and was repaired at a cost of $323.78. In 1889-90 some small repairs were made at a cost of $156.26. The total amount expended on this work is $2,192.45.

Victoria Bay is situated in the township of North Marston in the county of Compton. In 1885-6 a small pier was built at this place for the accommodation of the local trade at a cost of $854.20 and some slight repairs were made to it in 1889-90 at a cost of $80.00.

Ditchfield.—A small pier was built at this place in 1886-7 at a cost of $1,484.75.

Piopolis is a post village in Compton Co., on the west shore of Lake Megantic, 11 miles from Lake Megantic village, on the Canadian Pacific railway. The wharf at this place was built in 1882-3 at a cost of $721.60. It is built of solid cribwork filled with stones, with a covering made of gravel. In 1887-8 some small repairs were made to it at a cost of $77. In 1897-8 a vote of $2,500 was granted to raise and repair the Government wharfs on Lake Megantic, on account of the rise in the lake level caused by the dam which the Montague Pulp Co., built in 1895 across the Chaudiere Rivir at its outlet from the lake. The wharf was repaired and raised five feet above its original height and a covering made to it in gravel at a cost of $623.05.

The total amount expended on this work is $1,421.65.

Lac Megantic is a post village in Compton Co. on the Canadian Pacific railway, 60 miles from Sherbrooke.

This wharf was repaired in 1889 ; again repaired and raised 4 feet in 1898. During the last fiscal year an open shed 20 x 30 feet was built on the head of

the pier, with a waiting room and small freight shed and the whole painted two coats, the work was done by day labour at a cost of $302.08.

The total amount expended in repairing this pier since its construction is $2,419.58.

Megantic wharf was transferred to control of Department of Marine and Fisheries on 14th July, 1887.

LANORAIE.

The village of Lanoraie is situated on the north shore of the St. Lawrence, in the county of Berthier, 46 miles below Montreal. It has considerable trade in flour, grain and cordwood.

Construction.—In 1884 the construction of an isolated block, 70 x 30 feet at the bottom and 54 x 27 feet on top, was commenced at a distance of 240 feet from shore; the work was completed in 1885 at a cost of $5,032.01. In 1885 and 1886 the block was connected to shore by an approach 240 feet long, 25 feet wide, and of an average height of 12 feet, at a cost of $6,886.36. The upper or western side of this approach, for a height of 6 feet from the top, was built on a slope of 6 inches per foot and sheathed with 4 inch tamarack planks, and the top of the approach was built on a grade of 4 feet per hundred. The depth of water at the head of the pier is 11 feet at extreme low water.

Repairs.—During the winter of 1887 the approach was damaged by an ice shove, which curved it slightly towards the east. In April, 1891, it was again moved to the eastward by another ice shove, which increased the pitch of the curve to 4 feet at a distance of 80 feet from the head block, and removed two courses of face timber on a length of 42 feet, and five fenders on its lower or its eastern side. Repairs were commenced on November 5, 1891, and completed on the 28th of the same month, at a cost of $416 04. The missing face timbers and fenders were replaced, and fender piles were driven 10 feet apart along both faces of the approach.

General repairs were effected to the pier in 1896-7 at a cost of $1,008.27. The face timbers, fenders and cap pieces were renewed wherever broken or decayed, and the sloping faces of the head block and of the approach were resheathed. During the year 1898 the flooring of the pier was completely renewed with 3 inch hemlock deals, and general repairs were effected, at a cost of $531.30.

During the fiscal year 1899, the stone "talus" in front of the wharf, which had been carried away by ice, was rebuilt.

The work was done by day labour, at a cost of $558.77.

The total amount expended on this work is $13,873 98, $11,918.37 being for construction, and $1,955.61 for repairs.

LAPRAIRIE.

Laprairie is the chief town of the county of the same name, and is situated on the south shore of the River St. Lawrence, 7 miles above Montreal. It contains churches for the Episcopalians and Roman Catholics, a convent, an orphans' home, a foundry, a saw and carding mill, a brickyard, telegraph office, eight hotels and about twenty stores. A steam ferry runs between Laprairie and Montreal, making several trips a day. The population is about 2,500. It is a beautiful spot, near Lachine Rapids, much frequented in the summer.

The Government has undertaken to protect Laprairie from the disastrous effects of the spring floods and ice shoves of the St. Lawrence by constructing ice breaking piers, a revetment wall of cribwork some 1,650 feet long and 20 feet wide along the shore of the river in front of the town, and an earth embankment 1,600 feet long at its upper limit. These works, commenced in 1886-7 and conti-

nued every year since, are completed, and are certainly a good protection to the town.

In 1886-7 two ice piers were built about 250 feet apart at the upper end of the town facing the St. Lawrence River, to prevent damage being done to property during the breaking up of the ice in the spring. The piers have proved very effective and cost $6,736.19. In 1887-8, to prevent a repetition of the past disastrous floods, an earth embankment was constructed inward from the shore for a length of 1,600 feet at the western limit of the town. A cribwork retaining wall was also built for a length of 480 feet half way between the eastern ice breaker and the Richelieu Company's wharf. This wall is 20 feet wide, 10 feet high from low water mark and is filled principally with stone, and cost $4,989.75. In 1888-9, another cribwork retaining wall 335 feet in length from the Richelieu wharf, westward, was commenced and completed to a height of 16 feet above low water mark during the year 1889-90, at a cost of $7,560.52. It is built of open work, 20 feet in width, with a batter of one in twelve on the outer face. In 1890-1, some general work was done in sheathing the walls previously built, at a cost of $658.58. In 1891-2 the retaining wall at the lower end of the town adjoining the Richelieu wharf, was extended a further distance of 131 feet at a cost of $2,495.10. In 1892-3, a further extension to the wall 420 feet long was built, to a height of 8 feet above low water mark, at a cost of $2,589.51. In 1893-4 the remaining portion of the wall built between the eastern ice breaker and the Richelieu wharf, 284 feet in length, was completed to a height of 10 feet, at a cost of $2,387.39. In 1895-6 the sum of $2,015.51 was expended in constructing a stone protection work between the two ice breakers, the distance being 250 feet, and raising a portion of the retaining wall to an elevation of 16 feet above low water mark. In 1896-7, 387 feet in length of cribwork wall was raised to the level of 16 feet, at a cost of $4,400.36. In 1897-8 the revetment wall was completed to a height of 12 feet above low water mark, at a cost of $5,640.64. The whole of this work is built of round logs and filled with stone, and sheathed with 3-inch pine planks. During May and June, 1899, the earth embankment at the southwest of the village, in connection with the protection wall, has been raised from one to two feet to the level of the said protection wall, on a distance of 1,000 feet; the rip-rap from the ice breaker to the embankment, which was badly damaged, has been renewed and put in good condition. The work was done by day labour at a cost of $1,659.86.

The total cost of this work is $41,133.41.

During the fiscal year	1886–7	$ 6,736	19
" "	1887–8	4,989	75
" "	1888–9	7,560	52
" "	1890–1	658	58
" "	1891–2	2,495	10
" "	1892–3	2,589	51
" "	1893–4	2,387	39
" "	1894–6	2,015	51
" "	1896–7	4,400	36
" "	1897–8	5,640	64
" "	1898–9	1,659	86
	Total	$41,133	41

LES EBOULEMENTS.

The village of Les Eboulements, in the county of Charlevoix, with a population of about 900, is situated on the north shore of the St. Lawrence, 72 miles

east of Quebec; the place is somewhat frequented as a summer resort. Spring tides rise 20 feet, neap tides, 13 feet.

Construction.—In order to accommodate the passenger and freight traffic of the locality, which is without railway communication, a landing pier was built 3 miles from the village, in 1853, at a cost of $65,531.52. The pier was built 890 feet long, 30 feet wide throughout, with its head in 10 feet of water at low water spring tides, it has, however, considerably filled, at the present time a depth of only 8 feet is found at low water spring tides. The pier is built with close-face timber and stone ballast; it has a landing slip on each side and at the end.

In 1875 a wing 50 feet long and 42 feet wide was constructed on the eastern side of the head, in order to give a longer mooring face, at a cost of $5,773.97.

In 1883 an open shed was built at the end of the pier over the slip, at a cost of $250.

In 1885 a triangular crib was built inside of the wing built in 1875, to give more room for passengers and freight, a movable slip was also constructed during the same year; the amount expended being $2,198.56.

Repairs.—The cost of repairs effected to the structure, since its construction in 1853 until 1882, inclusive, was $9,676.34. Since then, owing to the strong action of the ice and the wear and tear due to heavy traffic, annual repairs have been required and executed up to 1898, inclusively, for an amount of $6,861.33.

During the fiscal year 1899 the work of renewing the top part of the pier, for a height of 4 feet was commenced, the shore end was renewed on a length of 490 feet, including face-timbers, cross and longitudinal ties, stringers and planking; the movable slip was repaired and four tiers of timber on the side of the slip were renewed, as well as three maple fenders, 12 x 12, on the outer face; the western side, outer end, has been sheathed with 6-inch maple, on a length of 148 feet, and 7 snubbing posts have been renewed. The work was done by day labour, at a cost of $1,502.94.

During the last fiscal year the work of renewing the top part of the pier was continued and completed; the slip on the western side was repaired, stringers and planking being renewed and the railing on the east side was rebuilt on a length of 200 feet.

The work was done by day labour in the months of September and October at a cost of $3,624.59.

The total amount expended on this work is $95,419.25, viz: —

Construction before Confederation	$65,531 52
Extension and improvements since Confederation	8,222 53
Repairs	16,537 67
Renewals	5,127 53
	$95,419 25

This work was transferred to control of Department of Marine and Fisheries on 4th September, 1894.

LES ECUREUILS.

The village of Les Ecureuils is in the county of Portneuf, on the north shore of the St. Lawrence, 25 miles above Quebec. Spring tides rise 17 feet, neap tides 10 feet.

Construction.—During the year 1882 a small landing pier was constructed opposite the village at a cost of $1,517.13. The pier consists of an outer block 30 feet long by 20 feet wide and an inner block 52 feet long by 20 feet wide, both built of timber crib work filled with stone ballast and placed at a distance of 22 feet apart, connected by stringers supporting the top floor and forming a total length of 104 feet. The pier is dry at low tide but at high water spring tides

there is a depth of 12 feet at its outer end. In 1883, some damage having been caused by ice, the sum of $434.45 was expended in rebuilding part of the structure.

Repairs.—In 1886 the sum of $200.00 was expended in repairing the approach which had been partly carried away by the waves. In 1894 the floor stringers and flooring were renewed as well as the corner sheating and the fenders on each side, at a cost of $398.45.

During the last fiscal year the top of the pier was renewed on a height of 3 feet including face timbers, cross ties and floor stringers, the western side, inner end, where the earth approach had been washed away, was rebuilt with timber for a height of 8 feet, 50 feet long and filled with gravel and sand, the slip at the outer end was rebuilt. The work was done by day labour at a cost of $841.73.

The total amount expended on this work is $3,445.76, as follows:—

Construction	$2,005 58
Repairs	1,440 18
	$3,445 76

LEVIS FERRY WHARF.

Levis Ferry wharf is situated on the west side of the entrance of the graving dock.

Spring tides rise 19 feet, neaps 14 feet.

In 1892 extensive repairs were made.

L'ISLET.

The village of l'Islet, in the county of the same name, is on the south shore of the St. Lawrence, 47 miles below Quebec. Spring tides rise 20 feet, neap tides 13 feet.

Construction.—In order to accommodate the extensive lumber trade and traffic in general merchandise of the locality, a landing pier was completed in 1855 at a cost of $113,343 27. The structure is 1,082 feet long and 31 feet wide, with a head block 56 feet long, 116 feet wide and 34 feet high. The depth of water along the outer face of the block is 8 feet at low water spring tides. During the fiscal year 1899, in order to facilitate the unloading of schooners safely under shelter from all winds, a small pier was constructed in the bay on the west side of the shore end of the main pier; the length of the new work is 150 feet, in a western direction, from the stone wall forming the side of the road leading to the main pier, the western end is 15 feet wide for a length of 60 feet, and for the remaining length of 90 feet the width extends to the high rock on the north side, it has a height of 13 feet from the bottom at the outer end and 10 feet at the inner end; the depth of water along the southern face is 9 feet at high water spring tides. The pier is built with open-faced flatted timbers, 10 inches thick, which, for a height of 8 feet on top, consist of cedar. The southern face is sheathed with 3-inch spruce deals, and birch fenders, 6 x 10 inches, are placed every 10 feet, the corners are protected with 6 x 10 inches birch sheathing, it is entirely filled with stone ballast and planked over with 3-inch deals. The work was done by contract in the month of June 1899, at a cost, including superintendence and purchase of land, of $1,474.

Repairs.—The repairs effected to the main structure, before and up to 1875, amounted to $3,590.85. In 1876 a complete restoration of the pier was commenced and completed in 1879, the amount expended being $21,613.36. The superstructure for six or seven courses was taken down and rebuilt with new face timbers, cross ties and longitudinals, and completely filled with stone ballast where required. The shore end of the structure, which was lower than its head and over which heavy seas would break, rendering it dangerous, was raised,

Two sidewalks, each 6 feet wide, were laid from end to end of the pier, and the slips put in good order. From 1880 to 1883 sundry repairs were made to the face timbers, &c., at a cost of $1,361.23. In 1893 the sum of $6,190.34 was expended in renewing the floor stringers, flooring, cap timbers, fenders, &c., over the whole structure, and in general repairs to the slip and stairways. In 1894 and 1897 the sum of $21.55 and $396.80 respectively were expended for sundry repairs. In 1898 the face of the slip was sheathed with spruce 8 inches in thickness, the stairway on the western side of head block was repaired, 100 planks in the sidewalk were renewed, and the roadway was levelled with sand and gravel. The work was done at a cost of $211.63.

The total amount expended on the work is $148,203.03, as follows :—

During the last fiscal year, the outer face of the head block was sheathed with 6-inch birch timber on a length of 115 feet and 14 feet high, some minor repairs were effected to the flooring and earth approach. The work was done by day labour during the months of May and June, at a cost of $999.99.

The total amount expended on this work is $149,203.02, as follows :—

Construction before confederation	$113,343 27
Improvements and reconstruction of superstructure	23,087 36
Repairs	12,772 39
Total	$149,203 02

This work was transferred to control of Department of Marine and Fisheries on 5th February 1893.

LONG SAULT.

Long Sault is situated near the foot of Lake Temiscamingue about 36 miles from Mattawa.

This wharf with a piece of land 50 by 100 feet was purchased from Lake Temiscamingue Colonization Ry. Co. in 1889 for $800.00.

Total expenditure to 30th June, 1900, $3,373.41.

LONGUEUIL.

The town of Longueuil, the *chef-lieu* of the county of Chambly, is situated on the south shore of the River St. Lawrence, nearly opposite the eastern end of the City of Montreal.

Construction.—The Richelieu and Ontario Company own a wharf at the upper end of the town, but its long distance from the business or center portion and the increasing trade demanded new wharfing accommodation. At the request of the town council, the department therefore decided in 1886 to built a landing pier at the foot of Alexander Street. In November 1886, a contract was entered into for the construction of the outer portion of the pier, which was commenced at a distance of 675 feet from shore. It consisted of a close-faced cribwork structure, 430 feet long and a uniform width of 20 feet, apart from its outer 90 feet, which was 30 feet wide. It was completed in 1888 at a cost of $12,491.66. In October 1889, another contract was entered into for the construction of a block 40 feet long and 50 feet wide along the lower face of the existing pier at its outer end, and of a close-faced cribwork extension to shore, 675 feet long and 20 feet wide, with six buttresses 10 feet wide along its lower face. The work was completed in 1891, at a cost of $16,248.30. The landing pier was then, 1,105 feet in length, including the block at the outer end, which was 40 feet long and 80 feet wide; the first 90 feet of the pier adjoining the block was 30 feet wide, and the remaining 975 feet to shore, 20 feet wide. The outer face of the block was 16½

feet high above the bottom of the river, and stood in seven feet of water at extreme low water level.

Repairs.—The portion of the pier completed in 1888 was damaged by ice in the spring of 1889, which necessitated an expenditure of $1,517.77 for repairs. In 1892 the departmental dredge *St. Louis* commenced work at the head of the pier, but found the material too hard for her machinery, and after removing 45 cubic yards of hard-pan, at a cost of $24, she ceased work. During the spring of 1892 the head of the pier was damaged, and the block 40 by 50 feet built in 1890 was carried 10 feet down stream. The opening was filled with cribwork and the plank covering was removed and replaced with stone and gravel at a cost of $2,196.63. In the spring of 1893 the head of the pier with the adjoining 180 feet was moved bodily 13 feet down stream by the ice In order to give additional weight to that portion of the pier, which is the most exposed to the action of drift ice, it was decided to widen it by means of cribwork built at an angle with the approach, and on a line from the lower inner corner of the head block to the outer corner of the first buttress, a distance of 354 feet, and to fill with earth and stones the area thus inclosed. A portion of this work was carried out in 1894, when a crib 250 feet long, 12 feet wide and of an average height of 13 feet, was built in the position above described, and the area between it and the original structure filled level with the top of the pier. The work was done by day labour at a cost of $2,948.70. In 1895 the remaining portion, 104 feet in length, of the work commenced in 1894 was completed, and the spaces between the buttresses were filled with close-faced cribwork in order to better enable the work to resist the action of the ice. The expenditure incurred was $4,214.19. In 1896 some necessary repairs were performed to the sheathing and face timbers of the upper face of the pier at its outer end, and a gravel roadway 12 feet wide was laid from end to end of the structure, at a cost of $284.11. Minor repairs were effected to the roadway in 1897 at a cost of $284.56 and during 1897-98 the roadway was again repaired at a cost of $160.66. The pier is now 1,105 feet long and reaches a depth of 7 feet at the lowest stage of the St. Lawrence. It is 30 feet wide for the first 700 feet from shore and from 30 to 90 feet wide for the remaining 405 feet, which constitutes the head of the structure. Extensive repairs were required to the upper face of the work at its outer end, which had been almost completely broken up by the ice.

During the fiscal year 1898-9 extensive repairs were performed to the upper face of the wharf at its outer end, which had been almost completely broken up by ice. The damaged portion was removed and rebuilt with close-faced timber 220 feet long, 20 feet wide and 18 feet high. A wing, 50 feet long, 20 feet wide, terminated at its upper end by ice-breaker 26 feet high, was built on the western side of the wharf at its outer end and at right angles with it. The structure is of close-faced cribwork, filled with stone ballast.

As the whole structure had unevenly settled, it was raised 1 to 3 feet, and the filling with stone and gravel was not completed at the end of the fiscal year.

The work was done by day labour at a cost of $9,986.59.

During the past fiscal year, (1899-1900) the work was continued in July and completed in September, at a cost of $2,017.21.

The total amount expended on this work is $52,674.38 as follows:

Construction	$28,739 96
Repairs	11,930 62
Reconstruction of outer end, construction of ice-breaker and general repairs	12,003 80
	$52,674 38

LOTBINIÈRE

The village of Lotbinière, in the county of the same name, is situated on the south shore of the St. Lawrence, about 40 miles above Quebec. It has no railway communication and entirely depends for exchange of supplies on bateaux and market steamers from Quebec. Spring tides rise 14½ feet; neap tides, 8½ feet. A landing pier was built at this place in 1865 by the municipality, but it was soon destroyed by the heavy ice shoves. Since that time a dangerous and inconvenient trestle structure, removable in winter, has been maintained by the steamboat company. In order to provide more suitable and permanent landing facilities, an isolated block was built during the year 1897 at a distance of 500 feet from high water line. The work was done by contract at a cost, including superintendence, of $5,284.60, and was completed in October. It is a solid close-faced cribwork structure, 75 feet long, 25 feet wide at the top, and 96 feet 4 inches wide at the base. Its upstream end and inner face are built on a slope of 1 in 1, and its outer and lower faces are battered 1 in 12. The top of the upstream end of the work, for a length of 15 feet, stands 19 feet above the level of extreme low water spring tides, the height of the remaining 60 feet being 16 feet above the same level. The depth of water along the outer face of the work is 1½ feet at extreme low water spring tides. The work was substantially built of 12 by 12 inch timber, sheathed on its slope with 9-inch hemlock, on its two outer faces with the same kind of timber 4 inches in thickness, and filled with stone ballast. It has successfully withstood the action of the ice shoves. The block is connected to the shore by trestle work which has to be removed in the fall and replaced in the spring; in the month of May 1899, the trestles were placed at a cost of $188.92.

The total amount expended on this work is $5,473.52, of which $5,284.60 for the construction, and $188.92 for maintenance.

LOURDES.

Lourdes is situated on the south-eastern corner of Lake Megantic, in the County of Comptou. In 1883-4, a small wharf 190 feet long was built at a cost of $1,194.71. In 1889-90, some slight repairs were made at a cost of $169.68. In 1890-91 it was damaged by an ice shove and was repaired at a cost of $500.00.

The total amount expended on this work is $1,864.39 as follows:—

Construction	$1,194 71
Repairs, etc.	669 68
	$1,864 39

MAGOG.

The town of Magog, in the County of Stanstead, is situate at the outlet of the Magog River from Lake Memphremagog, and is a station on the Canadian Pacific Railway. It is a sub-port of entry and contains saw, grist and cotton mills and carriage factories.

In order to accommodate the local trade, a landing pier was purchased in in August, 1875, for the sum of $2,500. It is situate opposite the railway station, and is a pile structure 430 feet long, 21 feet wide for the first 305 feet from shore and 40 feet wide for the remaning 125 feet. Its head is 12½ feet high above the bottom of the lake and stands in 7½ feet of water at low water.

Repairs.—In 1896-97, the most urgent repairs to the flooring were effected at a cost of $154.82. During the year 1899 a number of broken planks in the flooring were renewed at a cost of $42.85. The pier still requires extensive repairs to place it in good order for shipping and landing purposes.

In 1899-1900 extensive repairs were made, comprising the renewal of three fourth of the flooring, a number of stringers, and some piles were also renewed, a new store house was built and a guard railing was placed, at a total cost of $530.07.

The total amount expended on this work is $3,227.74, which includes the purchase price, $2,500.00 and $727.74 for repairs.

MATANE.

The village of Matane, in the county of Rimouski, is situated on the south shore of the St. Lawrence, at the mouth of the Matane River, 240 miles below Quebec, and 30 miles by way of Little Metis from St. Octave, the nearest point on the Intercolonial railway. It contains several saw and grist mills and 1 spool factory. Spring tides rise 14 feet; neap tides, 6·70.

Construction.—In 1879 a sum of $10,000.00 was appropriated for the construction of a landing pier, and was expended by day labour by a syndicate appointed by the municipal authorities under the supervision of the department. The pier is built at the mouth of the Matane River along its western shore, and runs parallel to its channel. It consists of 10 cribs 30 feet wide, placed 25 feet apart, and connected by platforms. The lengths of the cribs are: one of 60 feet, four of 30 feet and five of 15 feet, making a total length of 480 feet. The pier is dry at low water, but has six feet of water at its outer end at one-third flood, and 15½ feet at high water spring tides. A further sum of $72.43 was expended on this work in 1880.

In order to prevent the sand from passing through the spaces left between the cribs, into the channel of the river, these openings were closed in 1882 and 1883 with rows of close piling driven along the eastern face of the work. The unprotected corners of the cribwork which had been damaged by ice were repaired. The total amount expended during the two years was $5,358.36. In 1884 pile protection works were commenced along the east shore of the river to prevent the inflow of sand into its channel. The amount expended was $199.19. The works were completed in 1887, when a further sum of $500.21 was expended.

In 1886 a landing pier 60 feet long, 30 feet wide and about 20 feet high was built at the lower outer corner of Messrs Price Brothers' wharf at a cost of $1,499.75. In 1892 it was connected to the shore by a block and span structure, 160 ft. long and 12 feet wide, and the pier itself was raised and general repairs effected at a cost of $1,261.79. In 1893 an extension 185 feet long and 30 feet wide, was commenced to the pier constructed in 1886. The work was completed in 1894 at at a cost of $4,183.83. It consists of four cribs 20 feet long and 30 feet wide and of an average height of 20 feet, placed 25 feet apart and connected by platforms. The landing pier is now 245 feet long 30 feet wide and of an average height of 20 feet. The depth of water at its head which was five feet at low water spring tides at the time the work was completed, has since shoaled to one foot.

In order to prevent, by scouring, the accumulation of sand in the channel of the river, it was decided, during the year 1897 to connect the two existing works by a continuous structure. Plans were therefore prepared for a training pier, 640 feet long and 20 feet wide, built of pilework, close faced on its channel side, and floored on a width of 12 ft. so as to make it available as a landing pier. Tenders were called for the work, which was not, however, carried out owing to objections raised by some of the residents. The only amount expended was $160.68 for printing and advertising.

Repairs.—In 1885 the cribs which form the pier built on the western shore of the river at its mouth were repaired. The expenditure being $540.97. In 1895 and 1896 the same structure was thoroughly repaired. The piles placed along its eastern face in 1882 had all been broken by ice and carried away, and the corner of the cribs, which the removal of the piles had left unprotected, had been badly

damaged. General repairs were therefore effected to the piers, a new row of piles 10 inches square was driven along the whole face of the work, which was further protected by large stones deposited along its base. The work was done by day labour at a cost of $1,547.94.

During the year 1899 a sum of $396.22 was expended in sheating the outer end of the same work.

Notwithstanding the frequent repairs effected to the various Government works at Matane, repairs which at times amounted to partial reconstruction, they are all in very bad condition due to the action of the ice. The pile protection works built on the east shore of the river have entirely disappeared; the landing pier at the mouth of the river has again been damaged by ice, and the one adjoining Messrs. Price Brothers' wharf is in a delapidated condition.

The total expenditure on this work since 1879 is $30,721.37, as follows:—

Construction and improvements	$28,236 24
Repairs	2,485 13
Total	$30,721 37

MISTASSINI.

Mistassini, county of Chicoutimi, is a settlement on the river of the same name, near its confluence with "Rivière au Foin," or Riviere Mistassini, being 30 miles to the northward of Roberval on the west side of Lake St. John, and 18 miles above the mouth of River Mistassini on this lake. Besides the parish church, there is in the locality a monastery of Trappist Fathers; also a grist-mill, a saw-mill and a cheese factory: Population 400. The side-wheel steamer "Colon," drawing 3½ feet of water and carrying 200 passengers, and a considerable quantity of freight, is subsidized by the local Government, and calls regularly, twice a week, during the season of navigation. In 1896-97, a public wharf was built for the accommodation of the rapidly increasing number of settlers on the fertile land around Lake St. John, on the east side of River Mistassini, immediately above its junction with Rivière au Foin. The structure consists of a fully ballasted close-faced timber crib 30 feet long 30 feet wide and 20 feet high at the outer end, which is floored over with 3 inch plank; along the outer face there is a depth of 5 feet at low water. Amount expended, $681.04. In 1897-98 a further amount of $150 was expended to build a combined freght and shelter shed 25 feet by 30 feet, at the end of the wharf. An amount of $23 84 was also paid for sundry accounts. Amount expended $173.84.

Total cost of construction, $854 88.

Total expenditure to 30th June 1900 is $1,354.88.

MONTMAGNY (ST. THOMAS)

The town of Montmagny, in the county of the same name, is situate on the south shore of the St. Lawrence, on the Intercolonial railway, 40 miles below Quebec. The Rivière du Sud flows through the middle of the town. Spring tides rise 20 feet; neap tides, 13 feet.

Construction.—In 1879-80 an isolated block, 30 feet square, was built in five feet of water at low water spring tides, on the west side of the basin, within the mouth of the Rivière du Sud and three-quarters of a mile from the town. The cost of the structure was $1,513.09. In 1881 the block was extended shorewards 25 feet and an approach 150 feet long and 24 feet wide was built to shore at a cost of $3,743.89. In August, 1896, the superstructure of the work was burnt down to seven feet below the top of the flooring, and the lighthouse, which had been erected upon it by the Department of Marine and Fisheries, was also

destroyed. The superstructure was rebuilt in 1897, and the work fully ballasted where required. A small waiting room was also erected at the shore end of the pier, a lighthouse built on its outer end, and the approaches repaired. Total expenditure, $4,046.51. The pier is now 205 feet long; the outer 55 feet are 30 feet wide, and the remaining 150 feet, 24 feet wide. The depth of water along its outer end is 3½ feet at low water spring tides.

Repairs.—From 1883 to 1886 an amount of $2,607.96 was expended on repairs to the pier and to the roadway leading thereto. In 1887 a number of boulders was removed from the bed of the Rivière du Sud in the vicinity of the head of the pier at a cost of $1,999.69. In 1889-90-93 and 1894 sundry repairs to the flooring, corner sheathing, cap pieces, etc., were effected at an aggregate cost of $379.50. During the last year the waiting room was repaired and painted at a cost of $52.46.

Total expenditure to 30 June 1900 is as follows :—

Construction and improvements	$11,303 43
Repairs	2,987 46
Total	$14,290 89

MURRAY BAY.

Murray Bay, or Malbaie, is one of the best known and most frequented summer resorts of the north shore of the St. Lawrence, in the county of Charlevoix, 83½ miles below Quebec. The village is situate on both sides of the mouth of the River Malbaie, which empties into a bay one mile deep and about 2½ miles wide at its entrance. At low tide the bay is dry, with the exception of small channels through which the river discharges. The steamers of the Richelieu and Ontario Navigation Company call here daily, and a heavy traffic is done. Spring tides rise 20 feet. Neap tides, 12 feet.

Construction.—In 1855 a landing pier was built off a projecting rock, called Pointe au Pic, situate on the west shore of the bay, three miles from the village, at a cost of $53,487 20. It was 470 feet long and 30½ feet wide, with the exception of its outer 70 feet which was 108 feet wide. Its head, which was 36 feet in height, stood in 12 feet of water at low water spring tides. In 1876 an extension 30 feet long, 108 feet wide and 42 feet high, reaching to a depth of 18 feet at low water spring tides, was built along the outer face of the pier at a cost of $14,021.04. In 1883 a moveable slip was placed in the outer face of the structure to accommodate the landing of passengers and freight at all times of the tide, at a cost of $448.06. In 1884 a shed was built to cover the landing slip and a portion of the head of the wharf at a cost of $1,099.11. In 1894 an extension 40 feet long, 35 feet wide and 50 feet high was built along the western face of the pier, at its head, the total expenditure being $5,675.35. The pier is now 500 feet long from end to end. Its landing face is 143 feet long and stands in from 18 to 26 feet of water at low water spring tides. It is built entirely of close faced cribwork, with timber 12 x 12 inches dimensions, and filled with stone ballast. Its cross ties and longitudinals are round logs not less than 14 inches diameter at the small end.

Repairs.—The cost of repairs effected to the structure since its construction in 1855 until 1882, inclusively, was $3,916.00. Since then, however, and owing to the strong action of the ice and the considerable wear and tear due to heavy traffic, annual repairs have been required and executed at a cost, up to 1897 inclusively, of $8,074.81. During the year 1898 the western side and front of the west wing were sheathed with 7-inch rock elm and the main body of the pier was also partly sheated with 3-inch spruce. The flooring was repaired

in places, and two face-timbers at the inner end of the structure were renewed. The work was performed by day labour at a cost of $484.16.

During the last fiscal year the winches, chains and pulleys used in raising and lowering the slip and which had become worn out and dangerous, were renewed at a cost of $275.74.

The total expenditure on this work is $87,431.47, as follows:—

Construction before Confederation	$53,487.20
Extensions and improvements since Confederation	21,243.56
Repairs	12,700.71
	$87,431.47

This wharf was transferred to control of Department of Marine and Fisheries on 15th August, 1893.

NEW CARLISLE.

New Carlisle on the north shore of the Baie des Chaleurs, is the chief town of the County of Bonaventure, distant 65 miles from Campbellton, N B

In 1882 the work of constructing the pier at this place was actively prosecuted, and with the sum appropriated for expenditure during 1882-83, it was expected that the work would be brought to completion.

In 1883, the pier was extended to 300 feet in length, scouring took place making 22 instead of 14 feet at low water, the work sank and was built up to its former height.

A pier 606 feet long and from 29 feet to 49 feet wide, reaching 15 feet depth at low water springs, has been built at this place by the department, between 1881 and 1883, for general landing and shipping purposes. This work was much strengthened, partly re-filled with ballast, and otherwise improved during succeeding years, and in 1890-91 a head block was added measuring 51½ feet in width at the inner and 32 feet at the outer end, and 70 feet in length on an average, and having a depth of 16 to 17 feet along its outer face at low water spring tides. Springs have here a range of 6½ feet and neaps 3½ feet.

The appropriation of $850 made by Parliament at its session of 1897, for repairs to this pier, has been applied as follows:—

1. The head of the pier, which had sunk some 2½ feet was levelled up to the height of the inner portion, over an area of 74 feet long by 40½ feet wide, viz:—to 5 feet above high water level.

2. A wooden building, 24 feet by 34 feet, was erected and fitted up as a combined freight shed and waiting room, with office for agent, etc. This was a much needed improvement, as, when not immediately removed, the freight deposited on the pier is often damaged, owing to the absence of proper shelter, and passengers for the steamer "Admiral" are at times, more especially in the fall of the year, much inconvenienced for want of a suitable waiting room.

3. Sundry repairs required to flooring and slips were attended to,

Total actual expenditure incurred, $849.87.

During last fiscal year the sum of $2,000.00 was expended in renewing the entire flooring on the old part of the New Carlisle wharf which was built previous to 1889.

The shore end was built up on trestle work, to meet a rise of 7 feet over the original flooring, caused by the railway crossing at shore end calling for a clear height of 22 feet under planking.

Guard rails and cap timbers are placed all over on both sides. All the old cedar stringers in work from 1883-84-85 were found sound but all the spruce had to be replaced. The west half on a length of about 400 feet had to be made doubly strong on account of the permission given the Lake Superior and A. R. R.

to place track on wharf. 7,700 feet of square and round cedar were used in effecting these repairs.

NEWPORT.

The village of Newport, in the county of Gaspé, is situated at the mouth of the river of the same name, on the north shore of the Baie des Chaleurs, 88 miles east of Campbellton, N.B., and 50 miles west of Caplan. Spring tides rise 4½ feet; neap tides, 2½ feet. The population of the village is extensively engaged in fishing, which is carried on almost to the exclusion of all other pursuits.

Construction.—In order to provide a harbour of refuge for fishing boats, and affording them easy access into the river and up to the bridge on the public highway, it was decided, in 1884, to improve the mouth of the river by excavating and the construction of suitable works. The works were not, however, completed until 1887, when a sum of $2,778.79 was expended. They consisted of two parallel piers placed 20 feet apart; the west pier was 75 feet long, 12 feet wide, and of an average height of 8 feet; the east pier which was originally 140 feet long, 12 feet wide, and 10 feet high, was extended 90 feet and widened to 20 feet on its whole length, in 1889 and 1890, at a cost of $3,672.03.

Repairs.—In 1891 general repairs were effected to the piers at a cost of $450. During the year 1898 the sum of $26.53 was expended for minor repairs.

During the fiscal year ended June 30 1899, the sum of $244.48 was spent in some small repairs to enable the fishermen to get through the season's fishing (1898).

Material, iron &c were purchased during the past fiscal year for the construction of a proposed new breakwater.

For want of proper timber the construction had to be postponed until next year.

The total amount expended on these works is $8,663.27, as follows:—

Construction	$6,450 82
Repairs	721 01
New breakwater	1,491 44
	$8,663 27

NICOLET.

The River Nicolet empties into the St. Lawrence on its southern shore, at the foot of Lake St. Peter.

In order to protect the schooners loading in the harbour from the force of storms on Lake St. Peter, a jetty was commenced in 1881 and added to each consecutive year.

This work, in 1891, was resumed on the 29th September, the water having been too high to admit of its being commenced before.

The pile-work was discontinued on the 14th October, and the stone filling at the end of November. During this time 200 feet of pile-work were built, making the jetty 3,762 feet in length. It is 13 feet 2 inches in width, and 4 feet above low water, with an average height of 5 feet 6 inches.

Some dredging was done in the channel along the jetty, between the 24th September and the 28th October 1891, the quantity removed amounting to 11,502 cubic yards of sand.

Some damage was caused to the jetty at the beginning of December 1891, about 200 feet of the outer part having been carried away. The remaining section was repaired in the spring at a cost of $1,815.77.

Repairs have been made and dredging done yearly since 1882.

Total expenditure to 30th June 1900, including dredging, is $148,780.54.

PERCÉ.

Percé, Gaspé County, is the *chef lieu* of the District of Gaspé.

The landing pier commenced in winter of 1888 was completed in May 1889. It was built by contract and its dimensions are : length over all on top 320 feet ; width on top 20 feet ; height at outer end 36½ feet of which 26½ feet only are above the bed of the river, it having settled down some 10 feet during construction ; depth of water at outer end is 16 feet at low water spring tides, with a rise and fall of from 5 feet to 5 feet 6 inches in full spring tides and 3 feet ordinary neap tides.

PERIBONKA.

Peribonka is a small village situated at the mouth of the river of the same name on the northern side of Lake St. John.

During the last fiscal year a new wharf was constructed at this place, consisting of a crib 20 by 30 feet and 22 feet high, with a depth of 5 feet at low water at the outer end.

The amount expended during the year was $1,299.31.

PHILLIPSBURG.

The village of Philipsburg is situate on the east shore of Missisquoi Bay, Lake Champlain, in the county of Missisquoi.

Construction.—In the session of 1882 the sum of $4,000 was granted towards the construction of a landing pier, the municipality to furnish a like amount ; a survey was made at a cost of $185.75, which was the only expenditure incurred. A further sum of $32.79 was expended in 1884 for examination in connection with the proposed landing. Owing, however, to the refusal of the municipality to grant its share of the estimated cost of the proposed structure, the work was not carried out, and the scheme was abandoned until 1894, when a new survey was made at a cost of $108.42. In 1895 borings were taken over the site of the proposed structure at a cost of $165.94, and on the 29th of July, 1895, a contract was entered into for its construction, the municipality having subscribed $4,000 towards its cost. The work was completed in 1897, at a cost of $11,142.89. It consists of a breakwater or head block 120 feet long and 25 feet wide, of a trestle work approach 302 feet long and 30 feet wide, and of a stone and earth embankment 285 feet long and 30 feet wide at the top, with side slopes of 1½ to 1. The outer face of the breakwater is 17½ feet high above the bottom of the bay, and stands in 7½ feet of water at extreme low water.

Repairs.—The embankment was considerably damaged by ice and high water in April, 1897. It was thoroughly repaired during the year 1898, and the ballast chambers along the outer face of the breakwater were filled with stone ballast, at a cost of $711.79.

The total amount expended on this work is $12,347.58, $11,635.79 being for construction and $711.79 for repairs.

PIOPOLIS.

Piopolis is a post village in Compton Co., on the west shore of Lake Megantic, 11 miles from Lake Megantic village, on the Canadian Pacific Railway. The wharf at this place was built in 1882-83 at a cost of $721.60. It is built of solid cribwork filled with stones, with a covering made of gravel. In 1887-88 some small repairs were made to it at a cost of $77. In 1897-98 a vote of $2,500 was granted to raise and repair the Government wharfs on Lake Megantic, on account of the rise in the lake level caused by the dam which the Montague Pulp Co. built in 1895 across the Chaudière River at its outlet from the lake. The wharf

was repaired and raised five feet above its original height and a covering made to it in gravel at a cost of $623.05.

The total amount expended on this work is $1,421.65 as follows :

Construction	$721.60
Repairs	77.00
Repairs and improvements	623.05
Total	$1,421.65

POINTE A PIZEAU (SILLERY).

Two miles west of the city of Quebec, on the north shore of the St. Lawrence, a high bluff, called Pointe à Pizeau, projects into the river. On top of this bluff, at an altitude of about 200 feet, are built the church and convent of Sillery, in the village of Sillery.

Construction.—In order to facilitate the landing of passengers and freight from the ferry boat, which, in former years, were landed on a wharf used for piling lumber, the municipal council of Sillery transferred over to the Dominion Government a certain beach property on which a pier had been built many years ago, on the condition that the pier be repaired the transfer was effected in 1898, the pier had a length of 404 feet; 24 feet wide at the inner end and 32 feet wide for a length of 104 feet at the outer end, built of open-faced timber cribwork, filled with stone ballast ; at low water spring tides there is a depth of 21 feet at the outer face.

During the fiscal year 1899, an angular block of cribwork, 49 feet wide, of a mean length of 58 feet and 43 feet high, was built on the western side of the outer end, in 21 feet of water at low water spring tides, the top part of the old pier was rebuilt for a height of 6 feet, with pine and cedar timber, on a length of 100 feet from the outer face, and has since been completed ; the pier is now 444 feet long, 24 feet wide at the inner end, and the outer end for a length of 39 feet, 71 feet wide ; it has a movable slip supported by a pontoon.

At the end of the fiscal year the sum of $5,083.57 had been expended and the repairs completed.

During the last fiscal year the rebuilding of the top pier was continued and a movable slip supported by a pontoon was built at the outer end and a waiting constructed ; the work was done by day labour at a cost of $4,139.48. The total amount expended on this work was $9,223.05.

POINTE AUX ESQUIMAUX.

Pointe aux esquimaux, in the united counties of Chicoutimi and Saguenay, is on the southern shore of the River St. Lawrence, 525 miles below Quebec.

The wharf purchased by the Government in 1895 had a length of 125 ft. and a width of 30 feet. During 1895-6 it was lengthened 60 feet by the construction of a block 30 feet square and 42 feet in height, connected with the old work by a platform 30 feet in length, and the whole work was sheated.

The wharf is now 185 feet in length and a depth of water at its outer end of 25 feet at low water.

PORT AU PERSIL.

Port au Persil is a small post village in the county of Charlevoix, on the north shore of the St. Lawrence, 100 miles east of Quebec and 15 miles below Murray Bay. Spring tides rise 18 feet, neap tides 12 feet.

The harbour of Port Persil is frequented by 10 schooners owned in the locality

and employed principally in shipping cordwood, the vessels are loaded and unloaded while aground at low tide.

In 1889 the sum of $498.40 was expended in clearing the harbour of the most dangerous boulders.

During the last fiscal year, in order to facilittae the grounding of schooners in safety at the inner end of the harbour and afford sufficient sheltered space to winter the vessels, the projecting rocks and boulders were cleared over an area of 100 x 100 feet.

The work was done by day labour during the month of October at a cost of $394.48.

The total amount expended at this place is $892.88.

POINTE CLAIRE.

Pointe Claire, the *chef-lieu* of the county of Jacques-Cartier, is a summer resort on the north shore of Lake St. Louis, 14 miles west of Montreal.

On October 26, 1898, the Government entered into an agreement with the Grand Trunk Railway Co. of Canada, for a lease, for a period of 20 years, of the company's wharf, which is a solid embankment of stone and earth 1,000 feet long, of an average width of 45 feet, situated at the foot of Grand Trunk Avenue

During the fiscal year 1899 a block of close-faced cribwork, 124 feet long, 24 feet wide and 16 feet high, was built at the end of this wharf and at right angles to it, forming a T; the western end of the block is built on a slope to act as an ice-breaker.

The work was done by day labour at a cost of $4,022.06.

In 1899-1900, a storehouse was erected on the eastern side of the approach adjoining the head block, and repairs were made to the roadway, from the shore to the head block, at a cost of $665 25

The total expenditure on this work is as follows:

Construction of head block	$4,022 06
Store house and improvement to road way	665 25
Total	$4,687 31

PORT DANIEL.

The village of Port Daniel is on the north shore of the Baie des Chaleurs, in the county of Bonaventure, about 75 miles east of Campbellton, N. B., and 45 miles west of Percé. Spring tides rise 6 feet: neap tides, 3 feet.

Construction.—During the session of 1886 an appropriation was granted for the construction of a landing pier. The work was executed by contract and completed in 1889, at a cost of $20,487.58. It was 350 feet long from end to end, 20 feet wide for the first 200 feet, 30 feet wide for the next 100 feet, with a block 50 feet square and 26 feet high at its outer end, which stood in 13 feet of water at low water spring tides. On November 15, 1889, a contract was entered into for the construction of an extension 75 feet long, 50 feet wide and 27 feet high at its outer end, reaching to a depth of 13 feet at low water spring tides; the work was completed in October, 1890, at a cost of $12,586.44. The pier is 425 feet long, is built throughout of close-faced cribwork with timber 12 by 12-inch dimensions; the cross ties and longitudinals are round logs, not less than 14 inches in diameter at the small end.

Repairs.—The extension built in 1890 having settled bodily about 3½ feet, it was found necessary in 1895 to lift up the flooring, some cross ties and longitudinals and to rebuild the structure to the height of the main body of the pier. The work was done by day labour, at a cost of $998.54.

Repairs and rebuilding of a similar character had to be effected in 1897 to the main body of the pier, which had settled in places about 3½ feet for a total length of 277 feet. The freight and shelter shed was also removed from its position at the outer end of the original work to the outer end of the extension, and a portion of it was partitioned off and fitted out as a waiting room. The amount expended was $1,992.75.

During 1898 it was found expedient to complete the levelling up of the shore end of the pier for a length of 82 feet, The work was done by day labour, at a cost of $170.51.

During the fiscal year 1899 the sum of $767.89 was expended in filling with stone the undermined portions of the foundation of the wharf, in repairing the south-east outer corner and in renewing a portion of the planking at the outer end.

The total amount expended on the work since it was commenced in 1887 is $37,003.71.

Construction	$33,074 02
Repairs	3,929 69
Total	$37,003 71

PORT LEWIS.

Port Lewis, in the county of Huntingdon, is situated 51 miles south-west of Montreal, on the south shore of Lake St. Francis.

During the year 1899 a right of way together with an old wharf were bought from Mr. S. Carson for the sum of $150.

The upper structure of the old wharf, which was entirely dilapidated, was removed to the low water level and rebuilt in solid cribwork for a height of 6 feet. The wharf has a length of 100 feet, parallel with the channel, by a width of 34 feet for 58 feet of its length, and a width of 20 feet for the remaining 42 feet. The depth of water at the outer face is 8 feet. The approach from shore to the wharf is a solid embankment of stone of 75 feet long and 20 feet wide with slopes of one in one on the sides. There has been erected at the angle of the upstream portion of the wharf and the approach a storehouse 20 x 24 feet.

The work was done by day labour, at a total cost, including the price of purchase of the right of way, of $2,494.47.

RIMOUSKI.

During the last fiscal year, the slip, on the eastern side of the pier, which had been carried away by ice during the previous winter, was rebuilt on a length of 90 feet, 12 feet wide and 23 feet high and filled with stone ballast, the planking on one side of the pier was renewed on a length of 1,500 feet, with 3 inch spruce planks, the stringers and planking at the outer end for a length of 100 feet, also received some temporary repairs. The work was done during the months of September and October, at a cost of $2,499.79.

The total amount expended on this work is $142,265.38, viz :—

Contruction before Confederation	$106,944 80
" since "	13,270 92
Repairs	22,049 66
Total	$142,265 38

This wharf was transferred to control of Department of Marine and Fisheries on 29th June 1894.

RIVIERE DU LIEVRE.

The Rivière du Lièvre flows through the county of Ottawa, and empties into the Ottawa River at Buckingham station, on the Canadian Pacific railway, 18 miles below Ottawa.

The magnitude of the trade and business done on this river, previous to the completion of the lock and dam at Little Rapids, may be judged from the following return of the output of timber and phosphate for the twelve months ended June 30th, 1888 :

Railway ties	40,000
Cedar posts	30,000
Square timber (cubic feet)	154,395
Lumber (B.M.)	46,500,000
Phosphate (tons)	27,537
Mica (lbs)	10,000
Feldspar (tons)	50

The river was then navigable at high water from the village of Buckingham to High Falls, a distance of 22 miles. But, during low water, navigation was practically stopped at the foot of Little Rapids, a distance of 12 miles above the village of Buckingham. Various amounts, aggregating $10,053.68 were expended from 1881 to 1887, in improving the navigation of the river to High Falls ; boulders and ledges of rock were blasted and removed from the bed of the channel through the Long Rapids, situated 7½ miles above the Little Rapids. The channel through the latter was also improved in a similar manner and a floating stage carrying a double-geared winch, was placed at its head to facilitate the passage of barges carrying phosphate. Notwithstanding those improvements, navigation still remained unsatisfactory. A careful survey of the locality was then made, and it was ascertained that any further deepening of the channel through the Little Rapids would tend to lower the level of the water in the upper reaches of the river, and render the driving of logs impossible at any other time than during the very highest stages of the waters.

Construction.—The construction of a lock and dam at the Little Rapids was therefore decided upon and a contract for the execution of the works was entered into with Messrs. Poupore & Co., in December 1886, and completed in April 1892, at a total cost of $233,658.65.

The lock is situated on the east shore of the river. It is built of cut stone masonry in cement mortar, 150 feet long between the gates, 32 feet 6 inches wide at the bottom with eight feet of water on the mitre sills, and a lift of 13 feet 9 inches at extreme low water. Along the western face of the work a retaining wall was built and was carried 143 feet above the uppar end of the latter to serve as a guide pier to the upper entrance. The dam, which is built of close-faced cribwork, is 270 feet long and 34 feet wide at the bottom ; it starts from the western face of the retaining wall opposite the upper gates of the lock, and crosses the streams to the western abutment, which is 65 feet long and 40 feet wide. Through its centre a timber slide 18 feet wide was built for the passage of timber and logs, and booms were strung from the opening to mooring piers placed on each shore of the river 290 feet above the dam.

Repairs.—During the year 1893-94 some necessary repairs were made to the west abutment of the dam and to the lower wharf at a cost of $102.65. In 1894-95, $267.70 was expended in building a protection pier above the west abutment of the dam, to prevent the river from working its way back of this abutment during the spring freshets. In 1895-96 some minor repairs were made in filling holes and depressions in the west embankment, which was sinking in some places and required levelling, at a cost of $115. In 1896-97, the upper portion of

the lower entrance wall, which had bulged out about 14 inches for a length of 100 feet from the masonry of the lock, was taken down and a new wall, 135 feet long by 25 feet wide, built in its place. This bulge was getting worse every year, and it was feared that the pressure of the earth backing would soon cause it to collapse and block the lower entrance of the lock.

The crib 43 feet by 22 feet, built at the head of the western abutment, to prevent undermining was also completed. This crib imperfectly fulfilled its object, a quantity of water still making its way underneath the abutment, and it was found necessary to remove this source of danger by adding three feet to the height of the crib, fully ballasting it and sheathing its outer face from top to bottom. The cost of these repairs amounted to $1,824.39. In 1897-98 the sum of $4,419.94 was expended in rebuilding the retaining wall from the dam to the upper end of the guide pier, a distance of 226 feet, in close face cribwork from the low water level to an elevation of 10 feet with a width of 26 to 32 feet. This reconstruction was absolutely necessary to protect the lock wall, as the face timbers of the retaining wall were gradually being pressed out by the stone ballast, the dovetails of the cross ties having split and decayed, and the cross ties being bent and broken.

The following is a statement showing the cost of the work, repairs and maintenance and the amounts collected during each year, up to and including the fiscal year, 1897-98.

Year.	Cost of Construction	Repairs and Improvements.	Maintenence.	Revenue.	Remarks.
	$ cts.	$ cts.	$ cts.	$ cts.	
1887-88.	43,329 04	.....	.....	.....	Lock and dam in course of construction.
1888-89.	64,506 74	.....	.....	.....	" " "
1889-90.	50,280 50	.....	.....	.....	" " "
1890-91.	40,019 14	.....	.....	.....	Masonry of lock completed and work on dam progressing rapidly.
1891-92.	35,247 72	.....	193 52	.....	Lock and dam completed and first boat locked on 19th of April.
1892-93.	275 51	.....	952 86	243 87	Building 460 feet of booms.
1893-94.	.....	102 65	768 21	532 59	
1894-95.	.....	267 70	840 34	404 30	
1895-96.	.....	115 00	851 60	230 33	
1896-97.	.....	1,824 39	790 79	198 45	
1897-98.	.....	4,419 94	736 19	246 84	
	233,658 65	6,729 68	5,133 51	1,856 38	

From the foregoing statement it will be seen that the revenue collected ha diminished every year, the shrinkage being caused by the suspension of operations on the phosphate mines and the closing up of Messrs. Grondin & Racicot Co.'s saw-mill.

Owing to the flooding of land caused by the construction of the dam, amounts aggregating $4,559.04 were paid as damages.

The total expenditure incurred in connection with this work is as follows :—

Construction	$233,658 65
Repairs	6,729 68
Staff and maintainance	5,133 51
Claims for damages, etc	4,559 04
Total	$250,080 88

During the year 1893-94, after the construction of the lock, the sum of $1,244.94 was expended in removing boulders obstructing the channel through the long rapids.

RIVIÈRE A LA PIPE.

A small village situated on the north shore of Lake St. John at the mouth of the river of the same name, 7 miles north of Grande Décharge.

It contains a Roman Catholic church, two saw mills, one blacksmith shop and three stores. Population 400.

The wharf is situated at a point on lot No. 118, township Taillon, about 1 mile to the westward of Rivière à la Pipe. It is built in a southerly direction about 75 feet from shore for a length of 200 feet and a width of 25 feet and extends to 8 feet depth at the mean summer level of the lake. It is built of close-faced cribwork up to 18 feet during the year 1897-8 and stands 25 feet high when completed.

The wharf will facilitate communication between the northern and southern shores of the lake which are rendered difficult, not only on account of the distances being great by land, but by the state of the roads, or the entire absence of such. The large rivers which flow through the township and territories around Lake St. John also intercept all means of communication and prevent to a certain extent settlement of the lands.

The Quebec Government has built a good road from the public road to the present wharf, a distance of 2 miles. The amount expended at the end of the year 1897-8 was $3,998.21.

During the fiscal year 1899 an addition 50 feet long by 30 feet wide was built at the outer end of the wharf to facilitate the approach.

During the past fiscal year the outer block was raised 5 feet, sheathed for a length of 120 feet and replanked, 25 toises of stone was also placed in the work at a cost of $999.68.

Total expenditure to 30th June, 1900 is $6,997.75.

RIVIÈRE AU RENARD.

Rivière au Renard is one of the most ancient in the county of Gaspé; it is the first important fishing station and business place met with, proceeding from Gaspé Basin along the south shore up the St. Lawrence. The population is estimated at 1,700.

A small landing pier was constructed in 1895-96.

During the last fiscal year the sum of $2,870.51 for materials such as timber, iron, plant and tools, freight, storage and other sundry expenses, out of a vote of $4,000.00 towards the construction of a landing pier and breakwater at Rivière au Renard, Gaspé County.

RIVIÈRE BLANCHE.

Rivière Blanche flows through the county of Rimouski, and empties into the St. Lawrence on the south shore about 224 miles east of Quebec, 26 miles east of Métis and 9 miles west of Matane.

The public pier built near the mouth of this river consists of a head block of solid cribwork, 120 feet by 24 feet on top and about 21 feet high, which is connected with the shore by a block and span structure, 550 feet long, 20 feet wide and some 18 feet high on an average. This pier is an excellent landing place, accessible, at high tide, to vessels engaged in the coasting trade; spring tides rise 14 feet and neaps 7 feet.

During the month of June, 1897, the sheathing around the head block was renewed with 6 inch black birch 9 feet in height, for a length of 250 feet; the top planking was also partly renewed and new snubbing posts put in; work done by day labour at a cost of $892.63.

Total expenditure to 30th June, 1900—$16,960.67.

RIVIERE DU LOUP, (FRASERVILLE)

The village of Riviere du Loup, now called Fraserville, is the *chef lieu* of the county of Temiscouata, and is situated on the south shore of the St Lawrence, 114 miles below Quebec. Spring tides rise 19 feet, neap tides 12 feet.

Construction.—In 1855 a pier built of close-faced timber cribwork, filled with stone ballast, was completed at the extremity of a point of land called Pointe de la Rivière du Loup, about one mile distant from the village, at a total cost of $170,129.35. It was 1,641 feet long and of a uniform width of 30 feet, with the exception of the outer 50 feet, which was 124 feet wide. Its head was 42 feet high above the bottom of the river, and stood in 16 feet of water at low water spring tides. In 1884 and 1885 an extension to the head of the pier, 100 feet long, 50 feet wide, and 42 feet high was built by contract at a cost of $24,158.94. In 1877 a combined waiting room and freight shed was erected on the head of the pier, and some repairs were effected to the hand rail and flooring, at a cost of $3,169.79. In 1891 a hand railing was constructed on the whole length of the pier along its east side, and some repairs were effected to the flooring at a cost of $740.40.

Repairs.—During the first ten years of confederation $1,861.86 were expended on minor repairs. In 1879 thorough repairs were commenced on the pier and were completed in 1883 at a cost of $15,282.93. The structure having sunk to such an extent that the waves washed over it, was raised 3 feet, and a berth for vessels was dredged along its western face to a depth of 16 feet at low water spring tides. The pier was severely damaged by ice in the spring of 1885, necessitating extensive repairs, which were performed in 1886 at a cost of $9,222.78. Sundry repairs to the face timber, flooring, floor stringers, hand railings and slips were effected every year from 1888 to 1897, inclusive, at a total cost of $2,756. During the year 1898 the flooring and part of the floor stringers were renewed on a length of 1,150 feet and a width of 30 feet, the portion of the structure under the railway track has been strengthened, 500 feet of capping were renewed, 16 new snubbing post were put in, painted and covered with zinc caps, two ladders were placed, and part of the old sheating was bolted. The work was done by day labour at a cost of $2,982.23. During the fiscal year 1899 the cribwork forming the angle of the pier, near the shore end, was renewed in a substantial manner on a length of 180 feet, 12 feet wide and 19 feet high, the renewal of the top planking, which was commenced the previous year, was continued and a further length of 340 feet was done, the slip on the north-eastern side, which was considerably damaged by a storm of October 15, 1898, was repaired, four snubbing posts were renewed. The work was done by day labour at a cost of $3,698.47.

During the last fiscal year the renewal of the top part of the pier, commenced two years ago, has been completed, 350 ft. of top planking have been renewed as well as the stringers; the L part, which had settled down two feet, has been levelled on its total length of 140 feet, 50 feet wide; the inner slip on the eastern side has been filled in with cribwork and stone ballast for a length of 50 feet, 10 feet wide and 18 feet high, a hand rail was built at the inner slip on a length of 440 feet, the western outer corner was sheated with 10 inch birch timber and the western side for a length of 40 feet was sheated with 5-inch timber. The buildings at the end of the pier were painted with two coats, outside and inside, other trifling repairs were also effected and the pier was placed in first class condition. The work was done by day labour at a cost of $3,241.84.

The total amount expended on this work has been $237,244.59, as follows:

Construction before Confederation	$170,129.33
" since "	28,069.13
Repairs	39,046.11

This work was transferred to control of Department of Marine & Fisheries on 16th September, 1891.

RIVIERE NOIRE.

Rivière Noire is a small village on the north shore of the St. Lawrence in the county of Charlevoix, 108 miles east of Quebec.

During the month of October the small breakwater commenced in 1893 was completed by raising it an additional height of $2\frac{1}{2}$ feet with round cedar timber and stone ballast; it was also covered with 3-inch planks on its total length of 135 feet and a small approach of stone was built.

The work was done by day labour at a cost of $300.35.

Spring tides rises 20 feet, neap tides 12 feet 5 inches.

RIVIERE OUELLE.

The pier is situated at Pointe aux Orignaux, four and one half miles from the village. It is substantially built throughout of cribwork filled with stone ballast, and is 1,350 feet long, of a uniform width of 28 feet apart of its outer 51 feet which is $237\frac{1}{2}$ feet wide. Its head is 42 feet above the bottom of the river and stands in 10 feet of water at low water spring tides. The pier was completed in 1858, at a cost of $225,299.87. In 1875 a lighthouse was erected on the head of the pier by the Department of Marine & Fisheries.

Improvements and repairs.—The gravel roadway which constitutes the top of the pier, having been frequently washed out by the seas which broke over it, was entirely covered in 1879 with a 3-inch plank flooring, the cost of which, together with that of minor repairs effected to the work since its completion, amounted to $12,271.25.

In 1881 it was deemed advisable to raise the top of the structure which had settled over its whole length, to its original level, and the work was commenced. It was continued during the three following years and completed in 1885 at a cost of $14,791.38. Owing to the decayed condition of some of the timbers, it became necessary to sheathe the head of the pier, a portion of the work was done in 1886 and it was completed in 1887, at a cost of $7,109.71. During the winter of 1887 the pier was considerably damaged by the ice, the necessary repairs were effected in 1888 at a cost of $935.00, and in the following years, a further sum of $827.62 was expended on the landing slips, etc. In 1891, the two outer corners of the head of the pier were re-sheathed and missing sheet piles were replaced where most urgently required; the amount expended was $1,494.28. From 1893 to 1897 inclusive, general repairs, amounting to $1,820.97 were effected to the slips, flooring, cap pieces and sheathing. In 1899 the sheathing of the two outer corners of the pier was again renewed with birch timber and strengthened with iron straps; 100 feet of decayed or broken sheathing on both sides of the pier were removed and replaced by 5-inch spruce timber, missing iron straps on the steps of the slips were replaced, and other minor repairs were effected at a cost of $1,004.85.

During the last fiscal year three pieces of face timber, which had been broken by ice on the western side of the pier, were replaced and that side sheathed with 6-inch timber on a length of 20 feet, and 21 feet high, 9 pieces of elm were put on eastern corner, the top of the platform of the eastern slip, which had been carried by ice, was renewed on a length of 50 feet including one tier of face timber, cross ties, stringers and 5-inc planking; 135 planks were renewed in the top floor and other trifling repairs were effected at a cost of $792.15, the work was done by day labour.

The total amount expended at this place is $269,845.49, viz:—

Construction before Confederation	$225,229.87
Repairs and improvements	34,615.22
	$260,845.49

This work was transferred to control of Department of Marine and Fisheries on 28th September, 1892.

RIVER ST. MAURICE.

Channel between Grandes Piles and Latuque.

The St. Maurice River flows southwards and empties into the St. Lawrence at Three Rivers.

The river between the Outlet and Grandes Piles, a distance of 37 miles, is only navigable for short distances between the falls and cascades which are in great number. The section between Crandes Piles and Latuque, a distance of 65 miles, is navigable for veesels with a draught less than 4 feet, at low water.

There are however some impediments in the channel which render navigation difficult and in some places dangerous, specially at the Rapids Manigonce.

1899-1900.

The "dredge St, Maurise" commenced dredging on Sepemtber 12th 1899 and continued working until November 7th, when she was towəd down and put in winter quarters at Pt. à Magdeleine.

In April and May, slight repairs were done to the dredge "St. Maurice" and more accommodations were given to the crew.

On June 26th, the dredge was towed up in order to resume work at the shallowest places of the channel, which was at Mékinac shoal. On July 12th, a cut 40 feet wide was opened to the shoal.

On July 13th, the dredge was removed to the next shallowest place which was to a bar at l'Isle aux Morpions.

On the 3rd October, the cut 40 of feet wide was completed at the crossing at l'Isle aux Morpions. The dredge was then removed to Pointe à Trudel shoal, near Grandes Piles, but had to do some dredging at the crossing at La Pêche, in order to make her way down.

The dredge could only reach the Pointe à Trudel shoal on the 25th October owing to her having to cut through small shoals to make her way down. The work was discontinued on the 15th of November. The river was covered with ice. The dredge was then towed down and put in winter quarters at Pointe à Magdeleine.

Buoys have been keep at the shallow points during the navigable season to indicate.the channel. Land marks were established on the river bank to indicate the channel.

Total expenditure incurred in 1899-1900, $4,359.11,

Eastern Channel.

On the 16th October, 1899, at the outlet of the eastern channel of the St. Maurice River to remove the shoal obstructing the entrance of the said channel. The work was discontinued on November 16th.

Total expenditure to 30th June 1899-1900, $2,025,00.

ROBERVAL.

Roberval.—This village, in Chicoutimi county, is built on the east bank of River Ouiatchouanish, near its mouth on the southern shore of Lake St. John,

200 miles north-east of Quebec city, and is the northern terminus of the Roberval branch of the Quebec and Lake St. John railway, which taps the main line at Metabetchouan station. Population 1100.

This place contains three churches, three hotels, four saw mills, two grist mills, four cheese factories, telegraph and express offices and some 14 stores. It is a favourite resort for sportsmen, and tourists generally, in the summer season, when five steamers leave the Government wharf daily, carrying freight and passengers to and from important settlements, as well as on pleasure excursions undertaken for the special benefit of the large number of people who visit the Lake St. John region every day.

In 1892-3, the department purchased from H. G. Beemer, Esq., for the sum of $750.00, an isolated block of cribwork, 75 feet long by 30 feet, which had been built by him at the mouth of the river, 425 feet from the shore of Lake St. John, together with the right of way to the public road, with a view of utilizing the block, etc., in connection with the then projected public landing piers. During the years 1892-93 and 93-94 this block was connected with the shore by means of an approach 425 feet by 25 feet, built of six blocks, 20 feet by 25 feet, of ballasted close-faced cribwork, an earth embankment 50 feet long and six intervening timber spans, at a cost of $5,469.06. In 1894-5, a head block parrelel with the shore, 50 feet by 30 feet and 30 feet high, with slip at outer end was added and the entrance channel of the Ouiatchouanish was deepened and widened; 2,750 cubic yards of earth and about 60 boulders removed. Total cost of work carried out $4,200.31.

This pier as completed in 1895, was 500 feet long and 25 feet wide generally, with the exception of the head block, which measures 50 feet by 30 feet, and has 8 feet of water along its outer face, at low water and 19 feet at high water during the season of navigation; in the winter the lake recedes beyond the head of the pier which is completely dry all around. During the year 1896-7, a combined freight and shelter shed, 45 feet by 24 feet, was erected on the head block at an expense of $425.98. In 1897-8, a block of cribwork 75 feet by 25 feet was sunk close to the crib purchased from Mr. Beemer, for the purpose of widening that part of the wharf to 50 feet. Amount expended $713.86.

The total amount expended on this wharf for construction is $11,559.21.

SABREVOIS.

The Parish of Ste. Anne de Sabrevois, in the county of Iberville, is situated on the east shore of the river Richelieu, 7 miles from Iberville and 6 miles from St. Alexandre on the C.P.R. It is a station of the "East Richelieu Valley Railway." It has the largest creamery of the Province of Quebec, two cheese factories, one hotel, three stores, one door and sash factory, one post and telegraph office, two churches, one Roman Catholic and one Protestant.

In order to better accommodate the traffic by water way to and from this place, an old wharf together with a right of way from the public road to the river, a distance of 1372 feet by a width of 30 feet, was purchased from Mr. Wm. Ryan, for the sum of $500.00. As the old wharf was entirely dilapidated a new wharf was built at its place.

The new structure consists of the following, viz:—

a. A stone embankment 200 feet long, by 20 feet wide with slopes 1 in 1.

b. A trestle approach 120 feet long 24 feet wide.

c. A head block of pile work 108 feet long, parallel to the channel, by a depth of 30 feet, with an ice-breaker, at its up stream end, of solid cribwork.

The work commenced in February last was done by labour day and was not completed at the end of the fiscal year.

The amount expended was $4,482.94.

SAULT AU COCHON.

Sault au Cochon is situated in the County of Saguenay on the north shore of the St. Lawrence.

In 1885 an isolated block was built 100 feet in length by 30 feet in width just beyond low water mark.

Total expenditure to 30th June, 1900—$4,494.41.

STE. ADELAIDE DE PABOS.

Ste. Adelaide de Pabos, commonly called Little Pabos is an important parish in the County of Gaspé.

In 1888 a strongly built breakwater was constructed 200 feet in length to afford shelter to the fishing boats of this locality.

Total expenditure to 30th June, 1900—$12,008.63.

ST. ALEXIS.

St. Alexis is on the south side of Ha Ha Bay, River Saguenay, about 63 miles from its mouth.

In order to accommodate the increasing traffic of the locality and afford landing facilities at this place for steamers frequenting the River Saguenay, the sum of $4,000 was appropriated at the session of parliament of 1898 for the construction of an isolated pier at a short distance from the shore. The pier is 60 feet long, 30 feet wide and 39 feet high, the outer end being in 13 feet of water at low water spring tides; the outer end is at a distance of 700 feet from the shore.

The pier is built of square timber, filled with stone ballast and sheathed with 5-inch tamarack timber.

During the past fiscal year two blocks 75 feet in length by 25 feet in width and 25 feet apart were built and filled with stone then connected by spans. The outer block was sheathed with 5 inch tamarac at a cost of $3,999.00.

Total expenditure to 30th June, 1900 is $7,999.90.

ST. ALPHONSE.

St. Alphonse is at the head of Ha Ha Bay, River Saguenay, about 66 miles above its mouth.

During the fiscal year 1899, the planking and stringers were completed on a length of 275 feet, and the north-east side of the pier was sheathed with 5-inch tamarack over a length of 275 feet. The work was done by day labour, at a cost of $2,000.57.

A landing pier was built at this place, prior to Confederation, by the municipal authorities at an expense of about $3,200. In 1896 an addition was built by the department on the north side of the original pier, 55 feet long by 26 feet wide. In 1881-82, a length of 378 feet of the original pier, which had been burned down to low water level at the shore end in April and May 1870, was rebuilt for an average height of 10 feet, a large portion of the flooring renewed and other repairs made with a view of lengthening the pier. A head block was added in 1883-84, measuring 50 feet in width by 40 feet in length by 57 feet in height, and having the top about 9 feet above high water, ordinary springs, and a movable slip at outer end; moreover, the pier itself was raised 3 feet over its whole length of 460 feet. In 1886-87 a freight shed, 50 feet by 30 feet, and a waiting room, 24 feet by 18 feet, were erected, and from 1888 to 1895, the flooring was renewed throughout and other repairs made from time to time.

During the fiscal year ended 30th June 1897, a shed 30 feet by 45 feet was erected on the eastern side of the pier, for keeping under cover the large quantities of butter and cheese which are brought every year to this wharf for exportation; the face timbers on the slipway were also renewed. The expenditure incurred in 1896-97 amounts to $487.78.

It will be seen from the above that this pier as completed consists of an approach of solid ballasted cribwork 460 feet long by 26 feet wide and a head block 50 feet wide by 40 feet long. Depth of water available along outer face at low water, ordinary spring tides, about 29 feet. Ordinary spring tides rise 18 to 19 feet; neaps, 11 feet.

During the past fiscal year the north and south sides of pier for a distance of 250 feet was sheathed with 5-inch tamarack and the planking was renewed over the same length and 25 feet in width at a cost of $548.

Total expenditure to 30th June 1900 is $31,913.28.

ST. ANICET.

St. Anicet is a post village in Huntingdon county, 10½ miles from White Station on the Grand Trunk Railway (Montreal and Champlain division), and 56 miles south-west of Montreal, on the south shore of Lake St. Francis. It contains one Roman Catholic church, three stores, two hotels and one telegraph office. Population 250. This pier was built in 1862, at a cost of $1,920, and stands 5 feet 3 inches above low water. It is 300 feet in length, the width of the 200 ft, nearest to the shore, or approachi is 13 feet, and the other 100 ft., or outer block, 35 feet. The shore abutment consists of a solid crib 47 feet long and the remaining 153 feet of the approach is supported on four cribs, 12 by 13 feet long, united by timber spans of stringers and planking. In 1889-90 some slight repairs were made, amounting to $48.67. In 1890-1 the entire approach, 200 feet long, was rebuilt from the water line, at a cost of $635.10. In 1892-3 small repairs were made, amounting to $25.88. In 1893-4 the outer block 100 feet by 35, which is of solid cribwork, was rebuilt from the low water line, by Mr. L. N. Masson, contractor, at a cost of $1,500. A shed, for the accommodation of passengers and freight, was also built on the wharf the same year, at a cost of $225.35. In 1897-8 the sum of $2,107.95 was expended for the addition of a wing or return 60 feet long by 30 feet wide at the outer end and 40 feet wide at the inner end, on the upstream side of the wharf, the object being to enable vessels to lie at the front of the wharf instead of along its sides, where it is very difficult to land during rough weather caused by westerly winds. This addition was built of close-faced cribwork, but was not completed at the end of the fiscal year.

During the fiscal year 1898-9 the sum of $1,423.75 was expended to complete the construction of the above mentioned addition and to make general repairs to the old wharf. The work was done by day labour.

The total amount expended on this work is $7,976.70 as follows: —

The construction	$5,541 70
Reconstruction	2,360 45
Repairs	74 55
Total	$7,976 70

STE. ANNE DE BELLEVUE.

The town of Ste. Anne de Bellevue, in the county of Jacques-Cartier, is situated at the confluence of the Rivers Ottawa and St. Lawrence, 21 miles west of Montreal. It has Roman Catholic and Protestant churches, a com-

mercial college, a convent and a Protestant school, 4 hotels, 8 general stores, &c. Population 1800. It is a favourite summer resort.

At the session of 1884 the sum of $4,750 was voted for the purpose of building a wharf at this place, and on 9th May 1885 a contract was entered into with Messrs. Gohier & Dagenais for its construction for the sum of $4,150. On 28th May 1885, the dredge "Nipissing" commenced excavation for the foundation of the wharf and worked until 17th June, removing 1,457 cubic yards of hard pan and boulders. Expenditure for the dredging, $480.16, and on wharf, $298.90.

With the unexpended balance of appropriation carried forward from 1884-85, the wharf was completed in October 1885. In May 1886, it was found necessary to make a roadway from St. Peter Street to the wharf to give free access thereto, and the land taken was fenced in. Expenditure during the fiscal year was $5,404.22.

During the fiscal year 1886-87 some necessary alterations were made to the pier recently built by the department. Expenditure, $736.29. The dredge "Queen" worked here from 29th October to 10th November 1886, to get a depth of 9 feet at the pier, and removed 861 cubic yards of boulders, clay, gravel and stone, at a cost of $554.26.

By the increase of population the wharf became inadequate for the requirement of traffic. During the session of 1899 the sum of $2,500 was voted for an extension to the wharf, at the close of fiscal year, a strip of land 30 feet wide by 75 feet long alongside the inner face of the wharf was purchased at a cost of $2,152. The extension to be completed during next fiscal year.

The total expenditure on this work is as follows:—

Construction, including purchase of right of way	$5,703 12
Dredging	480 16
Alterations	736 29
Dredging	554 26
Extension, purchase of land	2,152 00
Total	$9,625 83

STE. ANNE DE LA PARADE.

Ste. Anne de la Parade, in the county of Champlain, is situared on the north shore of the river St. Lawrence, fifty-three miles above Quebec. The Rivière Ste. Anne, one of the tributaries of the St. Lawrence divides the village.

At the session of 1894, a sum of $10,000.00 was voted for the protection of the village, the municipality having subscribed the sum of $5,000.

The proposed works were done during the winter of 1895, and consisted of five dykes.

The dykes are No. 1, 140; No. 2, 170; No. 3, 340 and No. 4, 435 feet in length respectively, the fifth, near the C. P. R. bridge is 340 feet in length, and that of the little channel on the west side of the river is 550 feet in length.

These dykes consist of two rows of piles driven 10 feet apart and filled with brush loaded down with stone.

It is to be remarked that the soil, where piles have been driven, is a fine sand taken down by the river from the landslide at St. Albans, the bed of the river having been raised 6 feet at Ste. Anne.

A sum of $14,906.05 was expended during the year of 1895.

During the fall of 1895, work have been executed for the removal of a certain portion of trees, stumps, etc., accumulated in the Little Channel owing to the land slide at St. Albans.

During the winter of 1896, dyke No. 1 was reconstructed for a length of 220

feet and No. 5 was repaired. These dykes experienced considerable damage by the breaking of the ice in December, 1895.

The amount expended during the fall of of 1895 and winter of 1896, was $4,373.90.

Total expenditure to 30th June, 1900, including dredging, $65,577.14.

STE. ANNE DE LA POCATIÈRE.

The village of St. Anne de la Pocatière, in the county of Kamouraska, is situated on the south shore of the St. Lawrence, 75 miles below Quebec. Spring tides rise 20 feet. Neap tides, 13 feet.

Construction.—In order to accommodate the extensive shipping trade of the village and locality, the construction of a landing pier was commenced in 1885 and completed in 1887 at a cost of $9,893.15. It is 580 feet long over and 20 feet wide, and consists of a stone and earth embankment or approach 100 ft. long and 20 feet wide with side and end slopes of 1 in 1, and of 11 cribs placed 25 feet apart and connected with platforms. The cribs are all 20 feet square, apart from the outer one which is 30 feet square. The head of the pier is 23 feet high and stands in 16 feet of water at high water spring tides; it is dry at low water.

Repairs.—During the year 1898 the pier was repaired for the first time since its completion in 1887. One of the cribs which was moved out of place by the ice was unloaded and floated in its proper position, part of the floor stringers and flooring was renewed, about 50 toises of stone were placed in the cribs not sufficiently ballasted, the outer corners of the head of the pier were sheathed and the approach repaired.

The work was done by day lobour at a cost of $984.17.

The total expenditure on the work is $10,877.32, as follows:—

Construction	$9,893 15
Repairs	984 17
Total	$10,877 32

STE. ANNE DES MONTS.

Ste. Anne des Monts, Gaspé County, is on the south shore of the St. Lawrence, 108 miles east of Rimouski.

In November, 1890, a contract was entered into for the construction of an isolated block of cribwork, 100 ft. in length by 46 ft. in width, measured on top.

On the 30th June, 1892, the work was practically completed, an estimate amounting to $9,225.20 on a contract of $9,294.00 having been given in favour of the contracter, and the whole was completed and a final estimate rendered in October, 1892.

Total expenditure to 30th June, 1900 $11,570.10.

STE. ANNE DE SOREL.

The village of Ste. Anne de Sorel, in the county of Richelieu, is situate at the head of Lake St. Peter, on the south shore of the St. Lawrence, two miles below the town of Sorel. During the spring freshets of the St. Lawrence a considerable portion of the parish of Ste. Anne and of the islands opposite, is flooded. In order to prevent the ice from being carried by the floods over the low-lying lands along the shore, ten ice piers were built between 1881 and 1890 at or in the vicinity of the village.

Construction.—The two first piers were built in 1881-82 in the Chenal du Moine, one of the channels of the St. Lawrence, and about two miles below the

village of Ste. Anne. They were 30 feet square and fully answered the purpose for which they were intended. Their total cost was $1,957.97. At the end of the year 1882-83 the construction of two additional piers was commenced in the same channel. They were completed during the winter of 1883-84 at a cost of $3,536.38. Another pier was built in 1885 at the head of Chenal du Moine, at a cost of $1,176.53, and repairs amounting to $7.20 were effected to the piers built in 1884. The sixth pier was built in 1886 at a cost of $1,321.86, which amount also included the cost of repairs effected to the piers built in 1884. In order to afford further protection against ice shoves a seventh pier was built in 1887, a short distance below the one built in 1885. Its cost was $836.66. The eighth pier was built in 1888 on the property of Bruno Peloquin, and one of the piers built in 1884 was raised 3 feet 4 inches at a cost of $947.67. In 1889, another pier was built at the entrance of Chenal du Moine, about 11½ miles below the village. It was 30 feet long, 24 feet wide and 21½ feet high and cost $2,708.28. In 1890, the necessary materials for the construction of another pier, opposite the church, were procured at a cost of $2,497.11, and in 1891 the structure was carried up to a height of five feet above low water level at a cost of $1,696.25. The pier measures 60 feet by 25 feet at the bottom, of 56 feet by 24 feet on the top. It stands in seven feet of water and has a height of 12 feet. During the year 1899 three new piers were built for the protection of properties which were not guarded by the old ones, and one of the latter was strengthened and repaired. The new piers measure 24 feet by 20 feet and are from 12 to 14 feet in height. Their total cost amounted to $3,514.68.

Before the construction of the above described works the properties along this lowlying shore were considerably damaged every year at the breaking up of the ice. The protection afforded by the ice piers has, however, been so effective that little or no damages are now sustained, and it is expected that no additional works of this nature will be required.

The total expenditure on ice piers at Ste. Anne and along the Chenal du Moine is $16,685.91, which amount includes cost of repairs to the old works as well as that of construction of the new ones.

STE. ANNE DU SAGUENAY.

The parish of Ste. Anne du Saguenay is situated on the north shore of the Saguenay River, 72½ miles above Tadoussac, and opposite the town of Chicoutimi. Its population in 1897 was over 2,000. Besides the church and post office, the the parish contains seven stores, four cheese factories, a lime-kiln, a brickyard and a pottery. The only market for the produce of the farms of this section of the north shore of the river is Chicoutimi. Spring tides rise 15 feet; neap tides 8 feet.

Construction.—As early as 1879 the Dominion Government was urged to construct a landing pier for the accommodation of the inhabitants of the district. The request was not, however, considered until 1888, when a portion of the timber required for the proposed structure was purchased at a cost of of $2,100. In 1889 the pier was commenced from shore outward, and at the close of the year 1888-9, a portion 77 feet long and 39 feet wide, including a slip 12 feet wide on its lower or eastern face, had been completed at a cost of $2,109.69. It was built of close-faced cribwork, filled with stone ballast. In 1890 this shore block was extended 87 feet on a width of 27 feet, at a cost of $2,045.50, and in 1891 a further length of 50 feet of similar cribwork, 27 feet wide, was added, at a cost $2,498.06. In 1892 a head block 30 feet long, 60 feet wide and 20 feet high was built at a distance of 250 feet out from the end of the work completed the previous year, at a cost of $2,262.11, and in 1896 this block was raised 8½ feet and put on the same level as that of the work built out from shore, viz., 6 feet above ordinary

high water spring tides. With a view of completing the pier to shore, a sum of $5,573.25 was expended in 1897 for the construction of two cribs, each 87½ ft. long and 25 ft. wide, placed 25 feet apart and 25 feet from both the head and shore blocks. During the year 1898 the three 25 foot openings left in the work were spanned, the flooring was laid and the structure completed to shore, at a cost of $746.70. The pier is now 494 long, 39 feet wide for the first 95 feet from shore, 27 feet wide for the following 119 feet, 25 feet wide for the next 250 feet, and finally 60 feet wide for the last 30 feet. It is 28½ feet high above the bottom of the river, at its outer end, and stands in 7½ feet of water at low water spring tides. It is substantially built throughout of close-faced cribwork filled with stone ballast. Some boulders were removed in 1894 from the vicinity of the head of the pier at a cost of $99.30. During the whole season of navigation a steamboat performs a regular ferry service every hour from Ste. Anne to Chicoutimi.

During the fiscal year 1899 the planking of the part of the pier constructed in 1888 was renewed over a length of 250 feet, the sides of the cribs built in 1897 were sheathed on a length of 200 feet and fenders were placed at the angles.

The work was done by day labour, at a cost of $1,099.81.

During the past fiscal year the outer block for 110 feet was sheated with tamarack, about 300 feet of the planking was renewed with 3-inch tamarack at a cost of $1,499.99.

Total expenditure to 30th June, 1900 is $21,034.17.

STE. FAMILLE.

The village of Ste. Famille is situate on the north shore of the Island of Orleans, in the county of Montmorency, 17 miles below Quebec. Spring tides rise 19 feet. Neap tides, 13 feet.

Construction.—In 1876 the inhabitants constructed a small landing pier, which was considerably extended and enlarged by the department between the years 1879 and 1882 at a cost of $9,323.86. It is now 475 feet long and consists of a head block 231 feet long and 25 feet wide, apart from a slip eight feet wide along its lower or eastern face, and of five cribs, connected with stringers, upon which the flooring is laid. The four cribs adjoining the head block are 25 feet square and are placed at distances varying from 24 feet to two feet apart. The shore end crib is 58 feet long and 18 feet wide. The head of the pier is 24 feet high above the bottom of the river and stands in 18 feet of water at high water spring tides.

Repairs.—In 1887 the pier was thoroughly repaired at a cost of $300.04. In 1891 the flooring of the pier was renewed and additional floor stringers were put in. One of the cribs was also rebuilt and new fenders placed on the outer end of the structure; expenditure, $999.30. During the year 1898 the two outer spans between the isolated cribs were filled with cribwork and stone ballast, the stringers and flooring were renewed on the whole length of the pier, and the snubbing posts and fenders were renewed. The work was done by day labour during the months of July and August, at a cost of $1,809.82.

The total expenditure on this work is $12,433.02, made up as follows:—

Construction	$9,323.86
Repairs	3,109.16
Total	$12,433.02

ST. FELICIEN.

St. Felicien.—A post village in Chicoutimi county, on the Assametquagan River, 15 miles from Roberval, on the Quebec and Lake St. John Railway. It

contains one Catholic church, five stores, one hotel, and four saw and grist mills. Population 1,000.

During the year 1895-6 a wharf was built to accommodate the local trade. It is 70 feet in length, 26 feet in width and 22 feet high at the outer end, at which vessels drawing 8 feet can lie at low water. A shed 20 feet square was erected on the wharf at its inner end.

During the fiscal year 1899 an addition 90 feet long, parallel with the channel, and 40 feet wide was constructed at right angles to the wharf at its outer end.

During the past fiscal year the wharf was resheathed 30 feet in length and 10 feet in height, which had been damaged by ice, at a cost of $100.00.

Total expenditure to 30th June, 1900, is $3,208.87.

ST. FRANCOIS, ISLAND OF ORLEANS.

The parish of St. François is near to that of St. Jean, and comprises the eastern extremity of the island and around the south and north to Ste. Famille.

The whole of the superstructure on an average height of 5½ feet from the outer end and 300 feet in length was rebuilt, this portion having been broken by the ice.

The slip at the outer end was raised and levelled with new flooring. Six new posts were added and 680 feet of capping replaced.

All the old elm fenders were taken off and the best portions replaced in one or two lengths, with the addition of 900 new fenders. The west side of the wharf on a length of 240 feet and the full height of the wharf was sheathed with 3-inch black spruce, and 70 feet of the east side was similarly protected, and the outer corner angles protected with 4-inch elm 20 feet long.

The small shed at the shore end was repaired and re-shingled.

Expenditure during the year, $1,705.62.

Total expenditure to 30th June, 1900, $15,298.73.

ST. FULGENCE.

St. Fulgence (otherwise called l'Anse aux Foins) is a small village in Chicoutimi county, on the north shore of the Saguenay River, 10 miles from Chicoutimi. It contains one Roman Catholic church, four stores and two saw-mills. Population of Parish 1,000.

In 1897-8 the department commenced the construction of an isolated block of close-faced cribwork to enable schooners and steamers of the Richelieu and Ontario Navigation Co. to land and ship freight and passengers at all times. This block is 60 feet long and 30 feet wide, and was built during the year to an elevation of 20 feet from the bed of the river. The block is sunk in 10 feet of water at low water spring tides at a distance of about 2,500 feet out from the shore at high water mark, Spring tides rise 20 feet; neaps 13 feet. The amount expended on this work during the year was $5,998.04.

During the fiscal year 1899 the pier wes raised 5 feet and the sides sheathed over a length of 90 feet, and 15 toises of stone ballast were placed in the pier. The amount expended was $1,498.38.

In the winter of 1899 the isolated block was damaged by ice and to prevent a reoccurrence, a talus of stone 30 feet long by 17 feet high was built; the block was raised 3 feet and the south side was resheathed with 5-inch tamarac at a cost of $1,499 00.

Total expenditure to 30th June, 1900, is $5,995.42.

ST. GÉDÉON.

St. Gédéon Parish is situated on the south shore of Lake St. John 33 miles west of Roberval.

This wharf constructed on the bank of the River Kouchpigan, commonly called Belle Rivière, consists of a block 60 feet in length, 30 in width and 22 in height, built principally of white pine, which is connected with the shore by pile work 70 feet in length, the whole length is planked over, the approach built of stone, gravel, etc., a shed 20 x 25 feet erected for freight shed and waiting room at a cost of $2,998.00.

STE. GENEVIÈVE.

Ste. Geneviève is situated in Jacques-Cartier county, on the south shore of the Rivière des Prairies, 5 miles from Pointe Claire. Population about 700.

In 1890-1 a pier was constructed, consisting of four cribs with ice breakers, 20 by 30 feet at low water line and 20 feet square on top, placed 20 feet apart and the roadway covered with 3 inch plank. The approach is 76 feet in length, making the total length of the pier 239 feet.

Repairs were made in 1898-99, 4 piers were raised 1 to 3 feet, the ice breaker sheathing was renewed, &c., at a cost of $1,036.16.

During the last fiscal year the repairs were completed at a cost of $202.96.

The total amount expended on this work is as follows, viz :—

Construction	$9,433 58
Repairs	1,239 12
Total	$10,672 70

STE. IRENÉE.

The village of Ste. Irénée is situated on the north shore of the St. Lawrence, in the county of Charlevoix, 78 miles below Quebec and 5 miles west of Murray Bay It contains 1 cheese factory, 2 grist-mills and 4 saw mills. Spring tides rise 19 feet. Neap tides, 12 feet.

Construction.—In September 1886, a contract was entered into for the removal of a block 80 feet long, 30 feet wide and 18 feet high, from Les Eboulements to this place, and during the year the work was done at a cost of $3,284 87. The block was sunk in 12 feet of water at low water spring tides, at a distance of about 535 feet from high water mark. In 1888 and 1889 the block was raised 19 feet, thoroughly repaired and floored at a total cost of $5,689.48. In 1896 a close-faced cribwork extension 60 feet long, 22 feet wide and of an average height of 30 feet, was built shoreward on a line with the east side of the block, at a cost of $2,128.68. A portion of this extension was carried away by an ice shove in January 1896, it was rebuilt in May and June 1897, and made 62 feet long, 32 feet wide and 33 feet high, at a cost of $3,588.31, which amount also included the cost of necessary repairs to the block. During the year 1898 a further close-faced cribwork extension 177 feet long, 20 feet wide and of an average height of 23 feet, was built shoreward at a cost of $4,000 94. The pier is now being completed to shore.

Repairs.—Sundry repairs were effected to the block in 1894 and 1895 when the sums of $79.99 and $21.50 respectively were expended. In 1896, a sum of $781.20 was expended for general repairs.

Improvements to the mouth of the river.—The pier is built about one third of a mile to the westward of a small river. In 1890, a sum of $501.73 was expended in removing boulders from the mouth of the river so as to allow schooners to winter safely therein. With the boulders removed a small breakwater was built to further protect the entrance to this small harbour from north-east winds.

During the last fiscal year this pier was completed, three tiers of face timber, on a length of 200 feet, left unfinished last year, were added to the structure as

well as the unfinished part of the top planking; an open shed, 24 x 50 feet was built at the outer end and painted two coats; a movable slip, raised and lowered by means of winches and chains, was built at the outer end and a quantity of boulders and brush work were piled on the eastern side, inner end, where the waves had somewhat undermined that part.

The work was done by day labour at a cost of $1,200.75.

The boulders which obstructed the approach on the western side were removed.

The wharf is now 655 feet long with an outer mooring face of 80 feet, there is a depth of 12 feet at low water spring tides at the end.

Total amount expended at St. Irénée is $26,302.01, viz :—

Construction	$24,917 59
Repairs	882 69
Improving mouth of river	501 73
Total	$26,302 01

This work was transferred to control of Department of Marine & Fisheries on 29th May, 1891.

ST. JEAN (ILE D'ORLEANS)

The village of St. Jean is situate on the south shore of the Island of Orleans in the county of Montmorency, 18 miles below Quebec. Spring tides rise 19 feet. Neap tides, 13 feet.

Construction.—The landing pier at this place was built by the municipality in or about 1859. It is 651 feet long over all, and consists of a stone and earth embankment or approach 101 feet long and 30 feet wide at the top, and of a close-faced cribwork structure 550 feet long, and of a uniform width of 30 feet, apart from its outer 83 feet which is 50 feet wide. The head of the pier is 32 feet high above the bottom of the river, and stands in eight feet of water at low water spring tides. A lighthouse was erected in 1874 on the head of the pier, by the Department of Marine and Fisheries. In 1884, the first steps were taken by the department towards the purchase of the structure and a sum of $60.55 was expended for surveys and legal expenses. The purchase was effected in 1885 at a cost of $8,183.46, including legal and other expenses.

Repairs.—The pier was repaired by the department in 1881 at a cost of $470.93, and in 1884 a further amount of $55.70 was expended on minor repairs. In 1886 repairs were made to the roadway and to the slip on the east side of the wharf at a cost of $699.98 and during the following year general repairs were effected at a cost of $1,009.20. In 1891, a sum of $500.82 was expended on repairs to the flooring and to the approach, and in 1893, a number of broken planks in the flooring were renewed at a cost of $25.00. In 1894, it became necessary to rebuild the superstructure of the pier, the timbers of which were in an advanced state of decay. The work was continued in 1895 and completed in 1896 at a cost of $8,658.32. The whole superstructure of the work for a depth of 5 feet 9 inches was removed and rebuilt with new face timbers, cross ties, longitudinals, floor stringers, flooring and mooring posts. The slips were thoroughly repaired, the east side of the structure was sheathed on the whole length with rock elm and black birch, the foundations of the lighthouse were rebuilt, and the lighthouse itself was thoroughly repaired and strengthened. In 1897 a combined waiting room and freight shed 40 feet long and 14 feet wide was erected on the head of the pier at a cost of $389.38. During the year 1898 the freight shed was moved on the extreme outer end of the pier, enlarged and painted; the face timbers under the slip, which had been broken by ice, were renewed on a height of six feet and part of the slip was covered with 3-inch planks; the west side of the pier, at its inner end, was sheathed for a length of 150 feet and the stone and earth approach repaired. The work was done by day labour at a cost of $480.11.

During the last fiscal year slight repairs were executed on the wharf, two oak fenders were placed at the outer corners and 18 broken fenders on the western side were renewed as well as 200 planks in the top flooring, the work was done by day labour in the month of October at a cost of $255.14.

The total amount expended on this work is $20,788.59 as follows :—

Purchase	$8,224.01
Reconstruction, including freight shed	9,047.70
Repairs	3,496.88
	$20,788.59

This wharf was transferred to control of Department of Marine and Fisheries on 9th March, 1883.

ST. JEAN PORT JOLI.

St. Jean Port Joli is in the county of L'Islet, on the south shore of the St. Lawrence, 55 miles east of Quebec.

The public wharf at this place has a total length of 470 feet, inclusive of shore abutment 40 feet long. It is 18 feet wide on the top for a distance of 277 feet from the abutment outward ; thence it widens out for 60 feet up to 35 feet, and retains this width up to the outer end. The structure consists of five blocks of open faced cribwork of various sizes and an abutment, all connected by timber spans ; the top of the wharf stands four feet over high water mark of ordinary spring tides, except at the outer block, where it is half a foot lower.

The depth available at the outer end of the wharf at low water ordinary spring tides is about four feet. During the month of June, 1897, the sheathing on the two outer corners was renewed with six inch birch ; also, in part, the top planking. Moreover, the two inner blocks which had been somewhat damaged were sheathed with three inch spruce planks and 300 lineal feet of new cap pieces were put on the wharf. Work all done by day labour at a total expense of $474.56.

Total expenditure to 30th June, 1900—$13,912.09.

This work was transferred to control of Department of Marine & Fisheries on 25th August, 1896.

ST. JÉROME.

St. Jérôme is a village situated on the south bank of Lake St. John, 24 miles east of Roberval.

The wharf commenced in March last consists of an approach 75 feet in length, 25 in width and 15 in height filled with stone ballast, sand &c ; two outer blocks 75 feet in length by 20 feet in width with 25 foot spans between, which are connected by stringers and planking. The whole length of 275 was planked, 6 snubbing posts were placed, etc at a cost of $4,999.28.

ST. LAURENT.

St. Laurent, in the county of Montmorency, is situated on the south shore of the Island of Orleans, 10 miles east of Quebec ; the place is somewhat frequented as a summer resort. Spring tides rise 20 feet, neap tides 13 feet.

Construction.—An isolated block, 104 feet long and 32 feet wide, on which a lighthouse was to be erected, was commenced here in 1866, the outer end of the pier was placed in 7 ft. of water at low water spring tides ; in that year, the sum of $8,416,58 was expended on the structure ; the pier and lighthouse were completed in 1868 with a further expenditure of $7,208.96. It being found that the pier was too light to resist the pressure of the ice, it was decided to continue it to

the shore. With that end in view, in 1869 and 1870 the sums of $7,492 and $1,326.25 respectively were expended in each year. The total amount expended between 1867 and 1882, including repairs, was $17,245.83. The pier was then 600 feet long and 20 feet wide, with the exception of the outer 104 feet, which was 32 feet wide, and there was 7 feet of water at the end at low water spring tides. In 1888 the approach road was built and the slip completed, at a cost of $413.24. In order to obtain a depth of 9 feet at the end of the pier, a contract was given in 1890, for the construction of an extension outward, 60 feet long, 60 feet wide at the outer end and 50 feet wide at its junction with the old pier; the work was completed in 1891 at a cost of $7,841.87. The pier is now 660 ft. long, 20 feet wide at the shore end, 32 feet wide on a length of 104 feet and 60 feet wide at the outer end, with 9 feet of water at low water spring tides.

Repairs.—In 1887 general repairs to the main body of the pier were effected, at a cost of $1,304.67; in 1889 the roadway was repaired and partly renewed at a cost of $369.28; in 1892 the sum of $206.60 was expended in repairing the landing slip, broken during a storm in August 1891. In 1893, the pontoon under the slip having broken away, it was decided to raise and lower the landing slip by means of winches, chains and tackle, which were purchased and placed in position, and small repairs were done to the top planking, at a cost of $250.65. In 1894, an open shed with a small freight shed and waiting room, were built at the head of the pier; the whole structure is 40 feet long, 25 feet wide, with a sheet iron roof; the cost was $665.47. The top planking was partly renewed in 1895-6; the sums of $56 and $179.17, in each respective year was expended.

During the fiscal year 1899, the top part of the old pier, having been found in a dangerous state of decay, for a height of 6 feet, the work of renewing was commenced and the pier was rebuilt 2 feet higher than it was originally, with pine and cedar timber, on a length of 200 feet, at a cost of $2,008.99. On October 15, 1898, during a heavy storm, the stringers of the moveable slip were broken, the repairs being urgent, the sum of $144.82 was expended and the damage made good; the amount expended during the year, was $2,153.81.

During the last fiscal year the renewal of the top part of the pier was continued, a further length of 540 feet being rebuilt: the bottom part, on the western side was strengthened by new face timbers on a length of 200 feet, 5 feet in height and 50 toises of stone ballast were put in the wharf. The work was done by day labour and the amount expended was $4,064.98.

The total amount expended on this pier is $43,168.15 as follows:—

Construction before Confederation	$ 8,416	58
Extensions and improvements since Confederation including shed built in 1894	26,166	41
Repairs	8,585	16
Total	$ 43,168	15

This pier was transferred to control of Department of Marine and Fisheries on 25th August, 1894.

LANDING PIERS LOWER ST. LAWRENCE.

The department has, since 1894, undertaken to carry out works of improvement at various places along the south shore of the St. Lawrence below Matane, with a view of providing safe and easy landing places for the fishermen engaged in their arduous calling; the results have in many instances proved very encouraging.

During the fiscal year 1896 a sum of $1,103.15 was paid out in improvising landings for fishing boats at the undermentioned places, viz.: Newport, Newport Point (Anse au Canard), Little River East, Anse à Beaufils, Percé, Anse à Gris-

fond, Cape Rosiers, Fox River, Chlorydorme, Pointe Sèche (St. Yvon), Frigate Point, Grande Madeleine, Petite Madeleine, Cap Chatte, Ste. Anne des Monts, Grande Vallée des Monts and Ste. Adelaide de Pabos.

During the last fiscal year the following sums were expended for removal of rocks at the following places; to provide safer landings for fishing boats:

Ste. Anne des Monts	$150.00
L'Anse à Grisfond	200.00
L'Anse à Louise	200.00

Total expenditure to 30th June, 1900, $6,239.79.

MOORING PIERS ST. LAWRENCE RAPIDS.

One pier at head of Lachine Rapids, second at head of Cascade Rapids and third three miles above the village of Cedars.

Completed in 1856, are 70 feet long by 20 wide.

Total expenditure to 30th June 1900, $2,665.52.

ST. MICHEL DE BELLECHASSE.

St. Michel de Bellechasse is on the south shore of the St. Lawrence, 15 miles below Quebec, in the county of Bellechasse. The place is somewhat frequented as a summer resort. Spring tides ride 20 feet, neap tides 13 feet.

Construction.—A pier was built here many years ago by the municipality, it is 1,090 feet in length, 30 feet wide, with the exception of a block 75 feet long at the outer end, which is 52 feet wide, with landing steps on each side and a slip at the end, the depth of water at the outer end is two feet at low water spring tides, and the market steamer which calls here daily during the season of navigation, cannot come alongside the pier at low water, and freight and passengers, at such times, have to be landed from a bateau, at a great disadvantage. The pier is built with nine inch opening, between each face timber of 12 inches square, and filled with stone ballast. In 1882 the sum of $262.66 was expended in removing boulders which obstructed the approach to the pier. In 1886 the department assumed the pier, and owing to its dilapidated state various amounts were expended nearly every year until 1893, inclusive, when the amount of $6,621.06 had been expended in repairs. In 1894 the north-east side was sheathed on a length of 485 feet with 3-inch planks, to prevent the top planking being damaged by the effects of the waves, and $509.78 were expended. In 1895 the sheathing, commenced the year previous, was continued on a further length of 270 feet and the planking and stringers were renewed on a length of 326 feet at a cost of $802.23. In 1897 an open shed 40 x 22 feet, part of which is occupied as a combined freight shed and waiting-room, was built by contract at a cost of $690. The eastern and western sides are clapboarded and the roof covered with sheet iron, the slip was partly covered with 3-inch planks, the top planking was renewed on a length of 500 feet and a pathway, 3 planks wide, was laid on the middle of the pier, the amount expended being $1,034.82.

During the fiscal year 1899 the capping was renewed on a length of 1,100 feet as well as 750 planks in the top planking and an oak fender was placed at the outer western corner, at a cost of $406.

During the last fiscal year the renewal of part of the pier was continued, 650 planks being employed and 820 feet of capping, other trifling repairs were effected at a cost of $400.84.

The total amount expended on repairs and improvements for this pier is $10,037.39.

ST. NICHOLAS.

St. Nicholas is a prosperous village on the south shore of the St. Lawrence, 14 miles above Quebec, in the county of Lévis. For many years a small steamer has called at this place for the considerable traffic in farm produce derived from the surrounding fertile country. The steamer landed at a private pier, the outer end of which was carried away by ice in the spring of 1896. The owner being unable to repair it in a suitable manner, it could only be approached at high tide and with great inconvenience, the inhabitants of the place therefore requested the government to purchase the pier and place it in serviceable condition. Spring tides rise 19 feet; neap tides, 12 feet.

Construction.—During the fiscal year 1899 the pier was purchased by the Dominion Government, and the reconstruction of the top part was commenced in the month of July. The head was entirely rebuilt from the bottom on a length of 20 feet, 45 feet wide and 33 feet high, with 12 by 12 inch timbers, which were joined to the timbers of the old pier, the top of which was rebuilt on a height of 6 feet, 21 feet wide on a length of 312 feet, a movable slip, raised and lowered by means of winches and chains, was built at the outer end, the outer face and 20 feet on each side were sheathed with elm timber 7 inches thick, elm fenders were placed every 10 feet on both sides and sheathed between with 3 inch pine planks reaching to within 5 feet of the top, the old approach was entirely rebuilt from the bottom, on a length of 125 feet an average width of 20 feet, the whole pier was covered with 3-inch pine planks. The pier is now 332 feet long, outside of the approach, 21 feet wide, and for a length of 96 feet it tapers out to a width of 45 feet at the outer end, the top is 4 feet above high water ordinary spring tides, and the outer end stands in 10 feet of water at low water spring tides.

The total amount expended on reconstruction is $8,497.26.

ST. ROCH DES AULNAIES.

St. Roch des Aulnaies, is situated on the south shore of the St. Lawrence, in the County of L'Islet, 70 miles below Quebec. Spring tides rise 18 feet; neap tides 12 feet.

In order to facilitate the loading and unloading of schooners carrying the freight of the locality, a sum of $5,000, was voted by Parliament at its session of 1899, for the construction of a piere at this place and in the month of June of the same year a contract was entered into for its construction for the bulk sum of $6,087.00.

The work consists of a stone approach 230 feet long, 15 feet wide at top, of a mean height of 10 feet and built to a slope of 1 in 1 at the sides; thence in a westerly direction, parallel to the shore, of a block of closed-faced cribwork 150 feet long, forming an L with stone approach and affording shelter for schooners inside the bay; the cribwork is 20 feet wide at the top with a batter of 1 in 12 at the sides, at high water spring tides a depth of 14 feet 8 inches is found at the head of the pier.

The work was not completed at the end of the fiscal year; the progress estimates and preliminary expenditures amounted to $4,473.72.

ST. SIMEON.

St. Siméon, County of Charlevoix, is on the north shore of the St. Lawrence, 108 miles below Quebec.

Spring tides rise 20 feet, neaps 12½ feet.

In 1891 a cribwork block was constructed 50 feet by 40.

In 1893 repairs were made by removing face timbeas, placing fenders and repairing steps.

Total expenditure to 30th June, 1900.—$5,959 96.

ST. TIMOTHÉE.

St. Timothée is in the county of Beauharnois, on the south shore of the St. Lawrence, at the head of the Chute aux Bouleaux Rapids.

During the fiscal year 1882-83 a landing pier was constructed at this place, consisting of a block 100 feet by 24 feet, having from 6½ to 7½ feet of water along its front, and a roadway to the shore 237 feet in length and 20 feet in width, of stone, earth and gravel.

The expenditure was $1,841.46. The landing pier was damaged by ice during the breaking up of the St. Lawrence during the spring of 1884, and during the fiscal year the sum of $187.21 was spent in replacing it.

During the summer 1889 the wharf was extended out 45 feet, the extension being 45 feet by 100 feet. The steamers have no trouble in swinging round since the construction of this extension.

The expenditure being $3,773.15.

During the fiscal year 1899-1900, a number of stringers and the flooring were renewed, the storehouse and waiting room was repaired and painted, a cattle yard, 60 feet by 15 feet, was made at the inner angle of the wharf alongside the roadway, with stone and earth and fenced in, the roadway was also repaired. The expenditure was $801.45.

The total amount expended on this work is as follows :—

Construction	$1,841.46
Repairs	187.21
Construction of extension	3,773.15
Repairs	801.45
	$6,603.27

ST. VALENTIN.

The village of St. Valentin, in the county of St. Johns, is situate on the west shore of the river Richelieu, 12 miles above or south of the town of St. Johns. As this place had no wharf accommodation, the large quantity of hay which is annually exported to the United States ports of Lake Champlain, and the farm produce shipped to St. Johns, had to be conveyed in scows to barges anchored in the channel of the river, which necessitated double handling and correspondingly heavy expense. In order to provide the required landing facilities a sum of $5,500 was appropriated in 1897, towards the construction of a landing pier at the foot of the Government road leading from the post-road to the Ile aux Noix ferry, and for raising and repairing this road which is annually flooded and damaged during the spring freshets. On the 17th of March, 1897, a contract was entered into with Messrs. Messier and Naylor for the construction of the proposed works. The work was well under way at the close of the year 1896-7, and was completed in 1898 at a total cost of $6,612.43.

The landing pier, measured on its centre line, is 326 feet long, and consists of a stone and earth embankment 135 feet long and 25 feet wide with side and end slopes of 1 in 1, of a trestle approach averaging 156 feet in length and 20 feet wide, and of a head block of solid cribwork 35 feet long and 60 feet wide along its channel face. The outer face of the head block is 19½ feet in height above the bottom of the river and stands in 9½ feet of water at low water. The

Government road was raised above the level of the spring freshets, and properly fenced in.

Total expenditure to 30th June 1900, including dredging, $6,891.66.

ST. ZOTIQUE.

The St. Zotique pier is situated on the north shore of Lake St. Francis, and the county of Soulanges, about 2½ miles above Coteau Landing. It consits of a block or a wharf proper, 132 feet 4 inches in length by 24 feet in width, while the approach of 34 cribs placed at intervals of 20 feet, varies from 8 to 12 feet in width.

During the fiscal year 1893-94 the following works were executed, viz :—

1. The superstructure of the block or wharf proper was rebuilt and floored with 3-inch pine plank.

2. The three piers which had been shoved by the ice and damaged were rebuilt and the stringers renewed.

3. One ice pier 15 x 20 feet was built and properly ballasted.

4. The approach, on a length of 653 feet, was covered over with 3-inch pine plank.

The expenditure during the year amounted to $2,490.73.

Total expenditure to 30th June, 1900—$17,095.72.

This work was transferred to control of Department of Marine and Fisheries on 28th August, 1896.

THREE RIVERS.

Three Rivers.—The City of Three Rivers is situated on the northern bank of the river St. Lawrence at the mouth of the river St. Maurice and covers an area of 9 square miles. It is half way between Montreal and Quebec (71 miles below Montreal and 68 above Quebec) and is the capital of the district.

During the year 1889 and 1890 a wharf was constructed between the Richelieu Company's wharf and that of the Harbor Commissioners.

It has a frontage of 172 feet on the St Lawrence, is 36 feet 1 inch in height, and stands 11 feet above mean low water and is 20 feet wide on top.

TICOUABE.

Ticouabe, a post village in Chicoutimi county, is situate at the outlet of the river of the same name, 21 miles from Roberval.

A small landing was built at this place during the year 1897-98 to accommodate the local traffic and to help its development This wharf consists of a solid block of close-faced cribwork 30 feet by 30 feet built a small distance from the shore and connected to it by a platform, supported on trestles, 103 feet long and 25 feet wide. A combined freight and shelter shed 25 feet by 30 feet was also built. Total cost of construction $1,611.79.

TROIS PISTOLES.

Trois Pistoles is in the county of Témiscouata, on the south shore of the St. Lawrence, 148 miles below Quebec and 25 miles east of River du Loup. Spring tides rise 18 feet, neap tides 11 feet.

Construction.—During the year 1882 an isolated block of crib-work, 50 feet ong, 30 feet wide and 22 feet high, was built on the west side of the harbour,

about 590 feet from the shore at a cost of $3,500.00, this block was dry at low water, but at high water spring tides there was a depth of 12½ feet at its outer end, it was to be afterwards connected with the shore. During the years 1883, 1884 and 1885 the sums of $2,545.59, $1,511.12 and $1,741.19 respectively were expended in extending the pier shoreward by building separate blocks of crib work at a distance of 40 feet apart and connected with stringers to support the top floor. In 1886, the sum of $3,000.00 was expended in rebuilding part of the work carried away during a heavy storm of November, 1885. In 1887 and 1888 the approach of cribwork and gravel filling was built on a length of 385 feet at a cost of $4,722.76. In order to afford more room for the unloading of freight and further shelter for vessels frequenting the harbour, two extensions seaward were commenced in 1889 and completed in 1891 ; the first extension was 60 feet long and 30 feet wide, the second, 50 feet long and 50 feet wide, with a landing slip on each side, the amount expended during the three years being $7,750.17. In 1892 the outer spans between the isolated blocks were filled with cribwork and stone ballast to prevent the flow of tides and waves from side to side of the pier, the flooring was partly repaired, the amount expended was $1,499.28. In 1894 an examination of the harbour was made with a view of further extending the pier, the cost of the examination was $14.15. In 1895 the remaining open spaces between the isolated blocks were filled with cribwork and stone ballest, part of the top floor was renewed and a railing was built on both sides of the pier and approach for a length of 350 feet, at a total cost of $999.00.

The main body of the pier is now 360 feet long, 50 feet wide on a length of 50 feet at the outer end, 30 feet wide on a lenght of 110 feet and 20 feet wide on a further length of 200 feet shoreward, the height of the structure at its outer is 22 feet. The approach is on a curved line 386 feet long and 20 feet wide ; the depth of water at the outer end of the pier, during high water spring tides, is 13 feet. In 1896 projecting rocks and boulders were blasted and removed from the harbour at a cost of $493.90.

Repairs.—During the last fiscal year three pieces of face timber, which had been broken by ice, were renewed ; the top planking was partly renewed ; three fenders replaced, the plank walk on the approach was renewed on a length of 390 feet and 10 toises of stone ballast were put in where required ; the work was done by day labour at a cost of $300.38.

The total amount expended on this work is $28,077.54, as follows:—

Construction and improvements	$ 27,283 26
Removal of boulders from harbour	493 90
Repairs	300 38
Total	$ 28,077 54

This wharf was transferred to control of Department of Marine and Fisheries on 10th May, 1895.

VALOIS. (POINTE A VALOIS)

Pointe à Valois, county of Vaudreuil, is situated on the south shore of the Lake of Two Mountains and 4½ miles west of the village of Vaudreuil, which is the nearest railway station and 2½ miles east of Como. In 1889-90 the old pier at this place, measuring about 80 feet by 16 feet: with head block of 45 feet by 20 feet and the right of way to this pier, was purchased from Charles Valois for the sum of $600.

During the fiscal years 1890-91-92, the original pier was extended by adding, at the outer end,a block of ballasted cribwork 135 feet long by 21 feet wide, with a return to the eastward 55 feet by 25 feet ; the total length of the work from the shore being thus increased to 225 feet. The depth of water available at the outer end of the wharf is now 6¼ feet at low water.

During the fiscal year 1896-7, a sum of $210.77 was applied in effecting general repairs on this wharf.

Total expenditure to 30th June, 1900, $5,261.33.

This wharf was transferred to control of Department of Marine and Fisheries on 6th October, 1897.

VAUDREUIL.

Vaudreuil is situated in the County of Vaudreuil, on the Ottawa River, about 25 miles above Montreal.

In 1888 a wharf was constructed 324 feet long, 20 feet wide with the outer block 30 by 20 feet.

Total expenditure to 30th June, 1900, including dredging, $3,465.25.

VERDUN.

Verdun, in the county of Jacques Cartier, is an incorporated and post village, it is situated on the north shore of the river St. Lawrence, about 2 miles west of Montreal. It contains one Roman Catholic church, many stores, hotels, etc., it has water works and sewers. The population of about one thousand is fast increasing. A steamboat ferry is open to Côte St. Catherine on the opposite shore of the St. Lawrence, for passengers and carriages, making four trips daily.

In order to give better accommodation to the farmers of the south side of the St. Lawrence to take their produces to Montreal by the ferry boat, it was decided to build a permanent wharf at Verdun. The structure commenced in October 1899 was compleated in June 1900, it consists of a head block 82 feet long by 20 feet wide of solid cribwork, terminated at its upper stream end by an ice-breaker; the approach from the shore to the block is also of close faced cribwork 75 feet in length by a width of 18 feet. The outer face of the block stands in 6 feet at extreme low water

The work was carried out by day labour at a cost of $2,353.23.

VICTORIA. (Megantic village.)

Victoria Bay is situated in the township of North Marston in the county of Compton. In 1885-86 a small pier was built at this place for the accommodation of the local trade at a cost of $845.20 and some slight repairs were made to it in 1889-90 at a cost of $80.00.

Construction	$854 20
Repairs	80 00
Total expenditure to 30th June, 1900.—	$934 20

This pier is also known as Megantic village which was transferred to control of Department of Marine & Fisheries on 7th June, 1892.

YAMACHICHE.

The village of Yamachiche is situated in the county of St. Maurice on the north shore of the River St. Lawrence, 16 miles above Three Rivers, at the foot of Lake St. Peter.

To provide wharfage facilities a contract was entered into for the construction of an isolated pier, measuring 24 feet by 48 feet at the outlet of the River Yamachiche.

At the beginning of the fiscal year work of construction was in progress, and was completed on the 11th September, 1893.

In April, 1894, two of the mooring posts were broken by the ice, and these were renewed during the month of June. The total expenditure on this wharf during the year amounted to $1,169.55.

Total expenditure to 30th June, 1900, $6,633.02, including $4,825.32 for improvement of river.

PROVINCE OF ONTARIO.

BAYFIELD.

The village of Bayfield, in the county of Huron, is situated at the mouth of the river of the same name which empties into Lake Huron, 12 miles south of the town of Goderich. It contains one grist and saw-mill.

Construction.—The harbour of Bayfield was originally formed by the municipality of the township of Stanley, and in 1874 when the Dominion Government took the work in hand, it consisted of two piers, 618 and 620 feet in length, 200 feet apart at the outer end and 330 feet at the inner or land end. No statement of the expenditure made by the municipality can be given. In 1874, an appropriation of $34,000 was made by Parliament for the improvement of this harbour, the municipality of Stanley contributing $10,000. The work was placed under contract in November, 1874, and proceeded with during the seasons of 1875-6 and 1877, the total expenditure from 1874 to 1882 being $61,517.55.

The improvements as then completed consisted of a prolongation of the northern pier 105 feet on the outside, with an arm of 156 feet, turned to the south-west; of a pier on the south-side generally parrallel to the main line of the opposite pier 180 feet distant from it, and 553 feet in length, with a return towards the coast line of 153 feet, all the cribwork being 20 and 30 feet wide. The depth of water at the entrance, which was origially 11 feet, was reduced to about 6 feet in 1894, due to the formation of sand bars.

Repairs.—During the years 1884, 1885, 1886 and 1887 repairs were made to the piers, especially to the northern pier which was close-piled on both sides. The small crib at the west end was also repaired, the expenditure of these years being $6,157. In 1897-8 the sum of $2,231.36 was expended in the reconstruction of a portion of the northen pier 245 feet in length, and repairing the outer end of the same structure. The whole of the repairs contemplated were not completed at the close of the year and a further sum of $1,550 was appropriated, and the work completed during the year 1899 at a cost of $1,521.23. Dredging also was performed in the harbour by Messrs. Bowman and Porter's plant, which worked 130 hours and removed 5,460 cubic yards of material at a cost of $1,200, including inspector's wages. The amount expended during the fiscal year 1899 was $2,721.25.

On the 28th August last authority was given to expend the sum of $5,300.00 in closing the "gap" in the shore end of the north pier, a length of 270 feet, by cribwork 20 feet wide and continuous superstructure, and to repair the south pier where required, a length of 705 feet and 30 feet wide, and the whole of this work was completed in June last, at an outlay of $4,683.98.

The total expenditure at this place to date may be subdivided as follows:

Construction	$61,517.55
Repairs and reconstruction	15,118.41
Dredging	1,200.00
	$77,835.96

BEAVERTON.

Beaverton is situated at the mouth of the Beaver River, on the east shore of Lake Simcoe, in the County of Ontario. It is a station on the Midland Division of the Grand Trunk Railway, about 70 miles from Toronto. Population 1,000.

In 1891 this Department built a landing pier, consisting of an embankment approach 285 feet in length, and crib and superstructure work 840 feet, or a total length of 1,125 feet, for the accommodation of vessels plying on Lake Simcoe, giving a depth of water at the outer end of about 8 feet. The contract was let in February and the work completed in the following June. The cost of this structure was $8,180.00. In 1882, the department constructed a breakwater 320 feet in length at the mouth of the River, on the north side, at a cost of $1,000.00.

During the past fiscal year repairs were made to the flooring and approach, costing $194.77.

Total amount expended at this place to date :—

Construction	$ 10,081.96
Repairs 1893-94	150.00
Repairs 1899-00	194.77
	$ 10,426.73

BELLE RIVER.

Belle River, County of Essex, is situated on the southern side of Lake St. Clair, midway between the mouth of the Thames and Detroit Rivers.

A small length of pile protection work was built in 1884 at the mouth of the River, with the view of protecting the shallow channel which has been formed to permit boats and scows to enter and ascend the river.

The Municipality has assisted in the construction of these works.

BIG BAY.

Big Bay is situated in the county of Grey, at the entrance to Colpoy's Bay on the Georgian Bay, about 15 miles north of Owen Sound Harbour. There is a small village at this place and the trade is a limited one of timber, cordwood and poles.

The landing pier was constructed in 1877 by the municipality, at a cost of $933 towards which the government granted $400. The pier was then 335 feet in length and reached out to 6½ feet of water. In 1881 the pier was extended 117 feet into 11½ ft. of water, at a cost of $1,121.41, of which sum the Government paid $500.

In 1891 the department repaired the pier, rebuilding, where required, the whole of the cribwork blocks from low water level to flooring, and replanking the whole of the superstructure and constructed a crib 25 by 25 feet, placing same inside the space between the outer crib and the adjoining one, thus giving a solid block of cribwork 90 feet long on the east side and 65 on the west. The above work cost $2,065.

During the year 1898 necessary repairs to the flooring and stringers were made at a cost of $54.60.

The total amount expended on this work up to date is $4,225.40.

BOWMANVILLE.

Bowmanville, or Port Darlington, is situate on the north shore of Lake Ontario, county of Durham, 43 miles from Toronto by rail on the Grand Trunk division of the main line between Toronto and Montreal. Population, 3,500.

Construction.—This harbour, which was built by the municipality, consists of two parallel piers built at the mouth of a small creek. The western jetty is built of cribwork 1,180 feet in length and 20 feet in width, excepting at the outer end, where the width is 60 feet for the last 240 feet. On this enlarged portion stand a storehouse and a lighthouse. The top of the piers is 7 feet above extreme low water level. At the outer end there is about 11 feet of water, the total height of the work being about 19 feet. No statement is obtainable as to the amount expended by the municipality in connection with this harbour. Up to 1897 no construction work was done by the department, but the entrance channel and inner harbour having a tendency to silt up, were maintained by dredging by the Dominion Government.

Repairs.—In 1897-8 the eastern pier was repaired and some 500 feet of pile protection work was built on the harbour side to prevent the constant filling in of sand in the channel, and the outer end of the western pier having been destroyed by storms was rebuilt. During the fiscal year 1899, the whole of the east pier has been replanked and where necessary new stringers have been placed in; the face timbers of the north end of the east pier have been renewed where required. To perform this work some 83,569 feet, board measure, lumber, and 1,575 pounds of iron were used, costing with labour $2,000.

In August last, authority was given to expend a further sum of $5,000.00 to continue the pile protection work along the harbour face of the eastern pier, a distance of 600 feet, and to protect the bank of the harbour on the eastern side of the basin.

This work was all completed in June last.

The amount expended during the fiscal year ending 30th June last, was $5,000.00.

The total expenditure on this work, not including dredging, is as follows:—

Repairs and reconstruction—$10,999.99.

BRUCE MINES.

Bruce Mines is situated in the Algoma District on the north shore of Lake Huron, 45 miles south-east of Sault Ste. Marie. Population, 1,500.

Only private wharfs have been constructed at this place. In 1881-2 this department expended the sum of $1,581.33 in dredging a channel to give accommodation to vessels drawing 14 feet of water.

In April last a contract was let to Messrs. Lemoine & Fortin to consttuct a landing pier and for dredging. The pier work consisting of a landing block 90 feet square, the outer 20 feet of which is ballasted close-faced cribwork the full width of 90 feet and the remaining 70 feet pile work; a trestle work 450 feet in length and 20 feet in width of pile bents, 12 feet 6 inches apart, and an approach 750 feet long consisting of stone embankment with gravel roadway. Total structural length 1,290 feet.

The contract price is $12,550.00; work was commenced in May last and good progress has been made up to the end of June.

The total amount expended upon the above contract for the past fiscal year is $1,600.00.

The total amount expended at this place by the Department up to date is:

Dredging 1881-2	$1,581.33
Contract work, construction	1,600.00
	$3,181.33

BURLINGTON CHANNEL.

Burlington Channel, in the county of Wentworth, is simply a cut through a piece of low land which partly separates Lake Ontario from a large sheet of deep water called Burlington Bay, enabling vessels to reach the wharfs at the city of Hamilton. Both sides of the canal are lined with piers.

Construction.—The work was commenced under commissioners in 1825. It was opened for the passage of vessels in 1830, and completed as originally undertaken in 1832, at a cost $124,356.08. The works were afterwards extended, improved and partly reconstructed by the provincial government at an outlay of $308,328.32, previous to Confederation. From 1867 to 1882, inclusively, the superstructure of the piers having been partly destroyed by fire, was renewed by the Government at a cost of $30,426.89. It was maintained by the Railways and Canals Department till 1885, when it was placed under the control of the Department of Public Works. The general form of the canal has not since been changed, and consists of a cut through a sand bar about 2,700 ft. in length, with an average depth of 14 feet at low water, both sides of the cut being lined with vertical-faced cribwork piers. The northern pier has a total length of 2,307 feet and a general width of 20 feet, excepting at the outer and inner ends where there are blocks 30 and 35 feet wide. The southern pier has a total length of 2,710 feet and a general width of 20 feet, excepting at the outer end where there is a cribwork block of 30 feet wide for a distance of 30 feet, and at the inner end, where the cribwork is of irregular form and the width, varies from 25 to 45 feet for a distance of 590 feet. The piers are 103 feet apart at their inner ends and 174 at their outer ends. The top of the piers is 5½ feet above ordinary low water. The southern pier carries a lighthouse ; above the centre of the piers, at the crest line of the sand bank, recesses were left in the cribwork on both sides for a ferry scow running across the channel. There is also a traffic swing bridge built by the Dominion Government close to the railway bridge opening on the south side. In 1895 the traffic over the channel had increased to such an extent that it was found impossible to accommodate the public, and this department prepared plans and specifications for the erection of an iron swing bridge. The contract for the masonry of this bridge was let to Mr. Geo. F. Webb, of Hamilton, in August, 1895 for the bulk sum of $15,799. The masonry work was completed ready for the iron superstructure, in April, 1896. On January 28, 1896, another contract was awarded to the Dominion Bridge Co., of Montreal, for supplying and erecting the iron superstructure, &c., for the sum of $15,290. All the works in these contracts have been satisfactorily completed. A further sum of $1,500 was paid to the Dominion Bridge Co. for supplying and installing, by special agreement, an electric apparatus for operating the swing span ; power is supplied by the Hamilton Electric Radial Railway Company.

In 1897-8 automatic gates to regulate the traffic at the approaches have been erected. Telephone communication has been made with the ' power house ' and a ' power indicator,' for the information of the man in charge, has been placed in the bridge house. Extensive repairs were also made to the piers, which consisted in placing new faced timbers, some planking and earth filling. The whole of the repairs were completed at the beginning of the fiscal year 1899 and the sum of $1,366.75 expended.

During the past fiscal year the wages of the working staff of the bridge, and maintenance, amounted to $2,662.08.

Repairs to bridge, etc., $1,312.91.

Tenders were called for the reconstruction of the superstructure of the south pier, western or bay end, a distance of 989 feet from low water level up and the construction of sheet-pile work on the channel side. Work on this contract had not commenced at the end of the fiscal year.

STATEMENT of Expenditure since work is under the control of the Department of Public Works.

Years.	Construction.	Repairs	Staff and Maintenance.	Totals.	Description.
		$ cts.	$ cts.	$ cts.	
1885–86	.....	210 50	3 20	213 70	Putting in good order ferry landing, and and procuring new lines for ferry.
1886–87	.....	295 79	512 19	807 98	Minor repairs and maintenance.
1887–88	.....	128 25	595 13	723 38	" " "
1888–89	.....	115 22	702 04	817 26	" " "
1889–90	.....	842 78	577 88	1,420 66	" " "
1890–91	.....	.....	702 04	702 04	Maintenance.
1891–92	.....	310 00	639 96	949 96	Providing channel with life line and two buoys. In November the water was so low that it was found impossible to float the scows close to the landings. Temporary pontoons were built and used until the water rose.
1892–93	.....	301 70	714 69	1,016 39	General repairs to piers and ferry approaches.
1893–94	.....	1,563 52	692 71	2,256 23	New scow built, which was shortly afterwards lost during storm. The old scow was then again repaired at a cost of $434.80. Extensive repairs to stringers and flooring of the piers were also made.
1893–94	Bridge $1,416 38	.....	.....	1,416 38	Surveys, plans, &c. for proposed bridge.
1894–95	.....	800 02	699 96	1,499 98	Repairs made to east pier.
1895–96	.....	.....	820 96	820 96	Staff and Maintenance.
1895–96	Bridge $3,816 25	.....	.....	3,816 25	A road approach 400 feet in length was constructed to connect the swing bridge with the road. On south side of channel a crib 70 x 20 feet was built with superstructure to fill in approaches of the ferry landing.
1895–96	Bridge $19,937 13	.....	.....	19,937 13	Bridge, masonry, &c.
1896–97	.....	1,454 24	.....	1,454 24	Repairing piers, retaining walls, fences &c.
1896–97	Bridge $16,520 92	.....	1,556 87	18,077 79	Bridge.
1897–98	.....	3,525 37	.....	3,525 37	Repairs to piers.
1897–98	.....	.....	2,520 58	2,520 58	Bridge staff and maintenance.
1898–99	.....	1,366 75	2,868 58	4,235 33	Bridge staff. Repairs and maintenance.
1899–00	.....	1,312 91	2,662 08	3,974 99	" " " "
Totals.		41,690 68	12,227 05	16,268 88	70,186 61

COBOURG.

Cobourg is an incorporated town of Ontario, in Northumberland county, situate on the north shore of Lake Ontario, on the Grand Trunk Railway, 92 miles west by south of Kingston, 69 miles north-east of Toronto, and is a port of entry. It has several mills, foundries, breweries, and a car factory, Population, 5,000.

Construction.—The work of forming a harbour at Cobourg was commenced by a company organized under an Act of Parliament in 1829. In 1842 the works were assumed by the government and held until May 27, 1850, when they were sold to the town council of Coburg for the sum of $16,000. Prior to the union of the provinces in 1841, the government had spent $20,010.72 on this harbour; and after the union the sum of $41,999.98 was advanced as a perpetual loan at 6 per cent interest. At the time of confederation, the work consisted of two piers, the

united length of which was 2,047 feet. They were 190 feet apart at the entrance of the harbour, the depth at the outer end of the eastern pier being 14 feet, decreasing from 7 to 8 feet in the centre of the basin. In 1873, an agreement was entered into with the harbour commissioners for the construction of a pier 1,500 feet long, the commissioners to pay one-third of the cost and the government to pay two-thirds. Under this agreement the total expenditure was $79,569.68, of which the harbour commissioners contributed $25,507.49. In 1881-2 an arm 150 feet in length, in a south-easterly direction, was commenced, and an expenditure of $8,291.20 was made. The total expenditure by the department since confederation up to 1882 was $92,161.89. In 1882-3, 1883-4 and 1884-5, the piers were further extended, especially the eastern pier, and some of the cribwork raised owing to a sinking in soft bottom. The expenditure during these three years was $47,525.73. In 1885-6 and 1886-7 the sum of $10,208.01 was expended in building a crib 100 feet in length at the outer end of the eastern pier, and the next 300 feet shorewards, which had settled on an average of 8½ feet, was built up to its proper height; repairs were also made to the western pier. In 1887-8 a contract was entered into for rebuilding a portion of the western pier, which was completed in 1888-9 at a cost of $9,871.53, out of which about $2,000 were for repairs to the western pier of the original harbour. From 1889 up to June 30, 1897, the east and west piers were alternately repaired and some portion renewed, at an expenditure for these years of $13,525.59. Some extensive dredging was also done in the harbour, but the expenditure is not included in this report. In 1897-8 repairs were again made to the shore end of the western pier, and its approach, and the walings and planking on the eastern pier renewed. The expenditure was $2,999.86. Some slight repairs were made during the year 1899 amounting to $25.

The harbour as constituted consists of three main piers, the eastern central and western piers. The eastern and central piers from the old harbour proper. The eastern pier which is built of cribwork with some enlargements of pile work and gravel filling, is 1,490 feet in length and is built from the shore in a southerly direction, with a return L 140 feet long in a south-west direction. The width, which is very irregular, is 30 feet at the outer end and 60 feet generally at the shore end. The front of this old harbour is lined with cribwork 800 feet long. About 380 feet from this front wall, and from the eastern pier, starts a small pier 305 feet long and from 18 to 35 feet wide, running in a westerly direction towards the central pier. The area inclosed between this short spur, the shore portion of the eastern pier, the front wall and the central pier, is called the inner harbour. The depth of water there is from 6 to 13 feet at low water. The central jetty is in very bad repair. It is 1,160 feet long including the approach, and the width is from 30 to 35 feet. The inner and outer ends are respectively 780 feet and 160 feet west of the eastern pier. The western pier, which was built by the Dominion Government, is located about 1,200 feet west of the eastern pier, has a total length of 1,660 feet, and a regular width of 30 feet. It runs from the shore in a southerly direction with a return L towards the eastern pier, 150 feet in length. The depth of water in this enlarged harbour varies generally from 6 to 15 feet at low water. The top of the cribwork above low water level is from 6 to 8 feet. On the eastern pier there is a lighthouse and some store sheds.

The total expenditure made by this department on this work is $176,752.58, and may be subdivided as follows:—

Construction	$ 155,767	16
Repairs	20,985	42
Total	$ 176,752	58

COLLINGWOOD.

Collingwood is situate on the south side of the Georgian Bay, township of Nottawasaga, county of Simcoe, 94 miles by railway from Toronto. It is the terminus of the Northern and Hamilton and North-western railways. There is an extensive trade in grain and lumber and it is the starting point of steamers for Owen Sound, Sault Ste. Marie, Parry Sound, etc. Population 9,000.

Construction.—Prior to Confederation a pier and lighthouse was erected, but it was completely swept by a storm in 1872. In 1873 the work of reconstruction was commenced and was completed in 1874 at a cost of $57,468.43, one-half of which was paid by the department, one-quarter by the Northern Railway Company, and one-quarter by the town of Collingwood. This breakwater is of unusual strength. It is 700 feet in length and finishes, at the deep water end, in a broad pier head 60 feet long by 80 feet wide, on which a lighthouse has been erected. The width at the base of the cribwork is 24 feet, receding to 19 feet 6 inches at water line. The portion above water is carried up to the height of six feet, terminating at 12 feet 6 inches in width. The depth of water in the harbour was 11 feet; but as the size of the vessels navigating Lake Superior increased, this depth was found insufficient and during the season of 1879 and following years, dredging was commenced for the purpose of increasing the depth to 14 feet at low water. The total expenditure since Confederation up to 1882 was $84,636.32, being $57,468.43 for construction and $27,167.89 for dredging. In 1882 a contract was entered into with Mr. J. D. Silcox (who subsequently assigned his contract to Messrs. Fleming, Lindsay and Burdet), for the construction of a length of 600 feet of a breakwater, extending northwardly from the north wharf, or G. T. R. wharfs. This contract was completed in 1883. In November of the same year another contract was entered into with Mr. Rob. Reed for the sum of $18,613 for a further extension of 600 feet, which was completed in 1884. In 1884 the work of dredging the channel at the entrance of the harbour was continued and the deepening of a basin at the southern end of the harbour was commenced. In 1885 a new contract was passed with Mr. E. Murphy for another extension of this breakwater for the sum of $19,000. The expenditure during 1883-84-85 and 1886, on account of construction was $100,-919.58. In 1887-88 a contract was entered into for the construction of stone rip-rap work to close the opening between an old slab wharf and the western end of the outer breakwater. It was completed in 1889 at a cost of $12,285.35; some boulders, logs, etc., were removed from the entrance channel in 1889 at a cost of $3,808.09. Since 1889, dredging has been carried on by the department almost every year, deepening the water in the harbour generally as well as at the many wharfs. In the year 1897 a contract was let to Messrs. Boon & Armstrong, of Toronto, to deepen and dredge the harbour to 16 feet below low water level. On the 3rd of July, 1897, operations were commenced and continued until the close of the year. Owing to the hardness of the material removed and many breakdowns in the dredging machinery, the work had not progressed as fast as was expected. The expenditure on this contract was $31,472.39.

Repairs.—In 1884-85, repairs were made to the outer breakwater at a cost of $4,214.71, and from 1893 up to 1898 the sum of $3,013.21 was expended in minor repairs to the breakwaters and the foundations of the lighthouses. As constituted now the harbour is very large and commodious, being protected on the north and east side by extensive breakwaters, 1,500 feet and 3,600 feet in length. Several small wharfs belonging to the town or to companies, are built inside the area enclosed by these breakwaters.

On April 29th, 1897, a contract was let to Messrs. Boone & Armstrong, of Toronto, to deepen and dredge the harbour. On July 3rd., 1897, operations were commenced and have been continued during the working seasons, but owing to the hardness of the material removed and many break-downs in the dredging machinery, the work did not progress as fast as was expected, and in May last the contract was annulled and a new agreement entered into with Mr. C. S. Boone, narrowing the channel leading into the harbour from 300 feet to 110 feet wide, and deepening same to 22 feet below zero of guage, thus giving 20 feet at low water level from the range light inwards, and tenders were asked to carry the same depth from the range light out into the Bay.

The work under the new agreement has been proceeded with, and good progess made with same, and up to the 30th June, last, the contractor had removed 15,715 cubic yards.

The amount expended in dredging on the Messrs. Boone & Armstrong contract is, 1897-8-9, $81,525.00.

The total expenditure on this harbour since confederation is : $299.343.90.

Construction and improvements	$170,673.36
Dredging and deepening	120,389.52
Repairs, &c	8,281.02
Total	$299,343.90

DYER'S BAY.

Dyer's Bay is situated ont the west side of Georgian Bay, about 25 miles north of Wiarton. In 1894 the government constructed a wharf at this place 210 feet in length, and 20 feet in width at a cost of $3,180.00.

In July, last, repairs were necessary and some 1,000 ft. b.m. of lumber, 725 f.b.m. of 3-inch plank and 150 lbs. of iron were used in the repairs, at a cost of $63.83.

Total expenditure to end of fiscal year :

Construction	$3,180.00
Repairs	63.83
	$3,243.83

GODERICH.

Goderich, in the county of Huron, is situated on the east shore of Lake Huron at the mouth of the Maitland River, about 68 miles from Sarnia and 60 miles from London. It is the terminus of the Buffalo branch of the Grand Trunk Railway, and is a place of considerable importance, partly on account of large deposits of salt found in its vicinity.

Construction.—The construction of a harbour at this place was first undertaken in 1835, by the Canada Company, who held the right under a lease from the Crown, although a considerable expenditure was made on the works, they were allowed to fall into decay. In 1859 theCanada Company transferred their claim on the harbour to the Buffalo and Lake Huron Railway Company (now part of the Grand Trunk system), who in 1862 were granted a new lease from the Crown, under which the company erected extensive harbour works. When it was determined by the government to establish harbours of refuge on Lake Huron, Goderich was one of the points selected as most suitable, and a survey was made and plans prepared for creating a safe and commodious harbour. The plan adopted may be briefly described as being that of changing the entrance to the harbour by cutting a new channel through the beach and protecting it by cribwork built

out to a depth of 17 feet at low water; of considerably increasing the area of the harbour by dredging, and of diverting the channel of the River Maitland by the erection of an artificial bank, so that the river should discharge into Lake Huron through the north beach and not flow into the harbour at all. These works were commenced in 1872 and completed in 1877, the cost being $465.715,81. In 1881 and 1882 dredging to the extent of $1,748 was done, and in 1882 $2,387,06 was spent in protection work at the beach between the northern pier and the breakwate, which was gradnally being washed away. The total expenditure up to 1882, since confederation was $471.531.16 on account of construction and dredging.

In 1882-3 the sum of $22,500, was awarded by the official arbritators, and paid to Mr. S. Platt for damage to his property in connection with the harbour works. On account of the contractor for the construction of beach protection works abandoning his contract, the Government was obliged to assume and proceed with the work, the expenditure during the year on account of contruction being $4,034.04. This beach protection was completed in 1884 at an expenditure of $2,860.16. In 1882-3 a contract was entered into with Messrs, Brewder & McNaughton, of Ottawa, to extend the northern pier 410 feet, and the southern pier 100 feet in length and to dredge berths for the same. This work was commenced in March, 1894, and the work completed in November 1895. In March 1897, a contract was let to Luke Madigan, for a bulk sum of $50,999 to reconstruct the whole of the breakwater superstructure, a length of 2,490 feet, and re build six cribs 30 x 20 feet, and nine cribs 30 x 20 feet; the former to be 2 feet high and the latter 17 feet high. After a series of delays, on the part of the contractor, an order in council was passed setting aside the contract on April 25, 1898, and authorizing the calling of new public tenders for the completion of the work. The late contractor during the year 1897 stripped and exposed about 870 feet of the superstructure at the east end of the breakwater, rebuilding a portion of the same 12 feet high. The finished height is 18 feet.

On August 11, 1898, the contract to rebuilt the superstructure of the breakwater, at this place, was re-let to Messrs. Smeeth & McGillicuddy, of Goderich, for the sum of $56,700. Nothing but a long series of delays has taken place since the date of signing this contract. At the end of the fiscal year 1899 the sum of $2,886.11 had been paid on the contract.

During the fiscal year, the first submerged crib No. 20 was sunk into position on the 18th October, 1899; another No. 17 on the 21st and Nos. 18 and 19 on the 24th.

The dredge took from the 17th October till the 20th November preparing foundations for the submerged cribs Nos. 6, 7, 8 and 9.

This dredge was at breakwater from the 3rd October until the 20th November either removing gravel from foundation of new cribs or redredging the gravel from the river which had been dumped there by permitsion given on the 6th October.

The work for the remainder of the season consisted of filling cribs with stone, building and filling superstructure with stone, excavating gravel and pulling down old old timber from the extreme west end over cribs 1 to 6.

Deepening of harbour.—The deepening of Goderich harbour was decided upon and instructions were given to that effect early in September, 1898.

The purpose was to give a depth of twenty feet between the piers from checkwater westward out into Lake Huron where the same depth of twenty feet is reached, and in the inner harbour from checkwater eastward 18 feet below low water mark.

These depths, 20 feet between piers and 18 in harbour will give nearly 22 and 20 feet respectively with prevailing elevation of water.

It was not the intention to excavate over the whole area of inner harbour as a depth of between 15 and 15½ feet over the greater part can be procured and

vessels drawing that amount of water can reach the docks on the north side of the harbour.

That which was considered necessary was to deepen a channel and form a basin leading up to and in front of the public and elevator docks where crafts of the larger types draw ng eighteen feet of water could come in at all times with safety; especially as Goderich is supposed to be a "Harbour of Refuge," but for some time back was not available for this purpose on account of its inadequacy.

On September 12 last the Marlton Dredging Company was employed to do certain dredging in the harbour and channel approach, and work was commenced on the 14th of the same month. Operations were continued until November 22, and were continued in the spring of 1899 until the end of the fiscal year, when the sum of $9,632.41 had been expended, including superintendence, during which time the plant worked 418½ hours, which, at $8 dollars per hour, cost $3,350.66.

On October 11th, orders were given to make some slight repairs to the south pier at a cost not to exceed $84. The work was at once done, the labour costing $45.20 and the material $30.97; total, $76.17.

The expenditure for the fiscal year 1899 was as follows:—

Dredging	$9,632 41
Rebuilding superstructure of breakwater	2,886 11
Repairs, south pier	76 17
Total	$12,594 69

Repairs.—In 1883 and 1884 the breakwater and southern pier were repaired at a cost of $6,000. These repairs consisted in renewing some planking and guard timber and placing some ballast stone in some of the cribs. From 1884 up to 1897 minor repairs to the breakwater and piers were made almost yearly, consisting generally in renewing timbers. The expenditure during these years on account of repairs was $7,690.23.

Description.—The harbour at the present time comprises an inner basin about 25 acres in extent and two parallel jetties forming the entrance from the lake. The northern side of the basin is formed by an artificial bank 2,500 feet in length composed of very strong cribwork on the Maitland River side and of a pile work on the harbour side, the space between the two being filled in and bearing a spur track. The line of cribwork serves as a training wall to prevent the Maitland River from discharging into the harbour. The cribwork is sunk generally in 17 feet of water, and its height above low water level is 18 feet. The north entrance jetty is 1,700 feet in length, the width varying from 20 to 30 feet, with a block 40 by 45 feet at the head. The south jetty starting from the end of the curve formed by the basin is 1,600 feet in length and the width varies from 20 to 40 feet. The jetties are parallel and 200 feet apart, excepting at the outer end of the southern jetty, where the entrance is 265 feet wide. The inner angle of the harbour for about 900 feet in length is considerably shoaled up, the average depth of water in the rest of the basin is 14 feet, and in the entrance channel it varies from 13 to 15 feet. This channel is proposed to be dredged to a depth of 20 feet including the southern portion of the basin.

Dredging operations were resumed again on the 19th April, 1899, and were continued until the 2nd of October of the same year, when the dredging company were given permission to move their plant round to the mouth of the river Maitland to remove some old submerged cribs for the contractors reconstructing the breakwater.

The dredge remained in the river until the 20th November when it returned to the harbour but could do very little work, only working intermittingly from the 22nd to 29th on account of the fall storms and finally closed down operations for the season on the 29th November.

The dredge did comparatively well at rock work during part of June but eventually came to such deep hard rock which she was unable to move without it first being blasted; that some submarine blasting had to be resorted to as quickly as possible to allow of a narrow channel at least, being pushed on up to the new elevator without unnecessary delay.

This blasting was done during July and August with the assistance of a temporary contrivance comprising a churn drill worked by hand from a flat scow.

An area of about 80 x 50 feet and 2½ feet deep was thus removed and a 50 foot channel formed leading to the elevator. This blasting was conducted between the 5th July and 8th August and cost $196.78.

During 1899 the following work was performed by the dredge 42, 432 c. yds. of sand and gravel were moved; 4, 864 c. yds., of rock were removed and 4, 311 cubic yards of hard pan were moved.

The average cost for dredging sand, gravel and mud was about 13.2 cents; for rock 57 cents and for hard-pan 36½ cents per cubic yard.

Dredging was again resumed on the 18th April, 1900 and accomplished the following work by the 30th of June.

2,563 c. yds., of hard-pan removed.
671 c. yds. of rock removed.
18,223 c. yds., of sand, gravel, &c., removed.

Making the average cost for this portion of the year about 12.8 cents for sand, gravel, &c., about $1.21 for rock and 42¼ cents for hard-pan.

In order to prepare the work in inner harbour for the dredge to remove it as soon as possible in the syring, a steam plant placed on a platform standing on the ice was got ready and blasting commenced in this way on the 16th February along the dock in front of new elevator power-house for a distance of 90 feet out, and was continued until the 6th of April when the work had to be temporarily ceased on account of the unsafe condition of the ice. In the meantime a towing scow was arranged and the drilling plant was transferred to it and blasting resumed on the 26th April continuing on up to the 30th June.

The cost of this blasting between the 16th, February and 30th, June was $1,776.38 including the steam plant, scows, &c., which are still available as well as about 40 tons of coal and 800 pounds of dynamite.

The area covered was about 17,000 square feet, holes being drilled about 3 to 3½ feet deep every 5 feet apart.

Total expenditure te 30th., June, 1900.—$644.953.97

HAWKESTONE.

Hawkestone is situated on Lake Simcoe. County of Simcoe, 14 miles east of Barrie, on the northern division of the Grand Trunk Railway.

On the 9th April last a contract was let to Mr. W. J. Bryce, to construct a wharf at this place, 300 feet in length, to consist of an approach 150 feet long, 16 feet wide on top, and 150 feet of woodwork, being cribs with superstructure and spaces. The contract price was $2,475.00. Good progress had been made up to the end of June.

Total expenditure for fiscal year on work performed: $550.00.

HILTON.

Hilton, a small village in the county of Algoma, is situated on the north shore of St. Joseph's Island in the north passage of Lake Huron, 5 miles from Stobie, on the Canadian Pacific Railway. It contains three churches, two stores one hotel and two saw-mills. Population, 300.

The wharf at this place was originally a cribwork structure built by the municipality. It fell into a dilapidated state, and was at last completely destroyed

by the vessels mooring to it. In 1884 the remain were sold to Bowker & Co., who rebuilt it on piles. It was later on resold to Mr. A. G. Duncan. This wharf was built at the end of a road in Hilton village, it being 270 feet long over all; the approach varying in width from 18 to 20 feet, the head pier being 90 by 100 feet. The depth at the outer end of the original wharf was 16 feet 9 inches.

Construction.—During the years 1886-7 and 1887-8, the department built an addition to this wharf, consisting of a block of cribwork 200 feet long by 30 feet wide, at a cost of $10,460.30. The Hilton wharf was private property, but strong representations were made to the department in a petition dated December 27, 1884, that owing to the difficulty of navigation by night in the River Ste. Marie, steamers going to Sault Ste. Marie had to lay over night at Hilton; that the wharf at that place was too limited in extent to afford sufficient shelter to those boats and that the anchorage was not good, the water in the vicinity being deep and the rocks dangerous; and further, that private owners were not in a position and did not need to extend the wharf for their business, especially as no charges were made to vessels lying at the dock. For these reasons the department constructed the extention already described.

In 1897 representations having been made that the owner of the original wharf extended by the department as above stated, exacted exorbitant tolls for the use of the wharf; that the settlers on St. Joseph's Island were labouring under very great disadvantage on account of the extortionate charges, made on their produce, &c., landing at the wharf, it was decided, in order to secure to them fair and just terms, to purchase that portion of the wharf, which was still private property, so that the whole of the work could be under government management. In 1897-8, the sum of $5,000 was paid over to Mr. A. G. Duncan for the transfer of his wharf, the storehouse standing thereon and the right of way (to the said wharf from the main road) to the department.

During the year 1899 the sum of $108.73 was expended in making necessary repairs to the planking on the deck of the wharf.

Total expenditure to 30th June, 1900 is $15,794.27.

INVERHURON.

On eastern coast of Lake Huron, 115 miles above Port Sarnia.

Work built in 1856-7 consists of a pier 450 feet long.

KEENE.

A new wharf 90 feet in length was constructed at the south side of the highway bridge in the village of Keene, in the Trent and Newcastle District works.

The channel to the east of the wharf was also dredged.

Those improvements have been of great benefit to navigation and the travelling public.

KINCARDINE.

Kincardine, in the county of Huron, is situate at the mouth of the Penetangore River, which empties into Lake Huron 31 miles south of Southampton: it is the terminus of the Wellington, Grey and Bruce division of the Grand Trunk railway. Extensive salt deposits are found.

Construction. In 1856, two parallel lines of piers were built, 100 feet apart, the northern pier being 540 feet in length, and the southern one 290 feet. In 1868, the sum of $4,500 was granted to assist the municipality in completing the southern pier. A considerable sum of money was also expended by the municipality in improving the harbour, the amount being placed at about $23,000. The

depth of water being found insufficient in the harbour, in 1872 dredging was commenced and continued until 1877, when the whole of the inner basin, about four acres in extent, had been dredged to 12 feet and the entrance to 13 feet. Up to 1882 fnrther dredging was done giving 14 feet in the basin and 15 feet at the entrance. The entrance piers were also further extended, the directiou changed and the entrance widened from 130 feet to 200 feet so as to afford greater facility for entering the harbour. In November, 1881, a contract was let for the construction of 790 feet of pile protection work on the south side of the southern pier. At the close of the year 1881-1882, the total expenditure by the department on this work was $78,049.68, out of which about $5,000.00 were for repairs, and a large amount for dredging.

The pile protection work was completed in October, 1882.

Repairs and renewals.—In 1876, the northern pier having been damaged by a storm, was repaired and the superstructure raised at a cost of $5,000.00. During the years 1883 and 1884 repairs were made to the end of the northern pier which had been damaged by a schooner; the face of the northern pier was close piled a distance of 665 feet and sheating was placed on its north side for a distance of 200 feet, to prevent the influx of sand into the channel. The expenditure in this connection was $6,971.52. A further sum of $6,155.80 was expended in 1884-85 and 1886-87 in repairing the north and south piers generally, and raising the superstructure. In 1887-88 sheet piling was commenced along the north face of the south pier to prevent its falling into the channel. In 1888-89 this sheet piling was continued on the south and east side of the basin, and pile work protection on the inside of the northern pier was extended a distance of 200 feet northwardly. The expenditure on this sheet piling protection was $15,000.59. From 1890 to 1896, minor repairs were made to the piers, at an expenditure of $1,848.78. In 1896-97 the outer end of the south pier was reconstructed at a cost of $2,265.42. In March, 1897, a contract was let to Messrs. Bowman, Bowman & Porter, contractors of Southampton, for a bulk sum of $11,000.00 to renew the superstructure of the outer end of the northern pier and strengthen the same with sheet piling on the harbour face. The superstructure was completed in November, and the sheet piling in June, 1898. Repairs were also made at the same time to the north and south pier at a cost of $438.12.

Description.—The harbour at present comprises an inner basin into which flows the Penetangore River, and two jetties, 90 feet apart at the inner end and 180 at the outer end.

The east, south and west sides of the basin are built of pile work, strongly braced to anchor piles, and a platform 12 to 16 feet wide resting on walings. This line of piling starts from the bridge over the Penetangore River, on the south side of the river and runs north-west for a distance of 57 feet. It then turns at an acute angle almost south for a distance of 463 feet, forming the shore wall of the basin: then 253 feet in a direction north-west. It then returns northward towards the north jetty a distance of 440 feet, where the south jetty properly starts in a direction almost due west. This jetty is 840 feet in length and is partly composed of pile work and cribwork. The width is very irregular and varies from 12 to 30 feet. The north jetty, 1,470 feet in length from the bridge, is also partly built of pile and cribwork. The width of the pile work is generally 12 feet, and the cribwork 30 feet. The whole of the cribwork has been pile sheated. The height of the pier is generally 10 feet above low water level; the depth in the entrance channel was at the end of the year 11 feet at low water, and in the basin from 10 to 13 feet. There are two range lighthouses on the north pier.

On 29th September last, orders were issued to expend $6,000 in dredging the channel and basin of the harbour and the sum of $5,982 was paid for 730 hours work, @ $8.00 per hour = $5,840, and inspection $142.

In September and October last, repairs were ordered to be made to the piers and the sum of $1,495.12 was expended upon the work, which with $22.49 for

laying plank in September, makes a total expenditure for the past fiscal year of $7,499.61.

The total expenditure since Confederation is $156,618.24, and may be subdivided as follows :—

Construction including some dredging before 1882.	$ 78,049 68
Repairs and construction	50,126 38
Dredging since 1882	28,442 18
	$156,618 24

KINGSVILLE.

Kingsville, county of Essex South, is on the north shore of Lake Erie, about 25 miles east of the mouth of the Detroit River, it is also a station on the Detroit, Essex & Lake Erie Railway.

The landing pier, at this place, is the pile structure formerly known as Mallette's dock ; being on the eastern side of the artificial harbour of refuge, formed at Kingsville ; at low water, a depth of from 10 to 12 feet is available along its outer end. The pier is 860 feet long and 22 feet wide for the first 520 feet from the shore ; 28 feet wide for the next 240 feet, and 50 feet wide at the outer end for a length of about 100 feet.

During the fiscal year 1896-97, a sum of $173.55 was applied in making indispensable repairs. The old structure is much decayed and should be rebuilt ; in its present state the weight of a heavily loaded wagon passing over it, may break some of the piles.

Total expenditure to 30th June 1900, including dredging, is $64,678.08.

This pier was transferred to control of Department of Marine and Fisheries 21st February 1885.

LAKES SIMCOE AND COUCHICHING.

Lake Couchiching forms part of the boundary between the counties of Simcoe and Ontario, the former lying on the west and the latter on the east side. At its upper end Lake Simcoe, through the Narrows at Orillia, and at ite lower end there are three outlets which form the River Severn. This stream carries the waters of both lakes on a north-westerly direction into the Georgian Bay, Lake Huron.

Of late years the extreme high water of these lakes in the spring has prevented the cultivation of large areas of rich land ; on the other hand, the early drying up of the water courses in the summer has resulted in the lowering of the water level, so as to interfere with the navigation.

With the object of regulating the discharge from these lakes so as to lessen either extreme, the following works were commenced in April, 1896, viz :— 1st. The widening above the low water level of the two streams issuing from Lake Couchiching, which flow through narrow gorges, in order to increase the discharge at high water. 2nd. Works for controlling the flow during the low water season by means of stop logs placed across the waterways.

The work was carried on by day labour ; during high water, unwatering had to be done by means of temporary dams.

Before the close of 1895-96 the widening at "Little Falls" on one of the streams, was completed, and half the work projected at "Big Falls" on the other, was also done.

In the fiscal year 1896-97, operations were resumed on October 15th, 1896, where left off June 30th, 1896.

The widening at Big Falls was completed and stop-logs put in on January 22nd, 1897.

To facilitate the discharge of the increased flow at high water, some excavation was also made farther down the Severn River, at the firstand second chutes. This work being in the wilderness, camps had to be made, and much difficulty was experienced in getting in and out.

All the work was completed and the plant withdrawn, by the end of April, 1897. The amount of the appropriation was $5,500.00, and the expenditure incurred $4,540.55.

The local interests concerned hold diametrically opposite views relative to the advisability of putting in the stop-logs provided and the manipulation of the same ; the property owners wanting them left out, and the mill and vessel owners wanting them kept in.

At a conference of the reprssentatives of the different interests it was decided, as the best possible arrangement, that the stop-logs would be taken out each year on the 15th of December, and left out until the water receded to a certain mark indicating, as nearly as possible, the old ordinary low water.

Nothing further has been done on this work since 1897.

LIONS HEAD.

Lions Head is situated in the Township of Eastner in the northern portion of the county of Bruce and on the western side of Georgian Bay, about 35 miles to the northward of Wiarton.

Population about 300, exports lumber, ties, square timber &c.

The northern side of the harbour is formed by a beach of gravel which is working southwards and destroying the harbour. Previous to 1885 the Township and County Council built a breakwater abour 150 feet in length which was not sufficient to retain the gravel.

In 1885-6 the Department made an addition of 150 feet to the breakwater, seperstructure of old work thoroughly repaired, a talus of stone placed on seaward face and an approach built.

Some repairs were made in 1896.

Total expenditure to date $11,074 23.

LITTLE CURRENT.

Little Current is at the passage between Cloche and Creat Manitoulin Island and on the direct route to Lake Superior for vessels taking the north channel of Lake Huron and Georgian Bay ; it is about 140 miles from Collingwood.

On March 15th last, instructions were given to remove rocks in the bed of the north channel, which were a constant hindrance to the safe towing of rafts of timber. Work was commenced in March and carried on until the end of the fiscal year ; the sum of $2,329,46 being expended in blasting and removing the obstructions, which now gives a free passage through the channel. Over 1,000 cubic yards were removed.

Total expenditure on this account to end of fiscal year $2,329.46.

L'ORIGNAL.

L'Orignal, a post village in Prescott County, on the south shore of the Ottawa River, 3 miles across the river from Calumet station on the Canadian Pacific Railway and 66 miles west of Montreal. It contains, besides the county buildings, four churches, one telegraph office, several insurance agencies, grist and saw mills, three stores and three hotels. Two weekly newspapers are published in L'Orignal. Population 1,000.

This wharf is the most important on the river between Ottawa and Grenville, and is the only landing for the freight and passenger traffic of the village

and of a large extent of the county. It is used also by the large number of tourists and others visiting the Caledonia Springs. It was built a length of 534 feet, under commissioners of the provincial government, prior to the union, February 10, 1841. In 1886-7 it was found necessary, owing to the filling up of the bay, to extend it 800 feet, or to a total length of 1,354 feet, including the outer block, which is 30 feet long and 120 feet wide. The long approach to this outer block was built 22 feet wide, consisting of cribs 10 feet by 22 feet, united by platforms of an average span of 34 feet. The work was done by the municipality, aided by a grant of $2,000 from the provincial government.

In the spring of 1884, part of the superstructure was carried away by the ice, and was rebuilt by this department in the years 1883-4-5 and in 1886, at a cost of $7,266.49. The vote of 1883-4 was supplemented by a grant of $1,000 from the municipality. The above amount also covers the expense of dredging made by the "Nipissing" in front of the pier during the seasons of 1884 and 1885.

In 1896-7 an examination of the wharf was made at a cost of $191.15. It was found that the approach was in a dilapidated condition and could not long stand the constant travelling of heavy loads over its uneven roadway, and that unless it was rebuilt, this landing would have to be abandoned. Ten of the shore cribs had also been moved bodily below their original positions for distances varying from 3 to 22 feet; and parts of eight others were shifted from their foundation and partly demolished. It was therefore decided to rebuild the whole approach 1,323 feet long, from the shore to the outer block, along the lower side of the old approach. Plans and specifications were prepared and tenders called. In June, 1897, the contract was awarded to Messrs. J. N. Munroe and W. Murray, contractors, for the sum of $13,417.12. The works included in this contract consisted of:—1. A stone and earth embankment 623 feet long and 25 feet wide at the top, with side slopes of 1 in 1 and built up to an elevation of 19¼ feet above extreme low water. 2. A trestle approach 700 feet long and 20 feet wide, with bents 12 feet apart and composed of six piles driven 15 feet in the bottom, and covered with 4-inch planks well secured to the floor stringers.

At the end of the year 1897-8, the contract work was not quite completed, there being a number of braces yet to be laid and secured on each side of the bents.

The amount of $13,850.27 expended on this work also covers the purchase of materials for the reconstruction of the outer block (120 feet by 30 feet) from the low water level.

During the fiscal year 1899 the contract work of 1898 was completed as described above, the outer block, 120 feet long by 30 feet wide, was renewed from low water level for a height of 19 feet, a freight shed 40 x 20 feet and a waiting room 20 x 16 feet were built on the wharf, and a pathway, 3 feet wide, of 3-inch pine deal, was placed on a length of 700 feet. The railing of the approach, 1,360 feet long, has been painted. The work was done by day labour, at a cost of $6,009.12.

Total expenditure to 30th June, 1900, including dredging, is $28,294.60.

MATTAWA.

Mattawa is a post village in Nipissing, at the confluence of the Mattawa and Ottawa rivers.

This wharf was purchased from the Lake Temiscamingue Railway and Colonisation Company, in 1888, for $1,200.

Slight repairs were made in 1894.

Total expenditure to 30th June 1900 is $1,246.44.

MEAFORD.

Meaford is an incorporated town in the county of Grey, and is situated on the west side of the Georgian Bay, 18 miles west of Collingwood, and 20 miles to the eastward of Owen Sound. It is the terminus of the Northern division of the Grand Trunk Railway. Population, 2,500.

Construction.—Prior to Confederation a pier 500 feet long, and having 14 feet of water at its outer end, was built by the local authorities, aided by a grant of $6,000 from the government. This pier, which is on the west bank of the Big Head River, emptying into the harbour, was extended during 1874 and 1875 160 feet, and an arm 200 feet long was built in a northeasterly direction, in order to afford protection against north-east winds. A breakwater 410 feet long was also built on the east side of the river. The cost of these works was $22,899.29, of which three-fifths was paid by the government and two-fifths by the municipality of St. Vincent. In 1878 the sum of $250 was expended in dredging; and in 1880 and 1881 $2,564.94 was spent by the department in dredging to 12 feet inside the western pier, deepening the channel to the inner harbour and dredging a portion of it to 11 feet. In 1884 and 1886 further dredging was done, and in 1887-8 the town contributed $3,000 and the government $5,000 to complete the dredging in the inner harbour to 13 feet, and to dredge a 100-foot channel, 14 feet deep, to it from the outside. In August 1889, a contract was entered into for the construction of the following works:—

1. Cribwork, 80 feet in length and 20 feet in width, at the north end of the eastern breakwater. 2. Cribwork, 160 feet in length and 20 feet in width, at the south end of the eastern breakwater. 3. Sheet-piling, 200 feet long, at the east side of the entrance to the inner harbour. This work was satisfactorily completed in May 1890, at a cost of $4,987.84, and a space between the breakwater and the shore was also filled with stone. A portion of the harbour was also dredged to 12 and 13 feet in 1895 and 1896.

Repairs.—In 1882 a contract was entered into with Mr. Robert Reed for repairing the inshore portion of the west pier, which consisted principally in sheet-piling about 850 feet of the old cribwork. This was completed in 1883 at a cost of $12,612 23. In 1892 and 1893 an expenditure of $5,492.42 was made in repairing and rebuilding about 560 feet in length of pile protection work.

Description.—The harbour may be subdivided into two distinct portions, the inner and outer harbour. The inner harbour, which is established in the Big Head River, is about 800 feet long and from 150 to 260 feet wide, having a total area of about 4 acres. The depth of water varies from 4 to 11 feet at low water. The west side is formed and protected by a line of pile work, 1,170 feet in length, starting from the highway bridge across the river, and adjoining the west pier at a point 250 feet distant from its shore end. The east side is not protected by pile work, excepting at the entrance to the inner basin, where there are about 200 feet of piling built in connection with fish houses. The outside harbour is formed by two cribwork jetties, one on each side of the river, about 500 feet apart at their shore ends, with an entrance from the lake 170 feet wide. The east jetty 635 feet long and 20 feet wide. The west jetty is 600 feet long with an extension to the east toward the east jetty 220 feet long, making a total length of 820 feet. Its width is from 25 to 28 feet. There is a lighthouse at the end of the extension The head of the jetty is in 12 feet of water.

On April 20, 1898, a contract was let to Mr. James Sparling, of Meaford, to construct a pile protection work on the west side of the harbour, a length of 340 feet, for the sum of $2,761.18. Work was commenced on July 22, and completed on October 4 1899. The government dredge "Challenge" worked in the harbour at this place, and, besides deepening the same deposited some of the dredge material behind the pile work, the amount expended in dredging being $2,597.47.

The total expenditure in connection with this harbour is $73,919.80 (out of which $10,000 was contributed by the municipality of St. Vincent), which may be subdivided as follows :—

Construction	$34,119 56
Repairs and building	18,104 68
Dredging	21,695 56
Total	$73,919 80

MIDLAND.

Midland, Simcoe County is the terminus of the Midland Division of the Grand Trunk Railway, on the Georgian Bay, population about 3,500.

Large quantities of lumber are shippied to and from this harbour, and the railway company has two large grain elevators at this place During the past year the Canada Iron & Furnace Company has erected large smelting works.

In 1887-88 the department constructed pile protection work on the south west side of the harbour, a length of 950 feet, and in 1889-90 extended the same northwards 2,000 feet, making a total length of 2,950 feet, at a cost of $57,582.94.

Dredging has been done at this place during 1892-3 at a cost of $9,999.96.

During the past fiscal year dredging was done in order to accommodate the large class of vessels connected with the iron trade, and up to the 30th. June $4,724.00 was expended on this account.

Total expenditure in connection with this harbour to end of fiscal year :—

Construction	$57,582 94
Dredging	14,723 96
Total	$72,306.90

MORPETH.

Morpeth is situated in West Elgin, on Lake Erie, about 10 miles from Rondeau.

In 1884 work was commenced on a pier to be 500 feet in length and to have 12 feet at low water at its outer end. Ths work was completed in 1885.

Slight repairs have since been made such as in 1896 when about $338.00 was expended.

Total expenditure to 30th June, 1900.—$20,486.10.

This pier was transferred to control of Department of Marine & Fisheries 11th March, 1895.

NEWCASTLE.

Newcastle is situated in the county of Durham on the north side of Lake Ontario, 47 miles east from Toronto. Population about 1,000. It contains large woollen mills, a tannery and implement factory.

This harbour was constructed by the municipality and is owned by a harbour trust. It is formed by a pier on the east side 900, feet in length, and a breakwater on the west side of the entrance, 600 feet in length, and the above portion on the west side by pile revetment work 730 feet long,

In 1877 the local harbour trust having expended a large sum of money on the structures on the western side, and dredge the harbour to a depth of 10 feet, they were granted the sum of $5,000 by parliament,

In 1883-5 the piers were repaired by this department at a cost of $17,928.51. Dredging has been performed during the past few years giving a depth of 11 feet of water.

During the fiscal year 1899 repairs were made to the shore end of the east pier renewing same with plank and stringers at a cost of $941.05. In performing the work some 33,000 feet board measure lumber and 450 pounds of iron were used.

The total expenditure at this harbour up to date is $24,621.83.

NORTH BAY.

North Bay, a town in the county of Nipissing, and district of Algoma, is situated at the upper or west end of Lake Nipissing. It is the terminus of the Grand Trunk Railway at this point connecting with the Canadian Pacific Railway, 227 miles north of Toronto. The town is of considerable importance and is growing very fast. Population about 2,000.

On November 18th, 1898, a contract was let to Messrs. Lindsay & Burdett, of Collingwood, to construct a wharf at this place, for the sum of $16,387, consisting of an approach of 780 feet of trestle work 25 feet wide, and 500 feet of cribwork, of the same width, with continuous superstructure on top.

Work was commenced on the 3rd January and completed on the 25th November, 1899. There was a delay of nearly three months in finishing the work owing to the high water submerging the cribs so that they could not be worked upon.

Owing to scouring on the outer face of the cribwork, it settled, and in May and June, last, brush and stone was placed in position in order to prevent further sinking, and, so far, it has had the desired effect.

Total expenditure to end of fiscal year :—

Construction	$16,387.00
Stone and brush protection work	499.87
Inspection and superintendence	414.65
	$17,301.52

OAKVILLE.

Oakville is situated on the north shore of Lake Ontario, in the county of Halton, 22 miles west of Toronto. Population about 2,000. It contains several mills and factories and a ship-yard. The trade of the place is local. It is a station of the Hamilton branch of the Grand Trunk Railway.

The work of forming a harbour at this place was commenced in 1829 and at the date of the union of the provinces in 1841 the amount expended upon the two piers was $14,361,08. The east pier was built 640 feet and the west pier 500 feet out into the lake ; revetment work inside 422 feet in length.

The eastern pier having become decayed and wrecked it was found necessary to rebuild the outer end, a length of 360 feet, and the old portion of the pier connected with the new. This work was done by the department in 1887-8 and in 1888-9 the western pier was rebuilt from low water level.

The harbour is formed from the piers extending from the shore into the lake and by a dredge area and the creek.

During the fiscal year 1899 extensive repairs were started to the east pier, the shore end of which for nearly 200 feet was carried away by storms and a portion of the west and east piers having settled have to be levelled up, in some places, over 2 feet. About 225,000 feet board measure of lumber and 8,710 pounds of iron have been purchased for the repairs. The expenditure on above was $4,465.94.

During 1888-9 extensive repairs were started to the east pier, the shore end of which for nearly 200 feet was carried away by storms and a portion having settled had to be levelled up, in some places, over 2 feet. The whole of the work on the east pier was completed in January last.

The amount expended during the fiscal year ending June 30th last was as follows :—

Repairs	$3,825 49
Dredging	674 10
Total	$4,499 59

Total expenditure in this harbour to date, $47,605.14.

OSHAWA.

Oshawa is an incorporated village in Ontario County, situated 4 miles inland from the shore of Lake Ontario on Warren's Creek and a station on G.T.R. 33½ miles east of Toronto. It is an important market town and has a number of manufacturing establishments.

It is also a port of entry. Population 4,000.

In 1895 the Government granted $5,000.00 towards enlarging the pier which had been built by the municipality and for dredging the harbour.

At the same time the Harbour Trust expended $9,968.00 for the same purpose.

The landing now consists of a pier extending out from the shore about 700 ft. into the lake in a south-west direction.

The pier offers no protection during stormy weather and owing to shallow water only very small vessels can land cargoes.

A safe artificial harbour could be made at a cost of about $50,000.00.

It is intended to expend $12,000.00 in repairing this pier next year.

OWEN SOUND.

Owen Sound, in the county of Grey, is situated at the mouth of the Sydenham River which flows into the head of Owen Sound, an arm of the Georgian Bay. The town is the centre of an extensive agricultural district, and is the terminus of the Grand Trunk Railway Branch of the Georgian Bay and Lake Erie division, also of the Canadian Pacific Railway, Toronto, Grey and Bruce division. There are several lines of steamers running to and from Owen Sound. Population, 6,500.

Construction.—Prior to Confederation the harbour was formed by the municipality of Owen Sound, and in 1856 and 1866 grants were made by the government to assist in improving the channel of the Sydenham River, from its mouth up to the town of Owen Sound. These grants amounted to $1,300. In 1874 a survey of the river was made, with a view of improving the channel, and in 1874-5 the sum of $10,367.55 was expended by the department in making a generally straight channel, 150 feet wide, from the wharf at the foot of Peel Street to the outer light, a distance of three quarters of a mile. The depth of water obtained was 10 feet at low water. In 1876-7 a channel was dredged from the dry dock to a short distance outside of the outer light, a length of about 2,000 feet. The channel was about 150 feet wide and had a depth of 12 feet. Cost, $6,589.77. In 1879 a further sum of $1,951.30 was spent in dredging a narrow channel 65 feet wide to a depth of 14 feet.

The growing trade of the place demanding greater harbour accommodation, and the increased size of the steamers navigating the lakes requiring a greater depth of water in the harbours, it was decided to make considerable improvements in the harbour, and the town of Owen Sound agreed to contribute $13,000 towards the cost. These works consisted in the building of two parallel rows of pile work, 200 feet apart, extending from the shore a distance of 600 feet, together with about 1,000 feet of bank protection, and the dredging of the channel of the river Sydenham, from the upper end of the steamboat wharf to its mouth, thence to 14 feet at low water, a distance of 5,000 feet.

The expenditure in connection with this pile protection work was, in 1881-2, $29,942.57.

In 1882-3 the pile work on each side of the entrance was strengthened by the placing of brush and stone, and a length of 3,000 feet of the channel, from a point below the outer light to the southern end of the pile work, at the entrance, was dredged to a depth of 16 feet. The dredging was continued in 1883 at a cost of $6,583.05, but in March 1884, owing to the shifting nature of the bottom, soundings showed an average depth of only 14 feet over the channel opened.

In 1884-5 a depth of 16 feet was obtained at a cost of $9,596.60. The foundations of the inner lighthouse were also protected with large stones at an expenditure of $237.50. Dredging was continued from year to year at a large expenditure, in the inner harbour, and on a new channel approach to the harbour. The material taken from the bed of Owen Sound harbour, both in the river and at the approach, is a fine alluvium earth and still finer sand. The material runs into the cuttings made by dredging and continues to do so until the sides of the cuttings form a natural slope. This accounts for the large amount of dredging done at this place, and the comparatively small results.

In 1890-1-2 a large amount of protection pile work was done in the river. In 1894 a contract was entered into with Messrs. Porter & Canan, of Wiarton, for the construction of sheet pile revetment work in front of the esplanade, on the west side of the harbour, a distance of 1,550 feet. This work was completed at the end of 1895. In 1896 Messrs. Canan, Sadlier & Co.'s plant was engaged dredging the harbour to 19½ feet depth at low water where most required.

During the past two seasons the largest vessels sailing the lakes have been able to use the harbour of Owen Sound. Protection work on the west side of the entrance channel is required to prevent the filling in of material brought down by the Pottowatamie river, and plans and specifications have been prepaied and tenders asked for this work.

Dredging was continued in the harbour and entrance during 1898-9, and up to May, 1900. The expenditure during the past fiscal year on this account was $11,000.00.

The total expenditure made by this Department in connection with this harbour is $279,094.99, and may be subdivided as follows :—

Construction and reconstruction	$123,377 27
Dredging	155,717 72
Total	$279,094 99

This harbour was transferred to the control of the Department of Marine & Fisheries 18th November, 1882.

PICKERING HARBOUR.

The harbour of Pickering, formerly known as Frenchmen's Bay is situated on Lake Ontario, twenty-one miles east of Toronto.

Two piers were built here some years ago by local authorities and in 1878 and 1879, the Department extended the western pier 60 feet, at a cost of $4,999.00.

Total expenditure up to 1st May, 1900.—Pier	$4,999 00
" " " " Dredging	4,928 89
	$ 9,927 89

During the coming year it is intended to expend $4,000.00 in repairing and dredging between these piers.

PORT ALBERT.

Port Albert is situated at the mouth of Nine-Mile Creek, on the east shore of Lake Huron, 11 miles north of Goderich, in the county of Huron, township of Ashfield.

There is no railway communication with the place.

In 1874-5 a breakwater was built here and the northern pier extended, and in 1881-2 a considerable sum of money was expended in dredging and pile protection work, costing $9,521.31.

In 1893 this department let a contract to Mr. Patrick Navin to extend the north and south pier a distance of 200 feet each by means of cribwork and continuous superstructure 20 feet wide, out into the lake for the sum of $10,497.

In 1894, the contractor having failed to proceed with his work in a satisfactory manner, it was taken from him, and in 1894-5 the extension of the north pier was completed by day labour at a cost of $5,689.93. Contractor was paid for the work performed, $1,304.35, and also allowed for dredging, $3,441.25.

During the year 1899, repairs were made to the north pier and the pile protection work, costing $997.93. Some 33,766 feet, board measure, lumber, 16 cords stone and 1,670 lbs, iron were used in these repairs.

The population is small, being only a post village; and the trade is only in local farm produce and small quantities of lumber.

The harbour proper is formed by the two piers extending out into the lake, and pile protection work inside the mouth of the creek, to keep the banks from falling in.

The total expenditure in connection with this harbour up to date is $28,797.13.

PORT BRUCE.

On north shore of Lake Erie 100 miles above Port Colborne.

Harbour was constructed by Port Bruce Harbour Co., which in 1857-8 obtained a loan of $6,000.00 from the Government.

There are two piers 115 feet apart and 700 and 750 feet long.

PORT BURWELL.

Port Burwell lies on the north shore of Lake Erie, about 90 miles above Port Colborne.

This harbor was formed by a company, incorparated in 1832, which received a loan of £3,000 from the Government. In 1840, the works were surrendered to the government; and in 1860, the deed of surrender was annulled.

The only expenditure made by the Government after the union of the provinces, was $546 for surveys.

A thorough survey was made in 1874, up to which time the company claimed that it had expended $100,100 on the harbour.

In 1876-7 the sum of $10,055.37 was expended in repairing the breakwater, and in dredging the harbour to a depth of 10 feet.

During the fiscal year 1899 extensive repairs and improvements were commenced in the harbour; old cribwork has been removed on a length of 100 feet and rebuilt 20 feet high and 24 feet wide; 300 feet of old sheet-piling has been removed and replaced by oak and maple pile, 25 to 35 feet long; and the deepening of the harbour was commenced.

During the past fiscal year pile protection work 1095 feet long has been constructed inside the harbor, to enclose, when dredged, an inner harbour or basin, between it and the pile wharfing on the east side.

Of this protection work and wharfing it will be necessary to place tongued and grooved sheet piling in front of the work already done, a distance of 580 feet

on the west side and 445 feet on the east side, in order to prevent fine sand from running through into the harbour which would require constant dredging.

As the present piers do not reach out into the lake as far as the solid blue clay bottom, it is necessary to extend them past the shifting sand which can be accomplished by running the east pier out 200 feet and the west pier 300 feet. This would make permanent work and prevent the formation of sand bars and repeated periodical dredging.

The estimated cost would be about $23,000.00.

It is also proposed to dredge to 18 feet in depth.

Total expenditure to 30th June, 1900 is $97,100.00.

PORT COLBORNE.

On north shore of Lake Erie at upper entrance to Welland Canal.

Two piers 90 feet apart, west pier is 2,364 feet long.

These works are considered a part of the Welland Canal and are under control of the Department of Railways and Canals.

PORT DALHOUSIE.

On the south shore of Lake Ontario at mouth of Twelve Mile Creek. Two parallel piers are constructed 200 feet apart having a total length of 4,980 feet.

This harbour forms the lower entrance to Welland Canal.

These works are considered a part of the Welland Canal, and under control of the Department of Railways & Canals.

PORT DOVER.

On north shore of Lake Erie, 49 miles above Port Colborne.

In January, 1832 a company was incorporated to build a harbour ; work to be completed in 1839. In 1835 time for completion was extended to 1842. In 1843 the work being incomplete, was transferred to the Government.

By order in council of 13th August, 1850, the harbour was sold for $30,400.00 to the Port Dover Co. In 1863 it was resumed by the Government.

There are two piers 75 feet apart and about 1,000 feet in length.

PORT ELGIN.

Port Elgin is in the electoral division of the southern portion of the county of Bruce, on the eastern shore of Lake Huron, about 24 miles north of Kincardine, and 4 miles south of Southampton. It is a station of the Wellington, Grey and Bruce division of the Grand Trunk Railway. There is no track from the railway to the harbour. Population, 2,000.

A block of cribwork was placed about 1,500 feet out in the lake from the shore in 1857, and a small pier built for shipping purposes in 1857-58 by a local company, aided by a government grant of $4,000. The total cost of the above was $7,180.

In 1881-2 this department built a breakwater 600 feet in length in front of the landing pier, and in 1884-6, the breakwater was extended 950 feet in length, in a northerly direction, joining the shore at the northerly end so as to inclose a basin, or harbour, making a total length of 1,550 feet. The structure is formed of cribwork and continuous superstructure, above low water.

The harbour is formed by the breakwater extending from the mainland in a southerly direction. Shipments are made from the landing pier.

The trade of the place consists of bark, brick, flour, grain, fish, lumber and farm produce. The only manufactories are a brush and rake factory.

During year 1899 Messrs. Bowman & Porter's plant dredged out the channel approach and a portion of the harbour, working 362 hours. The amount expended, including superintendence, was $2.896.

The municipality has expended about $16,000 in improving the harbour.

During the past fiscal year repairs have been executed to the landing pier, costing $500.00, some 28,000 f.b.m. 3-inch plank, 7 kegs of spikes and 2 cords of stone were used.

On the 17th January last a contract was let to Mr. John Burns to construct an extension to the breakwater, consisting of cribwork, substructure and continuous superstructure 540 feet in length, and 15 feet wide, for the sum of $5,240.00. Work was commenced in May last and very good progress had been made up to the 30th June. It is expected the work will all be completed in the time specified.

The total expenditure at this place up to date is $21,152.37.

PORT FINDLAY.

Port Findlay is in the Algoma District on the north shore of Lake Huron, about 5 miles below the entrance to Ste. Marie River, and 30 miles south east of Sault Ste-Marie.

Up to the present time this place has had only a private landing, which was quite inadequate for the traffic. An appropriation was made by Parliament for the construction of a wharf, and a contract was let to Mr. Murdock MacLennan to construct a wharf of the following dimensions: stone and earth approach embankment 170 feet long, 20 feet wide on top, and close-faced fully ballasted cribwork substructure 135 feet long, 30 feet wide with superstructure on top.

The contract price is $5,730.00.

Work was commenced on the 25th May last, and good progress has been made up to the end of June. The total amount expended upon the above contract for the past fiscal year is :—

Work performed	$730.00
Inspection, &c	24.00
	$754.00

PORT HOPE.

Port Hope is situated in the county of Durham, on the north shore of Lake Ontario, 63 miles east of Toronto, on the Grand Trunk Railway, and has a population of about 8,000. Chief trade is in lumber and grain.

The first harbour works were constructed by a company in 1832, afterwards vested in commissioners in 1853. In 1875-7 piers were extended and a considerable amount of dredging done. Additional dredging and extension of east pier was made in 1882-83.

During the fiscal year 1899 repairs were made to the southern end of the west pier and a sand fence 550 feet in length has been built on the west side of the west pier to prevent the sand from drifting over into the harbour. On the east pier, 100 feet of the old work has been entirely rebuilt up from the low water level and the shore end of this pier for some 300 feet in length has been renewed with stringers and planking. To make the above repairs, some 229,000 feet B. M. lumber and 1,500 pounds of iron were used, as well as eleven new mooring posts placed in the work. The cost of above for materials and labour was $5,515.

During the past fiscal year repairs were made to the east pier, at the shore end, and 500 feet in length was rebuilt from low water, up at a cost of $499,31 which is the amount expended during the fiscal year ending 30th June last.

Total expenditure at this place to date is $156,670.18.

PORT MAITLAND.

On north shore of Lake Erie at the mouth of Grand River connected by branch canal with feeder of Welland Canal.

Two piers 180 feet apart, 1,500 feet in length.

This harbour is considered as a part of the Welland Canal and is under control of Department of Railways and Canals.

PORT ROWAN.

Port Rowan, Norfolk County, is on the north shore of Lake Erie, in the inner bay of Long Point, and is 21 miles from the town of Simcoe.

On the 5th of December, 1892, a contract was entered into with Mr. P. Navin to build a landing pier 1,060 feet in length at this place, the structure to consist of a shore approach 535 feet in length, built of stone and gravel, the remaining 525 feet to be of 12 cribs with spans between them covered over.

The work was commenced in March, 1893, and completed in June, 1894, at a cost of $9,497.07.

In 1895 the pier was strengthened at a cost of $1,143.16.

Total expenditure to 30th June, 1900 is $12,059.86.

PORTSMOUTH.

Portsmouth is situated on the north shore of Lake Ontario, county of Frontenac, on Portsmouth Bay, 2 miles from Kingston. Population, 1,700.

In 1882 dredging was done in the harbour, to give 13 feet of water, at a cost of $3,300.00.

In September last, authority was given to expend $2,000.00 in making repairs to the "Long Pier." Work was commenced and completed in April last, 161 feet in length of approach was rebuilt with stone and gravel, 460 feet of the pier was replanked and new stringers placed where required, 162 fender guards were placed in position and 12 toise of stone used.

The amount expended during the fiscal year ending 30th June last is $2,000.00

Total amount expended at this place to date, $5,300.00.

PORT STANLEY.

Port Stanley is on the north shore of Lake Erie, at the mouth of Kettle Creek, in the county of Elgin, about 85 miles west from the entrance of the Welland Canal and 8 miles south from the city of St Thomas, and is the terminus of the Lake Erie and Detroit River Railway. The population is about 1,000.

In 1827 an Act was passed by the Parliament of Upper Canada, appointing commissioners to make a harbour, and appropriating £3,000 for this purpose; which sum was further supplemented by grants of £3,500 and £2,000. After the union of the provinces, very extensive repairs and improvements were made. The total sum expended up to confederation amounted to $230,531.88. By an order in council, dated September 1, 1859, the harbour was transferred to the London and Port Stanley Railway Company on condition that the tolls collected should be applied to the maintenance of the works.

In 1870, when an extensive survey of the harbour was made, the works consisted of two lines of piers placed 86 feet apart at the outer and 82 feet apart at the inner end. The western pier was 1,456 feet in length with a width of 20 feet for 548 of the shore end and 30 feet wide for the remainder of its length. The eastern pier was 1,150 feet in length and 30 feet wide. From the inner side of the western pier a dock 11½ feet in width was continued on the same line northward

for 882 feet, in which there was a recess 90 feet long by 53 feet deep. This docking formed the west side of the harbour. From the inner end of the eastern pier a line of pile-docking formed the eastern side of the harbour. The inner basin was about 850 ft. long by an average width of 280 ft., containing nearly 5½ acres, a small portion of which had a depth of water from 7 to 11 feet but the greater part—over four acres—had only a depth of from 1 to 5 feet.

In 1876-7 an extension was built to the western pier 85 feet in length by 30 feet wide at a cost of $8,158, and in 1882 the outer end of this pier, which had settled, was raised to its original height, at a cost of $600, for the purpose of placing a lighthouse upon it.

The trade of the place chiefly is fish, cordwood and farm produce, and since the Lake Erie and Detroit River Railway have owned the line from London, the Lake Ferry steamers now call and deliver coal on the cars at this place. There is a regular steamboat line between this port and Cleveland on the south side of Lake Erie.

The municipality has not expended any mony on improving the harbour.

As a harbour of refuge this place is well situated, being half way between Long Point and Rondeau.

The harbour is formed by the two piers extending out into the lake and by an inner harbour dredged out at the mouth of the creek. It is well sheltered inside and the entrance is not difficult.

During the year 1899 the sum of $8,105.93 was expended in repairs to the west pier, 770 feet in length, which was entirely renewed from low water level. In doing this work some 281,307 feet B.M. of lumber and 18,450 pounds of iron was used.

Dredging was also carried on in the harbour for the amount of $1,940.38.

By order in council dated February 14, 1898, the sum of $10,000 was granted to the Lake Erie and Detroit River Railway Company as assistance in carrying out extensive improvements in the harbour undertaken by the above named company.

The amount expended during the year being $20,046.31.

On the 29th September last authority was given to expend the sum of $13,000 to continue the repairs to the piers, with this amount the west pier, at the outer end, was rebuilt above low water a distance of 422 feet, and the east pier a distance of 774 feet from low water up. Repairs were also made to the west pier, damaged by the spring freshets. The amount expended in repairs during the last fiscal year were $13,037.46.

The total amount expended on this harbour to date is $311,845.82.

RAINY RIVER.

The Rainy River, about 100 miles long, forms part of the boundary between the province of Ontario and the state of Minnesota, viz :— between Rainy Lake and Lake of the Woods. The river is in the north-western part of Ontario, viz :— in the District of Algoma, and its navigation is impeded by rapids ; the principal obstruction being the Manitou and Long Sault Rapids.

During the fiscal year 1896-97, $5,332.56 of the $15,000, appropriated by Parliement, for the improvement of the Rainy River, at its second session of 1896 was applied in facilitating navigation past the Long Sault Rapids.

These rapids are situated about 40 miles above the outlet of Rainy River on Rainy Lake, and 120 miles east of Rat Portage.

Wing dams were built from both shores at the foot of the "Big Chute," and solid rock was removed by blasting from the bed of the river in the rapids.

On account of the delays experienced in the transportation of the tools required, and the construction, rigging and fitting up of scows and other plant necessary to remove the rock, the dams and excavation commenced in the latter

part of 1896 could not be completed before the spring of 1897 ; 1,500 cubic yards of granite had to be quarried to build the dams and about 1,000 cubic yards of that quantity were placed in the work.

A survey of the rapids had also to be made before the site of the dams could be located.

The removal of rock from the bed of the rapids progressed very slowly on account of the difficulties that were encountered in blasting them, the high stage of the water and the extreme cold weather that prevailed for nearly the whole winter.

When about half the rock excavation contempleted was completed, an unexpected early spring, with accompanying spring freshets, put an end to all further work for the season.

In 1898 the sum of $5,286.29 was expended in construction and in 1899 $554.00 for the same purpose.

Some improvements were made to wing dam and efforts were made in 1898 to remove rocks from the Long Sault Rapids but without much success.

It was considered advisable to improve these rapids during the winter months. To secure continuous navigation to Fort Francis, extensive dredging must be done at several points above the rapids.

Total expenditure to 30th June 1900, $22,325.55.

RONDEAU.

Rondeau is situated in the county of Kent, at Point aux Pins, on the north shore of Lake Erie, about 140 miles west of Port Colborne, the Lake Erie entrance to the Welland Canal. It is a harbour of refuge and a very important one on this side of the lake. Of late years the beach at Rondeau has become a much frequented summer resort and many cottages have been erected here. The Erie and Huron Railway have constructed their line this far and are also establishing a dock for Lake Ferry to deliver coal in cars from the other side.

Point aux Pins projects out into the lake and incloses a natural basin of over 6,000 acres in extent. The communication between the basin and the lake is over a sand bank, some parts of which are above the level of the water. In 1884 a breakwater was built here by the government, and in 1851 the harbour was sold to the Rondeau Harbour Company for $8,000, upon condition that the company would keep the work in an efficient state of preservation ; but the stipulation being wholly neglected, possession was resumed by the government in July, 1856, when the works were repaired.

In 1869 it was found that all the works were in a ruinous condition ; the rapid current had scoured out the channel between the piers and undermined them, causing them to fall inwards, while some 350 feet of the outer end of both piers had entirely disappeared.

In 1871 the piers were rebuilt, the channel and basin enlarged, and all necessary work done to form a harbour of refuge. The work consisted of two parallel piers 783 feet in length, 250 feet apart and 15 feet of water between them ; a breakwater 225 feet in length and dredging an area of 10 acres in the inner basin to 15 feet deep.

In 1881-2 this department constructed 2,000 feet of pile protection work on the beach to the westward of the entrance. This work cost $197,890.76.

During the year 1899 repairs have been made to the piers, costing $3,499.93. Work was commenced in August, 1898, and finished in May 1899. Some 250 feet of the northern end of the west pier was rebuilt up from low water level, and considerable repairs made to other portions of the piers. In doing the above work, 63,748 f. b. m. of lumber and 6,787 lbs iron were used.

In August last, authority was given to continue the repairs to the western pier, and work was commenced in the same month and continued until June last.

The sum of $6,200 being expended completing the rebuilding of the superstructure of the west pier to within 25 feet of the outer end.

In September, orders were issued for the Chatham Dredging Company to dredge the channel and a basin inside the harbour to accommodate the "Lake Ferry", and the sum of $3,989.75 was expended in removing 26,015 cubic yards of material.

The amounts expended during last fiscal year are as follows:—

Reconstruction on west pier	$ 6,200 00
Dredging	3 989 75
Superintendence	94 25
	$10,284 00

The following is the expenditure at this place to date:—

Before Confederation	$ 74,437 70
Since Confederation	237,682 88
	$312,120 58

This harbour was transferred to control of Department of Marine and Fisheries 17th December, 1888.

SAUGEEN RIVER.

Saugeen River runs into Lake Huron 143 miles above Sarnia, passing through the village of Southampton, situated on the shore of this lake in the north riding of Bruce.

In 1858 the Government constructed a breakwater on the north side of the river. The local authorities repaired it in 1868, receiving a grant from the Government of $3,500.00. The breakwater cost $18,795.99.

The mouth of the river affords a harbour to small craft, such as tug steamers and fishing boats, and is extensively used for the purpose of packing and shipping fish.

During the past fiscal year the department has expended $494.00, in removing 3,306 cubic yards of material off the bar at the entrance to the river.

The total amount expended at this place up to date is $33,251.82.

SAULT STE. MARIE.

Sault Ste. Marie in Algoma County is situated at the head of St. Mary River, which connects Lake Superior with Lake Huron.

A wharf built by private enterprise some years ago in front of the town for vessels to land passengers and discharge cargo accommodated all the wants of the place until 1883 when a larger class of vessels being used on the upper lake navigation it was considered necessary to provide deeper water, and in 1885 this department expended the sum of $4,441.50 in dredging in front of the wharf. As the material dredged was composed of rock and boulders the progress was slow and results not equal to expenditure, and this department decided, 1887, to obviate the necessity of dredging by extending the wharf 150 feet out into the river, when a depth of from 14.6 to 18 feet could be obtained. The extension was made in 1887-8 at a cost of $12,019.26

A further extension and enlargement of this wharf is much needed as the larger class of vessels cannot use the Canadian side and have to purchase their coal and provisions on the American side of the River.

In July last urgent repairs were made to the wharf, costing $349.43, and again in May last, further repairs had to be made, at a cost of $522.82, being a total for the past fiscal year of $872.25.

The total expenditure at this place may be subdivided as follows :—

Dredging	$ 4,441.50
Construction	13,288.57
Repairs	1,189.04
	$18,919.11

SOUTHAMPTON.

Southampton is in the electoral district of North Bruce, situated at the mouth of the Saugeen river, which empties into Lake Huron, 143 miles above Sarnia. It is the terminus of the Wellington, Grey and Bruce Division of the Grand Trunk Railway.

Chantry Island is situated about 1¾ miles west south-west from the mouth of the Saugeen river.

In 1856 the Government built a breakwater extending in a westerly direction from Chantry Island. This was repaired and extended in 1871-77. Total length 2260 feet.

A small landing pier and beacon was built at the same time. In 1858 the breakwater extending from the main shore in a north westerly direction, 2380 feet, was commenced.

The above structures cost $267,380.76., and the total length of the breakwaters is 4,600 feet.

The harbour is formed by the breakwater extending from the mainland and a "Landing Pier", some 600 feet southward of this breakwater, 760 feet in length.

The "Roadstead" is formed by the breakwater, extending from Chantry Island towards the mainland. To the south of these breakwaters a refuge for shipping is found.

The trade of this place is chiefly fishing and lumber. The population is about 1,500.

Owing to the existence of a number of boulders, in the channel, vessels, drawing over 12 feet cannot, with safety, call at this place.

The harbour proper, that is the portion between the landing pier and the breakwater extending from the mainland is very much exposed to winds and sea, and, in order to make it safe, it would be necessary to extend the landing pier a distance of about 200 feet in a northerly direction, and a spur from the mainland breakwater towards the landing pier about 400 feet in length.

The municipality has not expended any money upon the harbour works at this place, but the Government has expended very large sums in building breakwaters and the landing pier, as well as for dredging out the large accumulations of sand which is carried into the harbour, washed from the sand banks along the shore to the south of the landing pier.

During the fiscal year ending 30th June, dredging was done between the landing pier and the shore breakwater, at a cost of $1,997.00, and a "slideway" and some minor repairs were made to the east breakwater at an outlay of $199.64. Total expenditure for the fiscal year past, $2,196.64.

The following is the expenditure at Southampton and Chantry Island :—

Expended before Confederation				$	10,236 39
By Government to 30th June,			1882		8,559 60
"	"	"	1884		1,607 58
"	"	"	1885		10,132 98
"	"	"	1886		1,191 45
"	"	"	1888		1,477 50
"	"	"	1889		1,853 50
"	"	"	1890		3,014 32
"	"	"	1891		5,966 20
"	"	"	1892		2,500 00
"	"	"	1893		5,700 00
"	"	"	1900		2,196 64
Total				$	54,436 16

CHANTRY ISLAND.

Expended before Confederation				$	31,913 95
By Government to 30th June,			1882		235,466 81
"	"	"	1884		2,345 30
"	"	"	1886		3,489 88
"	"	"	1887		2,538 60
"	"	"	1888		115 15
Total				$	275,869 69

SUMMARY.

Southampton		54,436 16
Chantry Island		275,869 69
Total	$	330,305 85

These works were transferred to control of the Department of Marine & Fisheries 27th June, 1888.

SUMMERSTOWN.

Summerstown, county of Glengarry, is on the north side of Lake St. Francis, 10 miles below Cornwall.

A wharf having a length of 130 feet and a width of 20 feet, with a short connection of 85 feet in length, was built in 1886-7. The wharf has a height of 11 feet at the outer side.

In the fall of 1888, a warehouse 24 by 30 feet was constructed.

Total expenditure to 30th June 1900 is $15 448.41.

This wharf was transferred to control of Department of Marine and Fisheries on the 12th March 1890.

THESSALON.

Thessalon is situated on the north side of the north channel (Lake Huron), in the district of Algoma.

On the 3rd April 1895, a contract was entered into with Messrs. Read & Green, of Owen Sound, for the construction of a landing pier of cribwork, at this place, with superstructure 325 feet in length and an approach of stone work 80 feet in length, making a total length of 405 feet. Active operations were com-

menced in July 1895, and the whole of the work was completed in October of the same year, and accepted by the department, the total expenditure being $8,658 for work and inspection.

No expenditure has been incurred since its completion in 1897.

Work was transferred to control of Department of Marine and Fisheries in December 1895.

THORNBURY.

Thornbury, an incorporated village in Grey county, is situate at the mouth of the Beaver River, which empties into Georgian Bay; on the Meaford branch, of the Grand Trunk Railway, eight miles from Meaford and 19 miles from Collingwood. It contains four churches, twenty stores, two hotels, two grist, one saw, one woollen and one planing mill, two printing offices issuing weekly newspapers, and telegraph and express offices. Population 900.

Many years ago a pier was constructed at this place by the residents of the locality, but it was allowed to fall out of repair and become useless.

Construction.—During the session of 1881, the sum of $7,000 was voted to construct a pier on the western outlet of the Beaver River, and to dredge a basin 100 feet in width to 10 feet depth on its eastern side. This grant was supplemented by the sum of $7,000 furnished by the town of Thornbury, and the work was placed under contract. The pier was built of solid cribwork, for a length of 425 feet out from the shore into Georgian Bay; the outer portion or landing block is 145 feet in length and 35 feet in width, and the remaining portion of 280 feet comprising the approach is 18 feet in width. This work was completed during the year 1882-3, at a cost of $14,136.37. In 1883-4-5, the sum of $8,085.09 was expended in the construction of protection works on the eastern side of the basin. The work consisted in the construction of a close pile jetty extending 400 feet out from the beach into the lake, forming an artificial harbour. During the year 1886-7, a row of piling was driven from the inner end of the landing pier, in a south-westerly direction, for a distance of 280 feet on the western shore of the Beaver River, at a cost of $1,818.48, to prevent the beach being cut through by the seas. In 1892-3, a sum of $2,981.27 was expended in the construction of 150 feet in length of pile protection work, and in forming a slip in the landing pier. In 1897-8, it was decided to build a small breakwater in the harbour in order to shelter small craft. The breakwater is 190 feet long and 16 feet wide and was built at a cost of $978.06.

Dredging.—The dredge *Challenge* in 1886, opened a channel in the shoal between the dock and the breakwater, removing 8,820 cubic yards of boulders, gravel and sand at a cost of $1,185.55. During the year 1887-8-9 and 1891-2, some extensive dredging was done to improve the harbour and make it easier of access, at a cost of $7,265.23.

Repairs.—In 1891-2, repairs were made to the approach of the landing pier. The work consisted in removing the wreck of 100 feet of old pile protection work, on the inside of the approach to the pier, building the same with new material and making up the embankment with gravel. The work was done by day labour at a cost of $624.99. The landing pier, which was much in need of repair, was still further damaged in May, 1893, when an unprecedented rain-storm of two days duration caused a heavy flood in the Beaver River, carrying away all the mill-dams in the vicinity of Thornbury. The debris brought down by the stream and current undermined the shore end of the landing pier and the structure, for a distance of 160 feet out, sank and fell in towards the harbour. During the years 1893-4 and 1894-5, $6,387.18 were expended to put the landing pier in a complete state of repair. In 1895-6 and 7, an expenditure of $46.05 was made for slight repairs.

During the year 1899 the sum of $999.99 was expended in completing certain repairs on the pier and its approaches.

The total expenditure incurred on this harbour may be summarized as follows :—

Construction (including $7,000 furnished by the town of Thornbury)	$27,999 27
Dredging	8,450 78
Repairs	8,058 21
Total	$44,508 26

TOLSMA BAY (Cockburn Island).

Tolsma Bay is situated in Algoma County and on Manitoulin Island.

In 1889 a pier was constructed which is 375 feet long, consisting of an approach of stone 175 feet and cribwork 200 feet, is 27 feet in height with 20 feet of water at outer end, and is 20 feet in width.

Slight repairs were made in 1899.

Total expenditure to 30th June 1900 is $8,381.36.

TORONTO HARBOUR.

The harbour of Toronto is situated on the north shore of Lake Ontario, and is formed by a large circular bay about 1½ miles in diameter, separate from the lake by a low island (formerly a peninsula), about six miles long, making a safe and well sheltered harbour capable of containing a large number of vessels.

In 1788, the harbour was described to be nearly two miles in length, from the entrance on the west to the isthmus between it and a large morass to the eastward. The breadth of the entrance was about half a mile, but the navigable channel for vessels was only 1,500 feet, having a depth of from 18 to 21 feet of water. In 1832, Bouchette stated that the peninsula, now Toronto island, was a narrow slip of land, in several places not more than 180 feet in breadth, but widening towards its western extremity to nearly a mile. In 1833, changes in the state of the harbour were apparent, and the necessity for its preservation engaged the attention of those interested ; no action, however, was taken at the time. In 1850, the harbour was put in commission, and early in 1852, it was reported that from observations made and soundings taken during twenty years, it was ascertained that the navigable channel had narrowed down to about 200 feet. In 1853, an opening was made during a storm through the narrow beach at the eastern end of the harbour, which closed again in a short time afterward, although attempts were made to give permanence to the beach, the whole was swept away and the eastern entrance was formed.

In 1859, the harbour master reported a depth of eight feet of water in the eastern channel. In 1860, the western channel was dredged to a width of 400 feet, and an average depth of 12 feet. In 1862, the eastern entrance had increased to half a mile in width, and a bar had formed which had shoaled the water. Between 1874 and 1880, the sum of $49,120.90 had been expended principally in increasing the width and depth of the western entrance, and a certain amount of blasting for the removal of solid rock was executed.

In 1881, an examination of the harbour was made by Mr. Jas. B. Eads, C.E., who submitted a carefully prepared report, in which he advised the closing of the eastern entrance, to obtain and maintain a depth of 18 feet at low water. Before any action could be taken on these suggestions, the marshes bounding the eastern side of the harbour, and the whole of the southern shore of the island were damaged to such an extent as to necessitate a complete departure from the plans prepared by Mr. Eads. As attention had to be paid to the protection of the eastern

side of the harbour, and the preservation of the eastern portion of the island, where it was the narrowest, and through which several breaches had been made, in 1882, work for the protection of the harbour, extending from the Don southwardly to Fisherman's Island, and for the protection of the island, over a length of 6,500 feet, was commenced, and was brought to completion in 1885.

In 1889, a contract was entered into for improving the eastern entrance and the continuation and completion of the harbour protection. These works consisted in building 1,650 feet of cribwork to partially close the eastern gap from Fisherman's Island up to the new eastern channel; in protecting and maintaining the channel by the construction of two rows of cribwork, respectively 2,420 feet and 2,280 feet in length, 400 feet apart, and by dredging between these two rows of cribwork to a depth of 16 feet at low water. It was also decided to rip-rap with heavy stone the breakwater at the island, this last work being done by day labour, under direct charge of the department. All the above mentioned works, outside of the dredging, was practically completed in 1896 only.

During the winter of 1896-97, severe storms caused the settlement of the north and south ends of both west and east piers. The north end of the west pier having settled below lake level, it was found necessary to take down and rebuild some 120 feet of the superstructure, and to place brush mattrasses and large stones around the end and channel face to protect it from further scouring. This was also done to the north and south ends of the east pier. Settlement having also taken place along the channel side, an extra course of timber was put on and the waling taken off and replaced to proper level. During the year 1897-98, the north end of the east pier having again settled considerably out of line, it was found necessary to take down 200 lineal feet of the superstructure and rebuild it, after the pier had settled back into place by excavating a seat for it with the city's pumping dredge. Brush mattresses, 32 feet in width, were sunk along the face of the pier on the channel side, for 210 feet in length to protect it from scouring, and no settlement of the pier was noticeable at the end of the year.

Repairs to the breakwater were also commenced and are now being carried out. A bar, formed during the winter of 1898, south of the west pier, contracting the channel to a little over 100 feet, was removed, and some shallow portions of the channel deepened. There is now a channel 190 feet in width, having a depth of 16 feet below zero of the gauge, from the end of the west pier outward. At the end of the year 1898 the dredge was employed in deepening the channel between the piers to 16 feet below zero. Three groynes composed of layers of brush mattresses and sunk with stones, were also constructed on the south shore of the island, west of the breakwork to protect the beach. These groynes withstood last winter's storms and made considerable land in their immediate neighbourhood, but they are too far apart to be of much service, as the sea did much havoc to the shore line lying between them, washing away a strip of beach, and uprooting several trees, besides doing damage to the sidewalk. They demonstrate clearly, however, the importance of others being put down closer together if the beach is to be retained. The sum expended on these works during the year 1898 is $18,442.76.

During the fiscal year 1899, the dredging operations commenced in 1898, were continued in the eastern entrance in order to obtain a depth of 16 feet at low water. The amount expended was $18,232.26.

When in 1881, James B. Eads, C. E. of St. Louis, Mo., was instructed, by the Hon. Minister of Public Work, to make a report on the preservation and improvement of Toronto Harbour. His report, which was presented to the Department in 1882, resulted in two contracts being awarded in January 1883; designated A and B. Contract A, covering the work along the west side of Ashbridges Bay, and also along the lake shore, westwardly, a distance of 2330 feet; and contract B, that on the south shore of the Island, from the breach in the peninsula, known as the Eastern Gap, westward, a distance of 6,500 feet.

The works consist of a breakwater formed by two parallel rows of sheet piling, 10 feet apart, between, and on either side of which brush was deposited, and this in turn covered with rock ballast to the top of piling. The work was commenced in 1883, and completed in 1885.

It was found that the stone protecting the breakwater on the lake front, was of too light a character to withstand the heavy seas, and in 1887 it became necessary to further strengthen the piling by large blocks of stone to prevent the whole work being destroyed; being completed in 1892, by day labour, at a cost of $89,083.70.

In 1888, plans and specifications were prepared by the department for the construction of works in the Eastern Gap, and the contract was awarded to Messrs Murray and Cleveland, of Ste. Catharines, 21st May, 1889.

The work consisted of two parallel piers extending from the Bay into the lake, having a distance between them of 500 feet; with a channel 300 feet in width, dredged in the center to a depth of 12 feet below zero of Harbour Commissioners' guage at Queen's wharf. The east pier being 2420 feet in length; and the west pier 2550 feet, each pier being 20 feet in width, with counterforts on the lake side every 500 feet apart, and being further strengthened by piles driven along the face of the work every 10 feet apart. The east pier being connected with Fisherman island by a breakwater pier, 1,635 feet in length, and 15 feet in width.

The cribs forming the foundation of channel piers were to be sunk to a depth of 8′ 6″ below zero, a seat being previously dredged to that depth to receive them, and the cribs forming the breakwater pier to rest on the natural bed of the lake.

In order that the Eastern Gap might be made available for passage of vessels and small craft, as soon as possible after the signing of the contract, the contractors placed two dredges at work in May, and by November of that year they removed 135,654 cubic yards of sand; giving a channel 250 feet in width, having a depth of 12 feet below zero.

On 21st June, 1890 instructions were given to seat the channel cribs 10 feet below zero, in line of 8. 6 feet shown on original drawing, and also to sink the first three cribs forming the protection pier to Fisherman Island, the 1st at 10 feet, the second at 12 feet, and the third at 8 feet below zero, the remaining cribs of the protection pier to be on natural bed of the lake as at first intended.

The first crib was sunk in position on 7th August 1890, and during that season four cribs were placed, and 64,253 cubic yards of sand removed from the channel.

On the 6th October 1890, a severe gale from the eastward displaced one of the cribs, necessitating unloading it by divers and floating it back into position.

On 28th October the plans were again changed. The cribs to form the east pier, south of the protection pier to Fisherman Island were to be constructed 30 feet in width, in lieu of 20 feet, and the cribs forming the protection pier, 25 feet in place of 15 feet.

During the season of 1891, twenty-three cribs were sunk in position, and the superstructure constructed on the first six northerly channel cribs; and 123,735 cubic yards of sand removed from the channel.

A crib 100 x 20 x 8 feet in height was sunk at the west end of the breakwater to protect the shore line of the island to the west. The crib having settled after the winter storms additional courses of timber were added to it the following season, but the upper portion was carried away by the gales of 1893.

Further changes were made in the plans Feb. 26th 1892. The channel was to be made 400 feet wide, in lieu of 500 feet, and the west pier to be formed of 9 cribs, 20 feet in width; and one crib 30 feet in width at the south end.

During the season of 1892, 14 cribs were sunk in position, 2,005 lineal feet of superstructure built, 134,965 cubic yards of sand removed from the channel.

Further changes were made in the plans in December 1893. The first crib to form the west pier south of the breakwater, was to be made 20 feet in width,

followed by 6 other cribs 30 feet in width, and 3 cribs 30 feet in width, to be placed at north end of the pier ; also a crib was to be sunk at south end of east pier, 30 feet wide, which was subsequently changed to 40 feet.

During the season of 1893,9 cribs were sunk in place, 851 lineal feet of superstructure completed, 135,596 cubic yards of sand removed from the channel.

During the season of 1894 large stones were deposited in angles of conterforts, 8 cribs were placed in position, 1,404 lineal feet of superstructure completed, and 73,290 cubic yards of sand removed from the channel.

During the season of 1895 the remaining 2 cribs were sunk. Brush mattresses were placed at end of east pier and large stones deposited around the end of the pier, 650 lineal feet of superstructure of west pier was completed ; also the superstructure at south end of east pier, upon which a temporary lighthouse was erected ; 54,932 feet B.M. of plank laid, and 18,140 cubic yards of sand removed from the channel and approaches up to August 14th 1895, when the dredge stopped work by order of Chief Engineer. Making a total of 685,633 cubic yards of sand dredged by Murray and Cleveland, from the commencement of their contract up to that date.

The north end of the west pier having settled the superstructure was rebuilt to grade in 1896, and brush mattresses sunk at the end of pier and along channel side for 70 feet in length, upon which large stones were placed. The superstructure at south end of the pier was also constructed.

Brush mattresses were sunk at south end of east pier, and large stones placed around end of pier. Some repairs were also done to the superstructure. No dredging was done during season of 1896. On 31st August, 1896 the works in the eastern gap were completed according to last revised plan.

A survey of the whole island was commenced, November, 1896. Soundings were taken in the Bay on the ice during the winter months, and plan prepared.

During the season of 1897, further repairs were done to talus along the breakwater on south shore of the island. The north end of the east pier having settled was rebuilt to grade by day labor. Brush matresses were sunk along the face of the pier on channel side for 210 feet to prevent further settling of pier.

The sand having washed into the channel at the south end of the west pier it was found necessary to do further dredging there to enable heavily laden vessels to pass through, and Mr. W. E. Phin, of Brantford, was appointed to do this work. His dredge commenced work 29th July, and during the season removed 37,214 cubic yards of sand.

3 groynes, 94 feet in length, were placed on the south shore of the island to prevent erosion of the beach.

During the season of 1898 further repairs were made to the talus along the breakwater. 3 additional groynes were placed on south shore of the island. 67,043 cubic yards of sand were removed from the channel.

A self acting instrument for recording the lake fluctuations, known as the "Denison hydroghraph," was placed in the signal house at the Queen's wharf, Toronto, and is under the care of the Deputy harbour master.

At the eastern channel, Toronto, 17,716 cubic yards of sand were removed during the 6 months ending 30th June, making a total dredge up to that date, since Mr. Phin's dredge commenced work, of 122,973 cubic yards.

Plans, specification and estimates were prepared for the extension of the west pier 800 feet, and for the necessary repairs to the superstructure at south end of the pier. Borings were made over site of proposed extension.

Plans, specification and estimate were prepared for the closing of the Don channel, and diversion of the river into Ashbridges Bay Marsh.

Plan and estimate were prepared showing the area to be dredged in the harbour to 16 feet below zero of city guage at the mouth of the Don River.

During the past year 87,454 cubic yards of sand were removed from the channel and at bar south of the east pier.

Total expenditure to 30th June, 1900 $1,154,486.13.

WHITBY.

Formerly Windsor, on north shore of Lake Ontario, 135 miles above Kingston. Commenced in 1843 and completed in 1846. Harbour vested in Board of Works by Act of Parliament in 1846 and by Order in Council Aug. 13th, 1850, and was sold to Port Whitby & Lake Scugog, Simcoe & Huron Road Co. for $80,400; the company defaulting, harbour was resumed by Government 10th May, 1863, and in March, 1864, was sold to Port Whitby Harbour Co. for $35,150, and road sold to another company for $10,000.

The breakwater is 3,042 feet long, both ends touching shore with an opening 250 feet wide near eastern end. Two protective piers at entrance: one 820 feet long, the other 394 feet.

Inside of eastern portion there is 1,250 feet of pier work 20 feet wide.

Some dredging was done in 1897-8, and about 26,000 cubic yards of sand, clay and mud removed.

WILSON'S ROCK.

Wilson's Rock is situated in Georgian Bay, about 35 miles from Sault Ste. Marie and 8 miles below Nabish Rapids.

In 1885 a block of cribwork, with a beacon thereon, was placed on this rock.

No expenditure has been incurred since.

PROVINCE OF MANITOBA.

Wharfs on Lake Winnipeg.

GIMLI.

In 1897, Parliament revoted the sum of $8,500.00 which had been appropriated at its second session of 1896 for the construction of wharfs on Lake Winnipeg; but no expenditure was incurred for this purpose, during the year ended 30th June, 1898.

In this connection it may be stated that a project has been submitted for the construction of a public wharf, 600 feet long, at Gimli, on the west shore of Lake Winnipeg, that would reach eight feet depth at mean low water. The proposed structure is to consist of an outer portion of solid cribwork, 20 feet wide and 400 feet long, and a stone approach from the shore 200 feet long; the top of planking to stand 4 feet above mean low water level.

Gimli is the most important Icelandic settlement on the west shore of Lake Winnipeg and is 62 miles north of the City of Winnipeg.

The object of building this wharf would be chiefly to afford to the inhabitants of the municipalities of Gimli, Woodlands and Rockwood, proper facilities for carrying on the lumber trade and the fishing industry. In summer, communication can only be had by water with these localities from Winnipeg, as the colonisation road is still almost impassable on account of its unfinished state and the swampy nature of the county traversed.

The work of constructing the Gimli wharf began in the month of January, 1900 although the bulk of the material such as stone, timber, &c., were either delivered at the site of the work, or at the nearest point of shipment.

The 100 feet of embankment approach to the trestle work has been completed in a first class manner, so also has the 150 feet of trestle work. The 350 feet of cribwork were sunk during the spring months, great care being taken to keep them clear and free from ice, and were pretty well up to grade line, when the fierce north-east gales which prevail at this point, caused an extraordinary settlement. The cribwork was surfaced and relevelled twice, until it was found that the continued settlement prohibited the continuation of the work in a good workmanlike manner. The completion was thus deferred until such a time as no more settlement is observable.

No final settlement has been made with the contractor who virtually abandoned the work with the request that the Department complete it.

Total expenditure to 30th June 1900, $9 000.55.

HNAUSA WHARF—LAKE WINNIPEG.

Hnausa is an Icelandic settlement situated on the west shore of Lake Winnipeg, Manitoba, about 52 miles north of West Selkirk and 70 miles north of Winnipeg.

In view of the increasing settlement and trade along the west shore of Lake Winnipeg, a wharf was constructed at Hnausa.

The work was under contract with Mr. Peter McVeigh, of Ottawa, contract price $5,870.00; work began in June, 1895.

The wharf consists of 300 feet of open faced cribwork, 20 feet wide, filled with stone, and 60 feet of earth and stone approach.

The contractor failed to complete the work within the specified time (October 15th, 1895), and it was taken out of his hands and completed by day labour in February, 1896.

$167.60 was expended in 1897-98 in completing the work. Total expenditure to 30th June 1900, $6,718.93.

ST. ANRDEW'S RAPIDS (REMOVING BOULDERS).

The work of removing boulders from the channel in St. Andrew's Rapids, was commenced on the 18th of January 1900.

The part known as Quarry Rapids, a place that was shallow and thickly strewn with boulders, and always a troublesome place for navigation, was cleared for a length of 1,500 feet.

The method adopted was necessarily slow but thorough. Two derricks, with special tongs, were placed upon runners, and as the ice was cut open were drawn up to the boulders. When the boulders were small enough, they were lifted bodily out of the water on to the ice and drawn well up on to the banks by teams. When too large for the derricks to handle, the boulders were blasted and then lifted out.

The boulders, in this part of the river, were mostly hard granit and limestone slabs, the bed of the river being gravel and limestone. The work of clearing was carried on until the ice broke away in April, and the work had to stop. The minimum depth of the channel, in the part cleared, was 4 feet 2 in. at low water.

As to the cost of the above work, some of the accounts require adjustment, though the total cost will aggregate about $5,000.

FAIRFORD RIVER.

The work of excavating the Fairford River, to regulate the flow of Lake Manitoba, was started in July 1899.

The contractor built a special dredging plant to do the work, but on trying the plant, it was found that the dredge drew too much water to enable her to

float within the contemplated prism of the canal. The work was suspended until the spring of 1900, when, in the month of April, the contractor resumed work with a new plant, which consisted of horses, scrapers, plows etc. The work has since prospered satisfactorily. The material removed consists almost wholly of gravelly clay with few boulders.

The total amount of expenditure to the end of the fiscal year, aggregated $7,647.84.

BRITISH COLUMBIA.

COLUMBIA RIVER.

The headwaters of the Columbia River are a series of small lakes lying between the Rocky Mountains and the Selkirk Range, a little south of the 50th parellel of north lattitude. The upper lake is separated from the Kootenay River, which takes its rise in the heart of the Rocky Mountains, but a few miles north of the 51st parellel—by a low sand and gravel divide, 2,700 feet above sea level, a mile and a half wide. The Kootenay at this point, at an ordinary stage of water, is about 9 feet or so above the level of the Upper Columbia Lake. While the Kooteney flows in a south-easterly course to the boundary line, the water of the Columbia takes an entirely opposite direction towards the Canadian Pacific Railway at Golden, about 130 miles north-west of Canal Flat.

This portion has been known as the 'Columbia River above Golden' and is navigable now for steamers of light draught as long as the river is free of ice.

From Golden the Columbia follows on—about the same course—the line of the railway on the south side, to Donald, where it crosses to the north side of the railway and continues to follow it down to Beaver. Steamers can, it is believed run down from Golden to Donald, but not to Beaver. Leaving the railway at the latter place the river continues the same course to the Big Bend; here it doubles and takes a southerly course to Revelstoke, where it again meets the Canadian Pacific Railway. The distance from Beaver round the Big Bend is about 174¼ miles.

About 30 miles below Revelstoke the river debouches into Upper Arrow Lake, over a fan-liked bar of moving sand. After passing through the lake—which is about 43 miles long—the river is entered again; thence it continues to flow for about 18 miles down to the Lower Arrow Lake; and extend southward 48 miles, more or less past this lake. The river between the lakes is called 'The Narrows.' Both of these lakes hardly exceed 4 miles in width in the widest part. From the Lower Arrow Lake to Kootenay Rapids—21 miles—the river is deep and wide, with no very acute bends, but a strong current. This portion is known as the 'Columbia River below Revelstoke.'

Continuing through the rapids, passing the mouth of the Kootenay River on the left, the Columbia continues a wide and swift river, with many sharp bends divided in one or two places by rock islands, to the international boundary below Fort Sheppard, a distance of 32 miles from the head of the rapids. The general direction is due south. This part of the river is known as the 'Columbia River below Kootenay.'

The valley of the river from the 'Big Bend' south lies between two ranges of mountains, the Selkirks to the left and the Gold Range to the right. The mountains lose to a great extent their rugged appearance as the lakes are reached.

The banks and bed of the river are generally gravel and sand, thickly timbered, with an occasional rock bluff intervening.

Improvements above Golden.—During the year 1899 the work done under the appropriation consisted chiefly in repairing and extending existing dams on the Columbia River, between Lake Windermere and Golden, in order to confine the river to the main channel.

COLUMBIA RIVER ABOVE REVELSTOKE.

The work done under this appropriation consisted in removing rocks and boulders which were projecting above low water at Nine Mile Riffle, situated, as the name indicates, nine miles above Revelstoke on the Columbia River.

The details of the expenditure are :—

Wages	$ 2,164 25
Material	214 67
Boat hire	65 00
Contingencies	5 50
Total	$ 2,449 42

COLUMBIA RIVER BETWEEN ARROW LAKES.

Operations, in connection with this service, were commenced at the end of February last and finished early in May. The work done consisted in repairs to the dam. This dam, which was built last year, had washed out slightly in the centre and required building up again with heavy rock. The second dam was lengthened 153 feet at the north end and 188 feet at the south end, the channel having cut its way through the bar at each end of the old dam. The third dam was repaired with brush and rock at the shore end, and some minor repairs were made to the fourth dam.

The bank of the river was protected with a brush mattrass 40 feet wide and 2 feet thick, built in place from low water mark up. During the high water of 1899 the bank was cut away to a considerable extent and the gravel, etc., falling into the river, made it very shoal at this point.

The following are the details of the expenditure in connection with this service :—

Wages	$ 5,447 22
Materials	609 26
Boat hire	52 00
*Contingencies	70 33
Total	$ 6,178 81

*This includes travelling expenses, expressage, &c.—

DUNCAN RIVER.

The Duncan River rises in a meadow or depression lying about the centre of the Selkirk Range, a few miles south of the Canadian Pacific Railway.

From this depression flows also : (1) the Beaver northward to join the Columbia River at a point where the railway leaves it to climb the eastern slope of the mountains, and, (2) the north fork of the Spillamacheen south-eastwardly to join the Columbia 40 miles or so, in the latter direction, from Golden, a station on the Canadian Pacific Railway, at the junction of the Kicking Horse and Columbia.

Following a tortuous course for 50 to 60 miles through a narrow alluvial valley, from three-quaters to one mile wide, bearing one point east of true south, the mountains on both side rising precipitously from the plain, the Duncan widens

out into Upper Kootenay Lake, 10½ miles long by from three-quaters of a mile to a mile wide. 2 miles from the lower end of this lake, the Lardo—a rapid and unnavigable affluent from the north-west, joins the Duncan at an acute angle, and 7 miles farther on, the combined waters enter Kootenay Lake about 21 miles from Kaslo, a town situated on the west shore. Below the confluence of the two streams the river has been called the Lardo, notwithstanding the fact that the Duncan, being very much the larger, is properly the main river. To prevent confusion, the river will be referred to hereafter as the Duncan, the Lardo being treated as the tributary.

Kootenay Lake, 1,730 feet above the sea, is about 72 miles long by about an average width of 1¾ miles. It is the natural and, at present, the only available route by which the trade of the great southern central valley of the Selkirk Mountains, north of the boundary line, can be carried. There are two points on the lake waters at which transfers can be exchanged with the great railway lines. The first is Nelson, situated on the west arm or outlet of the lake, 36 miles from Kaslo, where freight and passengers are transferred in connection (1) with the Nelson and Fort Sheppard Railway and the Spokane Railway in the state of Washington, and (2), partly by rail and partly by boat, with the Canadian Pacific Railway at Revelstoke. The second is Bonner's Ferry, a small town in the state of Idaho, on the banks of the Kootenay River, about 50 miles south-east, by the river, of the boundary line, where connection is made with the Great Northern Railway line.

To accommodate the lake traffic there are 3 steamboat lines giving a daily service between points north of the line, with a bi-weekly service in summer, reduced to a weekly in winter, to Bonner's Ferry.

At Kaslo, a small line of railway called the Kaslo & Slocan, 3 feet gauge, said to be in the interest of the Great Northern, has been constructed to tap the Slocan country, lying west of Kootenay Lake, in competition with the Canadian Pacific Railway now operating a line, to the same interior points, called the Nakusp & Slocan, 4 feet 8½ inch gauge. Nakusp being situated on the east side of the Upper Avon Lake, connection is made by water thence with the Canadian Pacific Railway at the head of the lake. If an amicable arrangement could be arrived at between these rival lines, of which there is a remote possibility, the Duncan River country would be in closer connection with the Canadian markets.

To meet the requirements of the increasing outputs of these mines conveniently situated within easy transportation distance of the lake, two large smelters have been erected; one by American capital at Pilot Bay on the east shore of the lake, opposite the west arm or outlet; and the other at Nelson, by the Hall Mines Company, an English corporation, which has been built primarily to treat the ores from their own property lying on Toad Mountain south of Nelson, and also for the purpose of custom smelting.

It is contended that the Duncan country is as rich in minerals as any other part of the district, but, owing to the difficulties and dangers attending the transportation of freight, it is deprived of the advantages of reasonable freight rates, and its development is retarded. To mitigate the difficulties under which this section labours, it is proposed that the Duncan River, from the Kootenay Lake, be made navigable as far as practicable.

All the above claims are simply prospects, no development work having been done.

At the mouth of the Duncan River, on Kootenay River, there are extensive sand bars, through which by many channels the river finds the lake, the main channel being close to a rock bluff on the west side. There was not, on September 7, 1895, more than 2 feet of water in the deepest channel. Upon entering the river the low land bordering the banks is found to be of alluvial character, covered at first with alders and willows, which afterwards give place to larger

and merchantable timber. The current varies from 2 to 6 miles an hour and cuts the banks rapidly on the convex curve of the river. At intervals, up to the mouth of Cooper Creek, sharp, short pitches or riffles, where the river splits, are met with: the difference in level varying from 10 inches to 2 feet. The most serious of these riffles and splits, which will always, at low water, unless ameliorated, prove obstacles to navigation, occur below the mouth of Cooper Creek.

The difference in level between the lake and the mouth of the Lardo, a distance of $7\frac{1}{2}$ miles, is estimated to be approximately 28 feet.

Duncan City, consisting of three houses with no permanent inhabitants, is situated about $1\frac{1}{2}$ mile from the outlet of Upper Lake on its west shore.

Between the mouth of the Lardo and the Upper Lake, there are two places where the channel is split by island, rocks and gravel bars.

The drop, or difference in level, from the crest of the riffle to comparatively still water below, is in both instances not less than 2 feet. The depth of water in the shoalest parts was found not to exceed 24 inches.

The approximate elevation of the Upper Lake above Kooteuay Lake is assumed to be not more than 36 feet. Allowing the distance between the lakes to be 9 miles, the average water slope would be 4 feet per mile. As will be inferred, however, the slope is not uniform, the river being a series of shallow riffles, in some instances short and sharp, with comparatively deep pools of water between, flowing with moderate velocity.

It is at these riffles—met with either at the mouths of tributaries or where the channel is divided, that the greatest difficulties to navigation will have to be overcome.

Throughout the entire course of this portion of the river, which may be termed the Lower Duncan, erosion is constant wherever the current strikes the bank. The consequence is that trees are either constantly falling into the stream, or overhang the banks sometimes partially submerged. These latter are called sweepers, and especially in bends are dangerous to boatmen. There are also to be found in every reach of low velocity, a number of sunken snags, and on the upper ends of islands and bars accumulations of drift timber.

Duncan City is laid out on a gravel beach, the highest point being 195 feet above the lake, which appears to have been formed by the detritus deposited at the mouth of an old channel of the Lardo River, now flowing south-east about $1\frac{1}{2}$ mile to the westward. This old channel, it is assumed, discharged into the Upper Lake through a narrow rocky gorge or canon, now a pass, in a low spin or ridge of the mountains.

By carefull barometric reading, it was ascertained that the water level of the Lardo $1\frac{1}{2}$ mile to the west of Duncan City, was about 60 feet above the lake. Allowing 6 feet as the fall from the lake to the confluence of the Duncan and Lardo, the latter falls $63\frac{1}{2}$ feet in $3\frac{1}{2}$ miles. This settles at once the question of the navigability of the Lardo.

At the upper end of Upper Kootenay Lake, about 8 miles long, the Upper Duncan River enters the lake. The mouth here is similar in character to that of the lower river. There are the same extensive sand bars through which the river enters the lake by three channels, the principal one, however, being in this instance on the east, instead of on the west side, along a rock bluff.

Continuing up the river on the east bank, eight miles from the mouth, what is called Two-Mile Creek is reached.

The river over this portion passes with a sluggish current from side to side of the valley, three-quarters to a mile wide, sometimes skirting the foot of the mountains. The width varies from 200 to 400 feet. When the latter width exists, the current being further retarded, the depth is shallow, and numerous sand bars to some extent obstruct the channel. There are also present the usual snags, drift timber and overhanging trees or sweepers.

From Two-Mile Creek to Bear Creek the features remain the same, though the width is generally less, the current in places is greater, and there is a larger number of snags obstructing the channel. About two miles above the creek there is a big log jam over 150 feet long. Above this jam the river is comparatively clear for about a mile, when a rapid formed by a large number of snags and drift timber is encountered. This is evidently the remains of a large timber jam. Another such rapid has to be passed before Bear Creek, twelve miles from the mouth the terminus of boating on the river, is reached.

It may be mentioned here that those who have prospected in the country, and freighted on the river, are of the opinion that above Bear Creek all freighting must be done by land trail or wagon road.

For reference, the following recapitulation of distances is given :—

Kootenay Lake to mouth of Lardo River	7	miles
Lardo River to Duncan City	3	"
Duncan City to Upper Kootenay Lake	8½	"
Upper Kootenay Lake to Bear Creek	12	"
Total	30½	"

The alluvial land on either side of the river up to the foot of the mountains would, no doubt, prove valuable for farming purpose, if cleared and provided overflow were prevented. The timber is of fair size and consists of cedar, fir, spruce, cottonwood and alder.

The Duncan River, fed mainly by glacier and snow field streams, is highly charged with sediment during freshets.

The waters of the Upper Duncan, however, find a settling basin in the Upper Lake, thus relieving the Lower Duncan of its contribution. The finer sediment of the latter is deposited at the outlet forming the bar already referred to.

The watershed, or catchment basin, of the Duncan is of limited area, and in consequence of the deep shore, and comparatively bare mountain slopes, the ice and snow within its narrow bounds disappear rapidly when the weather is warm, To this may be attributed the short duration and intermittent character of the high water season, in those years when the freshet is not abnormal and the weather variable. When, however, the freshet is unusual—such as prevailed in 1894—there is but a slight difference in level between the upper and lower lakes, the whole valley between being submerged during the highest of the flood.

Continual rain does not seem to have any effect on the river, for what is rain in the valley is snow during the same season on the mountains. The water in the lower lake fell fully twelve inches between September 7 and 19, 1895, notwithstanding it had been raining almost continually since the 2nd of that mouth.

The obstruction to navigations in this river consist, first, of snags, drift timber and overhanging trees or sweepers, almost throughout its entire course, except in the Upper Kootenay Lake, and secondly, of bars at the mouth of the river in the upper and lower lakes, and of bars, splits in the channel, and rock in the channel between the lakes.

The river as far up as Bear Creek, in round numbers 30 miles from Kootenay Lake, can be made safe and passable, at high water only, for moderately large and powerful stern wheel steamboats, by the removal of all the snags, drift wood and sweepers from the channel, at a moderate cost. But to attempt to train the river and deepen the bars at the mouth, to make navigation possible at low water stage, would entail an expenditure larger than the present developments would justify.

The work of clearing the Duncan River from Kootenay Lake, of snags, overhanging trees and other obstructions to safe navigation, was resumed in the month of January, 1898, and continued until the month of April. The work was done in a most satisfactory manner and steamers were enabled to run in the spring

through to the upper end of Howser Lake. It is now intended to improve the upper Duncan River.

The expenditure in connection with this service for the year ended June 30, 1898, was $2,956.75.

During the year 1899 the sum of $2,946.43 was expended in clearing the Upper Duncan River from Howser Lake to Hall's Landing, of snags, overhanging trees, log jams, and other obstructions to safe navigation.

The work was done in a most satisfactory manner, and it enabled steamers to run this summer to Hall's Landing, a distance of 18 miles from Howser Lake.

The work accomplished during the past fiscal year on the Duncan River consisted in building several dams to close small channels at the mouth, and clearing away a log jam at the head of the west channel.

The expenditure, in detail, was as follows :—

Wages	$2,056.14
Materials	596.56
Inspection	134.45
Contingencies	43.25
Total	$2,830.40

FRASER RIVER.

The Fraser River is one of the largest besides being the most important of the many rivers of the Pacific province. It traverses or rather penetrates a country most diversified in its productions and undeveloped resources, both as regards the precious and other metals, as well as the products of the forest and soil. It has been well known since the early fifties, if not before, therefore there is no need, for the purpose of this report, to give a very extended description except in the direction of those natural features which bear directly upon the works undertaken, or upon those contemplated, for the training of the channel with the view to prevent erosion add overflow; and for the conservation, in a permanent and stable manner, of the ship channel from the city of New Westminster to deep sea water in the Gulf of Georgia.

The topographical characteristics of the Fraser throughout its entire course are in many respects similar to those of the Columbia River, lying to the south. Like it, the Fraser takes its rises in small lakes at the western base of the Rocky Mountains, and, keeping close thereto for some distance, flows in a northwesterly direction before it bents to the west, and eventually turns south. The headwaters are at an elevation of about 3,000 feet above the sea, in the vicinity of the Yellow Head Pass, through which it was at first the intention to build the Canadian Pacific Railway: lying a little to the south of the 53rd parallel of north latitude, between the 118th and 119th meridians of west longitude and but a short distance from Canoe River, which flows southward to join the Columbia at the Big Bend. The most northerly point of the stream is about 16 miles north of the 54th parallel on or about the 122nd meridian, whence its course is west for about 10 miles. Thence leaving the summit waters of the Peace River, which flow to the north, 5 miles or so to the right, the Fraser takes a general direction a little east of south as far as a place called Hope, situated on the left bank about 15 miles below Yale, which is the highest point of practical steamboat navigation and about 25 miles north of the 49th parallel, the international boundary line. From this point the stream gradually changes its direction, eventually taking a general course through the arable lands of the Fraser Valley, almost due west down to the Gulf of Georgia, into which it empties about 8 miles north of the boundary and 6 miles west of the 123rd meridian. Allowiag for the many bends and the frequent traverses of the valley, it is a close approximation

to say that the length of the Fraser from its source to the gulf is not less than 900 miles.

Throughout this distance the river passes between and pierces many ranges of lofty mountains, on the sides and summits of which glaciers and snow fields abound, and among which, at the higher elevations, the snow measured as it fell, has been known to attain, in one winter, the great depth of 50 feet.

The lowest water occurs in the Fraser for a short period after the ice goes out, it then rises gradually by reason of the early spring rains ; but it is not until the beginning of May, when the sun shines hotly, melting the mountain snow, that the settlers below Hope begin to anxiously watch the river. The first rise usually takes place in May, when the snow on the mountains along the lower reaches melts and seeks its natural outlet. This is generally followed by another and greater rise about June, or early in July, when the water of the melting snow and glaciers of the upper Fraser comes down. This is the time most dreaded, but strange to say, in 1895-96, contrary to past experience, the unprecedented high water, which has proved so disastrous to the lower Fraser Valley, was caused by the waters of the Thompson. Fortunately the first rise receded before the great bulk of the Rocky Mountain water arrived. Had both come simultaneously it is impossible to say to what greater extent the destruction of lands and changes of river bed would have been carried.

Previous to the commencement of railway construction, the high water of 1876 was the highest known and was accepted as the extreme. In 1882, however, the river rose higher, and this was similarly accepted as the extreme limit. This confidence was rudely dispelled in 1895-6. In one direction at least, the occurrence of this freshet may be considered as not altogether an unfortunate one, not unmixed with good. Had all the dyking and reclamation schemes proposed, based upon the high water of 1882, been completed, the destruction and loss of property from Hope to the Gulf of Georgia, would have been incalculable. The result will now be that all works undertaken, likely to be affected by another high water, will be designed to meet a flood of still greater height. It is not probable, but possible, that a combination of all conditions necessary to ensure the coming together of all the waters from the melting snows and glaciers over the whole area of the watershed of the Fraser, may happen. Such a contingency, though it may be considered by some remote, must be guarded against.

The erosion of the shores and bed of the channel, where it passes through or over easily desintegrated material, is constant, but of course is least during low water. As the river rises, the erosive energy of the current increases rapidly until the maximum is reached at the highest stage of water. The result of this constant and increasing eating away of the shores and bed, is, that an immense amount of material is carried down stream in suspension ; the quantity being augmented by every tributary large and small, until, in the lower reaches, the water is in such a turpid state, so charged with sediment, that it more closely resembles a thick pea soup than anything else it can be compared to. The extent of the sedimentation that must occur every year, at the mouth of the river or elsewhere, where the current is at all retarded, as for instance where the banks are overflowed, or where the inflowing tide meets the river current, may be easily imagined.

Another source of sediment is the hydraulic mining operations now being carried on, with every prospect of being extended, along the Fraser and all its branches. Should the expectations of those interested, even only in part, be realized, it will be necessary to take steps to supervise operations, and insist upon reservoirs being constructed at the points where such precautions are or may be considered necessary, for the purpose of impounding the material and preventing it being carried down stream in great quantities and deposited on any valuable land that may be overflowed, to its total destruction, or on bars in the river channel to the detriment of navigation. Such has happened in California, and it is stated

by those familiar with both countries, that the available paying hydraulic properties on the Fraser River are much in excess of those in California.

Below the canon at Yale, the bars and bed are chiefly coarse gravel and sand, the former becoming finer and finally disappearing below Miller's Landing. Thence outwards to the extreme limit of the Sand Heads in the Gulf of Georgia, the material composing the bars and the sides of the channel, for the most part, is a very fine, flaky silt, which when dry has a pearly or semi-metallic lustre. It is probably the result of the attrition of mica or talcose slate.

The destructive energy and capabilities of this surcharged freshet water are added to by the enormous quantities of drift timber borne along by the current. This drift comprises trees and timber of all sizes and descriptions, ranging from a cottonwood, cedar or fir, 150 to 200 feet long, with roots from 15 to 20 feet in diameter, and branches intact, to the ordinary saw-log or tree top. It may be either green timber recently fallen in, where the bank has been undermined, previously stranded timber or part of log-jams floated off by a higher water. The drift sometimes gathers in large rafts, and is is not difficult to realize the inherent destructive power of such a mass carried along by a current of great velocity, and the damage it will inflict when driven against a friable bank, dyke, bank protection, mattress work, wharf or bridge piers.

The river flow is affected by the inflowing tide, that is backed up to Chilliwhack, about 48 miles above New Westminster, or 65 miles from its mouth. The diurnal fluctuation at Miller's Landing has been observed to vary between 12 and 30 inches in winter time.

At New Westminster, the range is for ordinary spring tides about five feet, but during freshet time, the water seldom falls more than a foot or 18 inches.

There is no surface movement up stream except during low fresh water stages.

At the rock wharf, inside the mouth of the river, the greatest range of one tide is 11 feet, though the extreme range, that is the difference between the highest and lowest observed tide waters is 11 feet. The greatest tidal range recorded by the automatic tide gauge put up in the channel through the Sand Islands, 2 miles from shore, is 14 feet; this occurred on January 11, 1894, at full moon, though the difference of level between the lowest and highest tide waters known is only 14·7 feet.

For the purpose of ascertaining the surface slope of the river during the freshet at all stages of the tide between New Westminster and the tide gauge on the Sand Heads, a distance of 18¾ miles, and between intermediate points, simultaneous tide gauge observations were taken on June 21, 1896, all the gauges being referred to one datum. The following table gives the condensed information thus obtained :—

River stretches.	Distance in Miles.	Difference of level at H. W. in feet.	Surface slope in feet per mile.	Difference of level at L. W. in feet.	Surface slope in feet per mille.
New Westminster to Ewen's Cannery	5·8	2·08	0·39	3·70	0·65
Ewen's to Laidlaw's Cannery	4·0	1·58	0·395	2·67	0·6675
Laidlaw's to Stone Wharf	5·0	0·92	0·185	5·37	0·674
Stone Wharf to Tide Gauge	3·9	0·75	0·192	3·71	0·95
Totals	18·7	5·33	.....	13·45	.....

From the above it will be seen that the greatest surface slope between New Westminster and the gulf, therefore the swiftest current, is between the last men-

tioned points in above table, and it is in the vicinity of the wharf, both up and down stream, that the greatest cutting of the banks has taken place.

The motive for the foregoing, perhaps rather extended description of the physical characteristics of the Fraser Valley, is the desire to convey a clear impression of the magnitude of those elements or factors which enter so largely into the solution of all problems connected with the regulation of river channels, in the direction either of preventing erosion of the banks or of improving navigation.

A suggestion has been thrown out that perhaps the main river might be permanently relieved of some of the surplus flood water by diverting the sources of some of its many feeders into the head-waters of other rivers, to which in many instances they are in very close proximity. The practicability of such a scheme can only be determined by examinations and correct levels. It may be added that such a proposition, however, appears to be, if anywhere, only possible with the branch streams above Lytton, and cannot seriously be considered with regard to the Thompson waters.

The work done in connection with this service may be classified as follows:—

1. Mattrass protection of Westham Island.
2. Dam across channel through sand bar opposite Ewen's Slough.
3. Mattrass protection of bank of river below Garry Point.

In 1899, eight hundred feet of protection work on the north shore of Westham Island was done, being a continuation of the work performed during the previous fiscal year. This work consisted in laying mattrasses 100 x 25 x 2½ feet, made up of alternate cross layers of brush laid on timbers which are bolted to a second set of timbers laid on top of the mattrass, the whole being bound together with No. 6, galvanized iron wire. Four of these mattrasses are fastened together with strong timbers into sections 100 feet square. The sections are then placed so that one rests on the edge of the bank and the other end floats in the stream. They are then loaded with rock and sunk in that position. All gaps due to the irregularities of the river bank are filled in with fascisnes and rock. In some places, where the size of the gaps will permit, smaller mattrasses are built to fit in behind the larger ones and are sunk in the same manner.

The total area of bank protected was 80,000 square feet, making 200,000 cubic feet of mattrass work and fascines, equal to 37 mattrasses. The total cost of this work was $8,434.30.

The cost per mattrass sunk in place was $227.91.

The cost per cubic foot was .0421 cents.

It was found necessary to close two sloughs and repair some of the work done the previous year where the bank had caved in and the old work had sunk slightly. This work was equal to 21 mattrasses or 131,250 cubic feet, the cost being $4,254.18.

2. The dam across the channel through the sand bar opposite Ewen's Slough was extended 700 feet and the part of the dam that was built during the previous year was raised to a height, in soms places, of ten feet. This was necessary as the dam had subsided where the current had scoured out the bed of the river underneath it. The cost of this work was $7,164.06, there being 264,400 cubic feet of brush and rock.

3. The balance of the appropriation available was used in continuing the protection of the bank of the river below Garry Point, 1,200 feet in length. This was done with mattrasses, built and sunk in a similar manner to those described above at Westham Island, at a cost of $12,847.80, including $1,300 00 for extra fascines and 800 tons of rock. this being necessary on account of the work being exposed to the heavy seas of the Gulf of Georgia.

During the past year the work done consisted in protecting the bank of the Fraser River at Grant & Ker's Mill at Ladner, repairs to existing work at Westham Island and Garry Point, and continuation of protection work below Garry Point.

The bank at Grant & Ker's Mill was protected for 600 feet, with 20 mattrasses 100'x 26'x $2\frac{1}{4}$' thick and 2 mattrasses 50'x 26'x $2\frac{1}{4}$' thick.

The cost of this work was $5,138.00.

Repairs to existing work at Westham Island consisted in sinking 24 mattrasses, of various dimensions, along the bank where it had caved in since the original work was done. Extra rock, to the amount of 400 tons, was also placed on the old mattrasses. The cost of this work was $3,800.00.

Repairs to existing work at Garry Point consisted in sinking 34 mattrasses of various sizes at several places that required strengthening. 400 tons of extra rock was used in connection with this work. The cost amounted to $5,574.00.

The protection works below Garry Point were continued seawards 900 feet, the material used consisting of 32 mattrasses, 100'x 26'x $2\frac{1}{4}$', and 200 tons of rock in addition to the amount usually used in sinking the mattrasses. The cost of this work was $7,777.78.

The total expenditure during the year, in connection with the Fraser River, was $24,921.00, as follows :

Work at Grant & Ker's Mill, Ladner	$ 5,138.00
" Westham Island (repairs)	3,800.00
" Garry Point (")	5,574.00
" " new work	7,777.78
Superintendence	1,521.00
Tide gauges	530.00
Material on hand	580.22
Total	$24,921.00

The details of the expenditure are as follows :

Wages	$ 9,896.70
Provisions	2,995.58
Materials, wire, iron, &c	6,565.21
Superintendence	1,521.00
Tide gauge attendants	530.00
Tug hire	3,192.75
Coal	110,55
*Contingencies	109.21
Total	$24,921.00

*This amount includes light, telephone, washing, &c.

KOOTENAY RIVER.

The Kootenay River takes its rise in the heart of the Rocky Mountains, a little north of the 51st parallel, $16\frac{1}{2}$ miles north-east of Leancoil, a station on the line of the Canadian Pacific Railway. It flows for some distance in a south-easterly direction, and then changing to the south-west, it passes within a mile and a half of the head waters of the Columbia River. At Canal Flat it again changes direction and pursues generally a direction a little east of south to the international boundary line, which it crosses at Tobacco Plains, about 6 miles west of the 115th meridian. The Kootenay enters Canada again at Beddlington, about 20 miles east of the 117th meridian. Thence flowing a northerly course it enlarges into the Kootenay lakes, 72 miles in length, 28 miles by the river from the boundary line. The outlet of the lake is on the west side, about 30 miles north of the inlet, whence it flows in a south-westerly direction, joining the Columbia River about 21 miles north of the boundary line.

During the year 1899, two dams were built across sloughs on the Kootenay

River, to confine the water to the main channel through the gravel bars below the mouth of Wild Horse Creek. The dams were built of alternate layers of rock and brush laid between two rows of piles, the sides being sloped with gravel and faced with heavy rock.

This work was undertaken with the object of improving the navigation of this river between Fort Steele and Wardner, the latter being the point at which the Crow's Nest Branch of the C. P. R. crosses the Kootenay River.

During the past fiscal year work was commenced on December 1st, 1899, and completed on March 17th, 1900, and consisted in repairing and lengthening the old dam across the large slough about one mile below Fort Steele.

The lower end of the dam was renewed for 80 feet and 210 feet of new dam was added, the whole of the rear face was rebuilt, and 196 feet of mattress protection was built at the ends to prevent them from being washed away.

The details of the expenditure are :—

Wages	$2,407 76
Materials	273 96
Inspection, etc	111 65
Total	$2,793 37

LEWES RIVER (YUKON DISTRICT).

Lewes River is on the principal route to the Yukon district. The river is generally crooked in its course and obstructed at certain places by boulders.

During the last fiscal year an examination of the river was made in view of improving the channel and work was commenced. At Caribon Crossing a dam 400 feet long, 12 feet wide and 10 feet high was constructed. Two lifting barges were built for the removal of boulders from the Six Mile and Thirty Mile rivers, the work on Thirty Mile River was compleated. At Rink Rapids, two guide piers are being constructed, which will greatly improve the navigation at this part of the river.

The amount expended during fiscal year 1899, for surveys and improvements of the river is $24,836.57.

NANAIMO HARBOUR.

The Dredge "Mud Lark" was emplayed in deepening the South channel of Nanaimo Harbour, to 30 feet at low water, from the 23rd September, 1899, to the end of March, 1900.—

The following table shows thr time the dredge was employed in the dredging, repairing, etc., as well as the quantity of material removed and coal used :—

Material removed, hard sand	58,160 cub. yds.
Coal used, tug "Princess"	201,125 lbs.
" " dredge "Mud Lark"	602,210 "
Hours dredging	1,034
" repairing	198
" sundries, including coaling, watering, moving, etc	338

The followings ia statement, in detail, of the expenditure :—

Wages	$ 4,930 10
Materials	1,717 39
Provisions	1,526 68
Coal	1,459 12
Tug hire	50 00
Water	56 00
Contingencies	20 70
Total	$ 9,759 99

SKEENA RIVER.

The Skeena River lies in the north-western portion of British Columbia. It derives its source from lakes and glaciers situate bettween the 56th and 57th parallels of north latitude and between the 126th and 128th degress of west longitude. It flows generally in a south westerly direction and empties into the waters of the Pacific Ocean by way of North Skeena, Telegraph, and Malaca Passages, Chathan Sound, &c., at a point a little north of the 54th parallel of north latitude, and a few miles west of the 130th degree of west longitude, and about 650 miles, by the inner passage, north-west of Victoria. The principal post office and port on the Skeena is Port Essington, lying on the south shore of the estuary, at the confluence of the Skeena and Oxtail rivers, 13 miles east or inland of the entrance passages. It is navigable by light draught steamers, when the water is not too high, from May to the end of September, as far up as Hazelton, a Hudson's Bay company post, established on the south bank at a distance of about 173 miles from the mouth of the river. This post is the distributing point for the mining and grazing country lying to the north and west towards the Rocky Mountains and Peace River country, and to some distance to the south.

In 1899 bars and channels were cleared of snags and drift wood so as to improve the salmon fishing grounds in the tidal waters of the estuary which extends inland about 25 miles.

During the past year. Work was commenced, at the end of October, 1899, at Kitsilas Canon and closed down on the 1st of March, 1900. Ten rocks and reefs were removed by blasting.

At Beaver Dam, 12 miles below Hazleton, three rocks were removed.

At Kitsegukla, four large boulders were removed.

At little Canon, two rocks were blasted but the rock was not removed.

The expenditure in connection with the renoval of rocks at the above points was as follows :—

Freight, supplies, etc	$1,029 46
Wages	1,534 20
Total	$2,563 66

The work of removing snags at the mouth of the Skeena River was commenced on the 21st May, 1900, and closed down on the 23rd June.

The expenditure in this connection was as follows :—

Wages	$499 00
Hardware, etc	48 40
Tug hire	345 00
Total	$892 40

Total on Skeena River :—

Removal of rocks	$2,563 66
Snagging	892 40
Total	$3,456 06

STIKINE RIVER.

(Route to Yukon.)

On March 10, 1898, orders were issued by the department for an examination of a water route from the Pacific coast to the Yukon district all through Canadian territory, via the Stikine River, Teslin Lake, and the Hootalinqua, Lewes and Yukon Rivers. With a few of rendering this route immediately available, as far as practicable, for the transportation of miners and settlers, desirous of reaching the newley discovered Klondike gold fields with their outfits and provisions, authority was also given to carry on such preliminery work as might be found urgently needed to improve navigation over the most obstructed and dangerous rapids and reaches of the chain of rivers and lakes just named, either by snagging, removing rocks, &c., or otherwise. At the close of the year ended June 30, 1898, this examination was in progress, and the work of snagging, &c., as will be described below, had been commenced on the Stikine River.

The Stikine River has its source in the southern part of Cassiar district, and runs a distance of nearly 130 miles up to the 58th parallel, where it suddenly makes a sharp bend then turns almost due south to within twenty miles of its mouth, a distance of 150 miles. From that point it runs in a westerly direction and empties into the Stikine Strait (Pacific Ocean) between the islands of Wrangel and Mitkof. The total length of the river is approximately 300 miles. The mouth of the Stikine proper is situated ten miles from the port of Wrangel, between Point Rothsay and Farm Island, where it has a width of 2½ miles. It is subjected to high tides varying from 18 to 26 feet (neaps 18 feet, springs 26 feet) which affect the river as far up as the Ka-te-té River, a small tributary which empties into the Stikine, 25 miles from its mouth.

At lowest water the estuary of the river is, for about two hours, and for a distance of about five miles from the sea, a sand flat through which the stream winds its course, being about 20 inches deep; but owing to the great range of the tides this part of the river is easily navigable, and as soon as the flood has risen 4 or 5 feet, there is abundance of water for any river boat. The width of the river for the first twenty-five miles varies from two and a-half miles to 500 feet, although in some places islands divide it into several channels, the largest of which is about 200 feet in width. In the lower reach of the Stikine River the main obstructions to navigation were found to consist of snags and large trees overhanging the banks of the river, and in March, 1898, the snag boat *Samson*, doing service on the Fraser River, was commissioned for work on this river. This snag boat had first to be laid up for necessary repairs and alterations at New Westminster. These repairs and alterations consisted of renewing a number of planks and keelsons, which proved to be decayed, and putting in eleven watertight compartments which had the effect of strengthening her considerably. The boiler and steam pipes were also newly covered and the boat was completely repainted. Many minor repairs to her machinery, &c., were also made, and the boat was equipped with new ropes, four new row boats, a set of new snagging chains, a new outfit of tools, and two large Benton head-lights; provisions and supplies were procured for a seven months' cruise.

The *Samson* arrived at Wrangel only at the end of April 1898, having been delayed by gales at different places. The boat proceeded up the river as far as

the 75th mile, but there, the river proving too rapid to allow the boat to go farther, instructions were given to commence the removal of snags and other obstructions at that point, and work down stream as far as the 50th mile, comprising the worst portion of the river for snags between Glenora and the mouth. A party of eight men was also organized to remove snags and other obstructions from the channel between the 80th mile and a point about ten miles below Glenora. This work consisted chiefly of blasting snags with dynamite, and cutting down overhanging trees and sweepers from the banks.

The total expenditure in this connection up to June 30, 1898, amounts to about $14,000.

During the fiscal year 1899, the work of improving the channel of the river was continued.

The snag boat *Samson* was employed in removing snags and obstructions, and a party of eight men, under Messrs. Lemoine and Jarmin, were engaged in removing snags and other obstructions from the channel between the 80th mile and a point about 10 miles below Glenora. This work consisted chiefly of blasting out snags, &c., and cutting down overhanging trees and sweepers from the banks.

The total amount expended during the year in connection with this work is $15,445.85.

WILLIAM'S HEAD QUARANTINE STATION.

The British Columbia quarantine station at William's Head is situated about eight miles south-east of the city of Victoria, and covers an area of about 60 acres. In the spring of 1892, a deep water pile wharf was built in connection with this quarantine station, the government supplying the Muntz metal required for covering the piles, to prevent them from being destroyed by sea worms. The wharf is situated at Parry Bay, which opens towards the north and Victoria on the west side of William's Head. It is 480 feet long by 40 feet wide, and has an approach 320 feet on the south side leading to the hospital residence and first-class passenger shelter houses, and another on the north side leading to the disinfecting apparatus and to the Chinese and Japanese shelter houses.

During the year 1899 the expenditure in connection with this service amounted to $5,040.23.

During the past fiscal year the repairs to the wharf consisted in putting in diagonal braces from low water to the under side of the wharf. This became necessary owing to the original brace piles being eaten off by teredos.

All the buildings on the wharf, and hose boxes, were painted, and a telephone was installed connecting the station with the house occupied by the caretaker of the pipe line, a distance of about three miles.

The details of the expenditure are :

Wages	$ 586.93
Materials	394.73
Painting	473.39
Installing telephone	197.05
Total	$1,652.10

DREDGING OPERATIONS.

During the fiscal year ended June 30, 1900, dredging operations were carried on in the undermentioned localities, chiefly by the government dredging fleet; but in some instances with hired dredging plant. The limited number of dredge vessels owned by the Public Works Department is far from being sufficient to

carry on satisfactorily the extensive operations which the federal government is from year to year called upon to undertake, owing to the steady increase in the tonnage and draught of vessels generally and the pressing need of deepening harbours on the sea coasts, so that they may be easy of access and afford fairly good accommodation for shipping, landing and sheltering purposes to both steam and sailing vessels at all stages of the tide, improving existing highways of navigation, opening new routes and harbours on inland waters, &c.

PROVINCE OF NOVA SCOTIA.

Cook's Cove—Guysboro County.
Grand Etang—Inverness "
Halifax I. C. Ry wharfs—Halifax County.
Harbour au Bouche—Antigonish "
Milton (Yarmouth)—Yarmouth "
Pictou Bar—Pictou "
" Landing—Pictou "
" Acadia coal Co's wharf—Pictou County.
Yarmouth: Bakers wharf—Yarmouth "
" Main channel—Yarmouth "
" Dominion Atlantic Ry Basin - Yarmouth County.
" Law's wharf—Yarmouth County.

PROVINCE OF PRINCE EDWARD ISLAND.

Charlottetown Railway wharf—Queen's County.
" Pooles wharf " "
French River New London " "
Melpecque—Prince County.
Summerside " "

PROVINCE OF NEW BRUNSWICK.

Chipman: Curley's shoal—Queen's County.
" Wards shoal— " "
Gemseg shoal— " "
Ox Island shoal—Sunbury County.
Robinson's shoal York "
Springhill shoal—York "
St, John harbor winter port—St. John County.

PROVINCE OF QUEBEC.

Buckingham.
Chateauguay.
Coteau Landing.
Dorval.
Isle Perrot.
Lothinière.
Ottawa River (Green shoals).
Pointe Claire
Rivière du Lièvre.
St. François.
St. Jean des Chaillons.
St. Nicholas.
St. Laurent d'Orléans.
St. Michel de Bellechasse.
Richelieu River.
Yamaska River.
Valleyfield.

PROVINCE OF ONTARIO.

Cobourg.
Belleville.
Deseronto.
Collingwood.
Hamilton.
Fort William.
Kingston.
Jordan.
Hawkesbury.
Meaford.
Newcastle.
Oakville.
Oshawa.
Port Hope.
Picton.
Rockland.
South Nation River.
Thornbury.
Wolfe Island.
Whitby.

PROVINCE OF NOVA SCOTIA.

DREDGE "ST. LAWRENCE."

At the beginning of the fiscal year 1899-1900, the dredge "St. Lawrence" was operating at Pictou Landing, Pictou Co. deepening to 25 feet L. W. S. T. making berths for steamers at this branch terminal of the I. C. Ry. The material excavated was principally mud with occasionally boulders, these and the sticky nature of the mud caused detentions, the material sticking in buckets and hopper. Delays were also occasioned by the movements of steamers at the piers interrupting the work of the dredge, some bad weather and the long run of twenty miles to deposit and return.

The dredging was, however, vigorously pushed when possible. On the 31st July it was suspended to take up work of the bar at Pictou Harbour entrance August 1st. This dredging was to 19 feet L. W. S. T. through mud and sand and the spoil was taken about 8 miles to deposit. Heavy gales interfered with the work at times so much that mooring chains were broken ; 18th a plank broken off hopper door necessitated the dredge going on slip for repairs. Work was resumed 24th and continued to 5th September on the bar by which time it was sufficiently reduced.

The work at Acadia Coal Company's wharf, Pictou Landing, was then taken up as had been ordered. This was the removal of a lump on shoal in the vicinity to leave 19 ft. L W. S. T. From 6th to 9th September, the dredge was employed here and removed 1750 cubic yards of mud, deposited 9 miles distant. Pictou Landing work was again taken up 11th to 13th when orders were received for this dredge to go to Cooks Cove, Guysboro Co., and do some work in the pond there. Preparations were made out and dredge sailed, arriving on the 18th. After examination and soundings it was found that this dredge could not work here, had too much draft and the place dangerous for her. She was again ordered back to Pictou, and by 21st had resumed the Pictou Landing work. On 23rd orders were received for her removal to the entrance of Guysboro Harbour. These were reconsidered, the place being found to be one at which the dredge could not operate, and the Pictou Landing work was again taken up and continued to 31st October. During this year, the quantity excavated at Pictou Landing was 39,200 cubic yards. At Pictou Bar 23,800. The dredge was now under orders for Halifax, N. S., to deepen at I. C. Ry. terminal docks. Preparations were made accordingly and dredge sailed 4th November, bad weather having caused some detention and on the passage, storms obliged making harbors. Arriving on 7th, preparations were made at once for work and it was underway 9th, removing rocks, boulders and boxes of tin, the latter thrown over at time of fire. This work was difficult and was rendered more so by interruptions and movements of steamers coaling, dredge being ordered away, dock full of steamers from 17th to 27th. At the latter date dredging was resumed and 18th December, the work at Halifax pier was completed as nearly in accordance with the plans and instructions as the nature of the bottom would permit. The depth of 25 and 30 feet could not be obtained at some points owing to the ledge rock bottom, 24 feet being all possible, 7875 cubic yards were removed, and the dredge, 18th December, was ordered into winter quarters. During the winter dredge was placed on marine slip and necessary repairs made, hull cleaned, scraped and painted, hopper, gear and machinery put in good shape and by 21st April was waiting orders for crew and work. Orders were received to send dredge to Summerside, P. E. I. to improve the channel there for winter service, and preparations were made for the passage. Dredge left Halifax 26th, put into

Pictou on the way and on 1st May arrived at Summerside. Preparations were at once made for the work, which was the cutting of a channel across a bar and deepening it to 20 ft. L. W. S. T. Here it remained prosecuting the work vigorously up to and at the end of the present fiscal year. The material removed was principally sand and clay and deposited at a distance of about 4 miles. At the end of the year 27,650 cubic yards had been excavated at Summerside, work progressing favourably.

The total amount dredged during the year by the "St. Lawrence was 100,275 cubic yards.

THE DREDGE "CANADA."

At the beginning of the present fiscal year, was at Yarmouth, prosecuting the work of the improvement of that harbour, at which it continued during the season. It comprised the deepening and widening of the harbour channel, a basin for turning, opposite the D. A. Ry. wharfs, channel towards Lewis' wharfs and the docks of Mr. Law and Mr. Baker. The depths at the different localities varied from 4 to 16 feet. There were some detentions on account of weather. The dredge had to go on marine slip there in July to repair hopper door chain connections, clean and paint bottom, repair boiler, etc. The material excavated at Yarmouth is principally mud, shells, etc., and the run to the place of deposit 4½ to 5 miles.

On first January orders were renewed for this dredge to go to Halifax and preparations were accordingly made. Left Yarmouth 4th and when off Chebogue Point the boiler commenced to leak and dredge had to be towed back to Yarmouth, which place was reached 2 p.m. 5th. Dredge was dismantled, crew paid off, excepting Captain, engineer and fireman, and repairs undertaken without delay. Dredge went on the marine slip and had hull cleaned, scraped and painted. The repairs to boiler, machinery and gear were extensive, and during the winter, made principally by Burrill-Johnson Company and A. H. Saunders. Buckets and blacksmith work by Robertson & Co. and H. A. Gridley. Keel and hopper doors were also repaired. In the spring, everything being complete, dredging was resumed at Yarmouth as instructed. In the channel from 9 May to 30th June, except at periods between 12th and 28th May when dredging at Baker's wharf was done. The amount of excavations of this dredge during the year are as follows:

D. A. Ry. Basin.....	17,820	cub. yds	16	ft depth	L.W.S.T.
Channel to Lewis wharf..	9,630	" "	4	"	"
Laws wharf.....	900	" "	4	"	"
Bakers wharf.....	2,700	" "	5	"	"
Yarmouth channel.....	9,145	" "	16	"	"

Making a total for the year of 40,095 cub. yds.
The work at end of fiscal year progressing favourably as possible.

THE DREDGE "NEW DOMINION."

At the beginning of the fiscal year 1899-1900 the dredge "New Dominion" was at Salmon River, Queen's County, N.B., improving the channel over Wards and Curley's shoals, near Chipman, deepening to 9 feet low water summer level. The material removed was principally sand, and towed to deposit a distance of about two miles. Some delays were caused by accidents to tug and machinery, waiting for scows owing to the shoal water and scows grounding on dumps.

The work was prosecuted vigorously until 23rd October, when in compliance with the orders received, the dredging plant was removed to Jemseg 24th, and

took up the work of further improving that river near its confluence with the St, John. This work was to 10 feet low water summer level, the spoil sand and place of deposit two miles distant. The work was pushed perseveringly until 11th November when the weather obliged its abandonment for the season, and dredge was towed to St. John for wintering and repairs.

The several works for the year comprisee the removal at Wards shoal of 34,750 cubic yards, Curley's shoal 51,025, and at Jemseg river 3,600. Total, 69,375 cubic yards.

THE DREDGE "PRINCE EDWARD".

At the begining of the fiscal year, the "Prince Edward" was at Charlottetown P. E. I. continuing the dredging at the P. E. I. Railway terminies to 25 feet L. W. S. T., This was suspended 15th July, and from 17th to 22nd Pooles wharf work was done, then returned to the railway wharf to deepen the approach and berths for steamers, some of the dredging here, the inner 100 feet stretch, was to but 22 to 16 feet on account of ledge rock, the work was finished 9th August and dredge did further work at Pooles from that date to 12th deepening to 18 feet L. W. S. T. ; dredge was now prepared for transportation to Malpeque Prince county P. E.I., there was considerable detention in making all ready for this, somewhat dangerous trip and in arranging for tug. The "Stanley" was finally secured and with the "Aitkin" assisting the plant, was started on the 19th from Charlottetown, had to put into Summerside, left there 21st and arrived at Malpeque 23rd August. The scows broke away during the passage, tearing out bitts but they were recovered by the tug "Aitkin" and towed into Malpeque, considerable time was required in getting the plant prepared for work and on the 30th dredging was under way improving channel and deepening to 10 feet L. W. S. T., the material excavated was mud and place of deposit about 1 mile distant, there were some delays on account of weather, accident to tug, etc., but good work was doue and by 6th November, the harbour dredging was completed in accordance with plan, the dredge was now ordered to French River, New London P. E. I. and preparations were made for its removal to that place, there was detention in carrying out orders, storms and high tides, snow, etc. The plant got into French River on the 11th., but the continuance of bad weather prevented dredging until the 16th, when it was fairly under way, deepening channel of river to 10 feet, removing soft mud and depositing it a distance of about ¼ mile.

This work was prosecuted vigorously until the lateuess of the season compelled its suspension and dredge went into winter quarters at French River 8th Dec.

During the winter the plant was overhauled and repaired as far as possible and made ready for spring operations, May 5th, found the dredge at work continuing the deepening and improving of French River, channel to 10 feet L. W. S. T., the work had however reached so shoal a part of the river that the tug was of only partial service, the low tides adding to the inconvenience and detention; at the end of the year the work was being carried on perseveringly and progress made toward completion.

At Ch'town P. E. I., wharf the excavations amounted to 6503 cubic yards, at Pooles wharf Ch'town 5805 cubic yards and at Malpepue, Prince County 28575 cubic yards were removed and at French River by the end of the year 25831 cub. yards were excavated making a total for the year by this dredge of 66714 cub. yds.

THE DREDGE "GEO. MC KENZIE"

At the beginning of the fiscal year the dredge was at the Grand Etang, Inverness Co. N. S., deepening in the pond and entrance thereto between the breakwaters to 5 feet L. W. S. T., the material removed was stone and gravel and the place of deposit ¾ mile distant. The work will much improve the place and benefit

the fishermen engaged there, on the 12th August, the work was completed to the expressed satisfaction of the people prominent there, the dredge was then under orders for Harbour au Bouche, Antigonish Co., N. S., and preparations were made for its removal; on 18th the plant left Grand Etang, in tow of S. S. "Lunenburg" the "Shannon" assisting and on 19th arrived at Harbour au Bouche, preparations for dredging completed and work began 23rd. This work is the deepening and improving the bar at entrance to 14 feet and in the harbour to 12 feet L. W. S. T., the material moved is mud, stone and gravel, place of deposit about ¾ mile away, the work was carried on until the 20th December when the plant was ordered into winter quarters,one scow sent to slip at Hawkesbury to be resheathed caulked, new chains on doors, etc.

The dredge had gear and equipment overhauled and repaired and everything put in readiness for the opening of navigation, on 22nd April; dredging here was resumed and on 31st May was completed, the dredge being under orders for Cooks Cove, Gunpboro Co., N. S.

There was some delay on account of weather and getting tug for transportation and it was 5th June, before the plant left Harbour au Bouche; 6th plant placed in Cooks Cove and preparations made for dredging, which was underway on 8th., there was considerable undertow, low tides, shifting dredge, etc., to cause detention but fairly good work was done during the balance of the month and a quantity of 4895 cubic yards were excavated, consisting of stone, gravel and sand and deposited about ¼ mile distance, the depth given was 10 feet L. W. S. T. and work progressing at end of year.

During the year the dredge removed at Grand Etang, Inverness Co., 10555 cubic yards, at Harbour au Bouche 23520 and at Cooks Cove 4895 making a total for year of 38970 cubic yards.

THE DREDGE "CAPE BRETON."

At the beginning of the present fiscal year was operating in the harbour of St. John, N. B., improving winter port berths. The work was to 25 ft. and 28 ft. L. W. S. T., and the material removed principally clay, stone and boulders, some logs. The place of deposit about 2½ miles distant. Considerable difficulty and detention was met on account of the boulders, neap tides, sticky materials clinging to the bucket, and repairs necessitated. The work was prosecuted vigorously, however, the time being extended to October. Tug service was was furnished by the city. The dredging was further extended until 18th November, when orders were given to lay up the plant for wintering and repairs.

During winter all the gear and machinery of the dredge was overhauled, engines, boilers, buckets, crane, etc., put in thorough order. Barges were repaired, having doors straightened and strengthened and the whole plant in complete working condition for spring orders with the exception of painting required to hulls and bottoms, reported on severals occasions. First of June orders were received for the dredge to go to work for the city of St. John, N. B., in the harbour at Sand Point, winter port slips, where it had done considerable work previously. By 4th operations were underway, deepening to 28 feet L. W. S. T., and removing mud, stone, logs and boulders. The place of deposit was 2½ miles distant, Towage provided by the city. The work was vigorously prosecuted under the conditions as the tides served, logs and boulders at times causing detention. At the end of the fiscal year, the work was being prosecuted vigorously. The total removed by this dredge at St. John during the year was 80,335 cubic yards.

THE "CLAM SHELL DREDGE."

At the beginning of the fiscal year this dredge was operating at Springhill York Co., N.B., deepening to 3½ feet low water summer level over shoals in the St. John river in that vicinity improving the channel and inland navigation. The material removed was gravel and sand with fine silt and place of deposit about ⅝ of a mile distant. At the end of August, the water falling so low and the work therefore so slow and difficult it was decided to remove the dredge to Robinson's bar, farther down river. Work was closed at Springhill and the dredge was towed to Robinson's bar, and was at work by 5th September. The material of this bar is, in places, very hard compact clay and gravel, and the work was slow. The distance to place of deposit about 250 yards. There was detention on account of repairs required to bucket, wire cable, lever, etc. The depth required was 6 feet low water. By 26th October the work was completed and the dredge was removed to Ox Island shoal, Sunbury County, St John river, and 28th work was under way there deepening to 10 feet low water, removing sand to a place of deposit ½ mile distant.

The work was pushed well until the weather and anticipated closing of navigation forced its abandonment 12th November. The dredge plant was then towed to St. John for wintering and repairs During the winter, gear and machinery were overhauled and repaired, boiler had attention and the plant put in thorough order for work. The steam tug "Cricket" which is with this dredge wintered in the same place and had attention.

In May, 1900, orders were received to take this plant up river to Springhill, York County, and resume the dredging there. Arrangements were made for towing, and on 17th May the dredge and scows were taken through the falls: 18th, started up river, ariving at Fredericton 19th, and at Springhill 21st. The water, owing to the extraordinaay freshet was found too high for work at once, and the many logs running on the river necessitated the making and placing of a boom to shear them off

Dredge got into position and to work on 28th, deepening to 4½ feet low water summer level, and depositing the material, gravel, about ½ miles distant. The current was very swift, and the work somewhat dangerous, but vigorously prosecuted until 20th June, when the tug "Cricket" was accidently overturned and went to the bottom. On being lifted it was laid off for repairs and difficulty was found in getting another tug suitable for the work. The "Bismark" was tried for a day but found unable for the work. Unable to get a boat the hands shovelling were discharged until repairs to "Cricket" were completed. The dredge crew employed on machinery, painting, etc., which was in progress at end of year.

This dredge operared to the close of the present year at Springhill, York Co., removiug a total of 1,492 cubic yards. At Robinson's bar, removing 6,965 yards, and at Ox Island Shoal, Sunbury Co., 4,340 cubic yards. The total for year being 26,225 cubic yards.

MILTON, YARMOUTH COUNTY, N. S.

Hand Dredging.

Two scows were hired and hand dredging done at Milton, Yarmouth County, N. S., removing a lump from the river channel in front of F. H. Wilson & Co's. wharfs.

At the close of fiscal year 343 cubic yards had been removed.

DREDGE VESSELS REPAIRS AND WINTERING, ETC.

MARITIME PROVINCES.

The following amounts were expended on repairs and removals to dredges and plant, during the year 1899-1900.

"St. Lawrence"	$ 4295 10
"Canada"	4697 18
"New Dominion"	2061 70
"Prince Edward"	2101 75
"Geo. McKenzie"	1312 71
"Cape Breton"	1763 77
"Clam Shell"	1664 66
	$ 17896 87

NEW DREDGING PLANT.

"Cape Breton" winches, hopper, doors & buckets	$ 3642 58
"Clam Shell" scow & bucket	1500 00
"Cricket" steam launch	1000 00
	$ 6142 58

Memorandum of quantities removed by the several dredges in the Maritime Provinces during the fiscal years.

	1898-99 Cubic yards	1899-1900 Cubic yards
"St. Lawrence"	70,790	100,275
"Canada"	53,040	40,095
"New Dominion"	54,050	69,375
"Prince Edward"	51,040	66,714
"Geo. McKenzie"	31,680	38,970
"Cape Breton"	50,308	80,335
"Clam Shell"	700	26,225
Hand dredging	—	343
	311,608	422,332

Being 111,724 cubic yards of an increase the present year.

COOK'S COVE GUYSBORO CO., N. S.

A fishing and farming settlement and in Guysboro County, 3 miles from from Guysboro and 44 from Antigonish with a population of about 300.

The Cove or harbour had the attention of the department in the matter of dredging this year the dredge "Geo. McKenzie" having been employed from 5th to 30th June and the work was progressing at the beginning of the new year.

The dredging was to 10 feet L. W. S. T., removing stone, sand and gravel and depositing at a distance of about 2 miles, the place is difficult, heavy undertow and hard digging, weather also interferred with the prosecation of the work considerably, the present year, in the time mentioned a quantity of 4895 cubic yards was removed, cost per cubic yard 0,38.37.

DREDGING AT GRAND ETANG, INVERNESS COUNTY, N. S.

A fishing settlement with a population of about 400 in the district. There are stores, lobster factory etc. The harbour had attention of the department, as to dredging, this year, the dredge "Geo. McKenzie" having operated here from 1st July to 13th August concluding the work began the year previous, removing 10,555 cubic yards of stone and gravel from the pond and between the piers to 5 feet L.W.S.T. and depositing the material at a distance of ¾ mile.

This work was completed 12th August to the expressed satisfaction of prominent people of the place. Cost per cubic yard 0.20 c. 93.

DREDGING AT HALIFAX N. S. I. C. RY PIERS.

A terminus of the Intercolonial Railway, had the services of the dredge "St. Lawrence" in November and December 1899 This work was difficult and delays was frequent on account of the movements of steamers, nature of the dredging etc. The depth required was 28 and 30 feet L.W.S.T. This could not in some parts be obtained owing to ledge rock where 24 feet was all possible Rocks, boulders and boxes of tin were removed, the latter thrown over at time of fire. The distance to deposit about four miles.

The work was completed as nearly in accordance with the plans as possible. 7,875 cubic yards were removed and expenses paid by the I. C. Ry. Cost per cubic yard 0.33c. 45.

DREDGING AT HARBOUR AU BOUCHE, ANTIGONISH COUNTY N. S.

A settlement and extensive fishing station on George Bay. Has a population of about 750. The harbour is small but convenient for schooners. The dredge "Geo. McKenzie" arrived here the 19th August 1899 to deepen and improve over the bar at entrance to 14 feet and in the harbour to 12 feet L.W.S.T. The work was carried on from that date to the 20th December 1899 and then the plant wintered. Work was resumed in the spring, April 22 and concluded 31st May, 1900.

During this time 23,520 cubic yards of mud, stone and gravel were excavated and removed to deposit about ½ mile distant. Cost per cubic yard 0.39c. 56.

DREDGING AT MILTON, YARMOUTH CO. N. S.

Here some dredging by hand has been done from 18th to 30th June. The channel was deepened to 3 feet L.W.S.T. at the head of navigation in front

F. H. Wilson & Co's wharfs. 343 cubic yards were removed Cost per cubic yard 0.72 c. 51.

At Milton there is a foundry, P. O. and stores and a population of about 1500.

DREDGING AT PICTOU BAR, PICTOU COUNTY N. S.

This bar at the entrance of Pictou harbour N. S., received the attention of the department in August and September of 1899. The dredge "St. Lawrence" deepening over it to 19 feet L.W.S.T., removing mud and sand to a place of deposit 8 miles distant. 23,800 yards were excavated and much improvement made in the navigation of the locality. Cost per cubic yard 0.08 c. 12.

DREDGING AT PICTOU LANDING, PICTOU COUNTY N. S.

On the south side of Pictou harbour and connected with the town of Pictou by ferry, is a terminal station of the I. C. Railway.

During the fiscal year ending 30th June 1900, the dredge "St. Lawrence" operated at the wharfs and approaches here for the Intercolonial Railway, deepening to 25 feet L. W. S. T. and removing 39200 cubic yards of mud, etc., which was deposited at a distance of ten miles.

The work was done in the month of July, September and October and was paid for by the I. C. Railway, cost per yard 0, 17.74c.

DREDGING AT THE ACADIA COAL CO'S., WHARF PICTOU N. S.

In the vicinity of this wharf there was a lump or shoal which during September 1899 received the attention of the department, the dredge "St. Lawrence" deepening over it to 19 feet L. W. S. T. and removing 1750 cubic yards of mud, taking it to deposit a distance of 9 miles and giving a satisfactory improvement in the navigation of the locality and loading facilities for which the company paid the expense, cost per cubic yard 0,14c. 70.

DREDGING AT YARMOUTH HARBOUR, YARMOUTH CO., N. S.

This important and growing seaport town has had the services of dredges for a number of years in carrying out a general plan of improvement of the harbour, channel and pier approaches.

The work of much importance and is being prosecuted vigorously.

During the present fiscal year the localities in this harbour, which were given the services of the dredge "Canada," were as follows:—

BAKER'S WHARF, YARMOUTH, N. S.

Dredge "Canada" operated here 18th to 30th Sept. 1899 and 12th to 26th May 1900, deepening to 5 feet L.W.S.T. and removing mud and clay to a place

of deposit about 4½ miles distant. Tides and weather interfered some with the dredging, 2,700 cubic yards were removed during the time stated, cost per cubic yard, 0.52.69.

CHANNEL TO STONEMAN'S AND LEWIS' WHARFS YARMOUTH.

Between 2nd September and 18th November, the periods alternating with other work at Yarmouth, the "Canada" operated in the channel from the main towards Lewis wharf including Stoneman's wharf, deepening to 4 feet L.W.S.T. and widening to 50 feet. The material, mud, etc., was removed to a deposit about 4½iles and in the time stated, 9630 cubic yards were excavated, cost per yard, 0.41.73.

LAW'S WHARF, YARMOUTH, N. S.

Had services of "Canada" 17th to 24th October, deepening to 4 feet L. W. S. T. removing mud and shells to 4½ miles for deposit, 900 cubic yards were excavated, cost per yard, 0,45.04.

DREDGING AT DOMINION ATLANTIC RY. WHARF, YARMOUTH, N. S.

Dredging for the Dominion Atlantic Railway at Yarmouth, N. S., to form a turning basin for vessels opposite their piers and adjacent thereto was performed by dredge "Canada" at different times between 1st July and 31st October of the present fiscal year, removing in the aggregate in that time 17820 cubic yards mud, shells etc., to a distance of about 4½ miles and giving a depth of water opposite the wharfs of 16 feet L.W.S.T., cost per cubic yard, 0,28 c. 58.

YARMOUTH CHANNEL, YARMOUTH, N. S.

The dredging in the main channel, Yarmouth harbour, is extensive, important and much improving the navigation and berthing facilities of the locality. During the present fiscal year the dredge "Canada" was at work between 9th May and 30th June, less this time, intervening worked at Bakers', deepening to 16 feet and widening and straigthening the channel, removing during the part of the season 9045 cubic yards of mud, shells etc. to a place of deposit about 4½ miles distant, cost per cubic yard 0,20 c. 04.

PRINCE EDWARD ISLAND.

THE P. E. I. RY. PIERS DREDGING CHARLOTTETOWN P. E. I.

During the present fiscal year, the piers of the P. E. I. Railway at Charlottetown, had attention as to the berths for vessels and approaches thereto, and the deepening and improving by dredging.

The dredge "Province Edward" was employed from 1st July to 15th and from 23rd July to 9th August in making the depth to 25ft L. W. S. T. The material excavated was mud, sand and rock and deposited at a distance of 1¼ mile. Some of the dredging was to but 22 and 16 feet for the inner 100 ft. stretch on account of ledge rock.

On the 9th August this work was finished, the further quantity of 6503 cubic yards having been removed cost per cubic yard 0,27,93.

POOLE'S WHARF, CHARLOTTETOWN P. E. I.

An important wharf in the harbour of Charlottetown P. E. I. Dredging was done here by the "Prince Edward" in improving berths and approaches and deepening to 18 ft L. W. S. T. The material removed was mud, to a place of deposit 1¼ mile distant 5805 cubic yards were removed, Payment to be made for this work by the porprietors of the wharf. Cost per cubic yards 0,05,50 exclusive of tug hire.

FRENCH RIVER, NEW LONDON, P. E. I.

An inlet from New London Bay in Qeens County P. E. I. The village has a population of about 150.

The dredge "Prince Edward" worked here in November and December 1899 and from 10th May to 30th June 1900 was continuing the work after the present fiscal year and had wintered at French River where what repairs necessary that could be done there were made, the channel of the river was deepened and improved to 10 ft L. W. S. T. During the year 25831 cubic yards were removed, principally mud and deposited at a distance of ¼ to ½ mile, cost per cubic yard 0,25.53.

MALPEQUE, PRINCE CO., P. E. I,

A seaport, post office, farming and fishing district, 16 miles from Summerside, with a population of about 500.

The dredge "Prince Edward" was here from 23rd August to 2nd November. The channel of the harbour was deepened to 10 feet L. W. S, T. making considerable improvement in the navigation. The material excavated was mud and clay, and deposited at a distance of about one mile. A total quantity of 28-575 cubic yards were excavated. Cost per cubic yard 0, 19.08.

SUMMERSIDE, P. E. I.

The second town in importance in Prince Edward Island with an excellent harbour on the strait of Northumberland having a considerable export trade; steamship lines run here and a terminus of the P. E. I. Railway is here. In the harbour channel the dredge "St. Lawrence" was engaged in May and June, 1900, cutting through the sand and clay bar, and deepening to 20 feet L.W. S. T., making much improvement in the navigation. The work was still in progress at the end of the fiscal year when the quantity of 27,650 cubic yards had been removed and deposited 4 miles distant. Cost per cubic yard 0, 12c 12.

NEW BRUNSWICK.

CHIPMAN, SALMON RIVER, QUEEN'S COUNTY, N. B. WARDS SHOAL AND CURLEY'S SHOAL.

These two shoals not far removed from each other, near Chipman, Salmon river. The Salmon river, an affluent of the Grand Lake is a water-way of considerable importance. The dredge "New Dominion" operated on this river deepening over the shoals named and improving the channel to 9 feet low water summer level.

Ward's shoal, from 1st July to 26th September, removing 34,750 of saud, rubbish and mud. The places of deposit varying a distance of from 200 yards to 2 miles.

Curley's shoal, 27th September to 23rd October, 1899, and 18th May to 30th June, 1900, removing 31,025 cubic yards of sand, mud, etc., taken a distance of from 200 yards to 2 miles, to deposit. A depth of 9 feet low water summer level was left over these shoals. Cost per cubic yard of dredging 0, 13c, 99 Wards and 0, 15c 02 for Curley's shoals.

JEMSEG, QUEEN'S COUNTY, N. B.

An affuent of the St. John river from Grand Lake. There is considerable traffic on the Jemseg and a large amount of prodnce shipped from the settlements on its banks. Steamers call at Upper and Lower Jemseg villages.

The dredge "New Dominion" was here this year from 24th October to 11th November 1899, deepening and improvtng the channel to 10 feet low water summer level. The spoil was sand and deposited 2 miles distant. 3,600 cubic yards were excavated. Cost per cubic yard, 0,32c. 25.

OX ISLAND SHOAL, ST. JOHN RIVER, SUNBURY CO., N. B.

This shoal has been partly removed to 10 feet low water summer level by the clam shell dredge. The work was from 27th October to 12th November, when the ice forming in river necessitated its abandonment, 4,340 cubic yards of sand were removod to a distance of ½ mile for deposit. Cost per cubic yard 0,23c. 63.

ROBINSON'S BAR, ST. JOHN RIVER, N. B.

A shoal near Fredericton was operated on by the clam shell dredge from 1st September to 26th October. The material, hard, compact clay and gravel made the work slow for this dredge. The distance to place of deposit, 250 yards. The depth given was 6 feet low water summer level. Work completed by the removal of 6,065 cubic yards in the time mentioned. Much improvement made in the navigation of this part of the river. Cost per cubic yard 0,39c. 52.

SPRINGHILL, YORK COUNTY, ST. JOHN RIVER, N. B.

Some six miles above Fredericton, on the St. John River in the vicinity of Springhill are found a number of shoals which have the attention of the department for the deepening over and the improvement of the course of river navigation. The clam shell dredge has operated at these for parts of two seasons. This year from 1st July to 31st August 1899, and 18th May to 30th June 1900 works still in progress. The depth required is to 3½ feet low water summer level, the work is very difficult and in a manner dangerous. The swift running water and great quantity of logs and rafts to guard against.

It is, however, being pushed persistently, and 14,920 cubic yards were removed this year. The material packed sand and gravel with silt is taken to deposit about ½ mile. During the spring freshets a reversed difficulty is found in the extra height of water for this dredge to work. Springhill work cost 0,35c. 38 per cubic yard.

ST. JOHN, N. B. HARBOUR, WINTER PORT BERTHS.

The most extensive and important shipping piers and berths at West St. John have had considerable work done by the department thereat in the way of dredging.

During the present fiscal year from 1st July to 17th November, and from 2nd to 30th June, the dredge "Cape Breton" prosecuted the work as vigorously as the conditions would permit. The dedging was done as the tides served, but a short time each day, and the material was difficult, mud, clay, logs, boulders, ballast, etc. The depth was to 28 feet L. W. S. T. Detentions were caused by steamers in the way, bonlders and bad weather.

Up to 30th June 1900 of this year 80,335 cubic yards had been removed. The place of deposit about 2 miles away. Work was in progress at end of year. Cost per cubic yard 0,10c. 74, exclusive of towage which was provided by the city.

DREDGING—MARITIME PROVINCES.

CLASSIFICATION OF DISBURSEMENTS of the Dredges operated by the Public Works Department during the year ended June 30, 1900.

DREDGE "ST. LAWRENCE"

Items.	July	August	September	October	November	December	January	February	March	April	May	June	Grand Total
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Wages	483 33	483 33	478 56	483 33	483 33	483 33	245 22	262 33	271 33	746 86	483 33	482 61	5,386 89
Coal	96 60	193 20	234 60	82 80	110 40	138 13	.....	.....	.....	175 50	228 65	297 57	1,557 45
Provisions	105 11	109 98	134 43	51 81	139 76	72 28	.....	.....	.....	90 36	94 01	98 01	895 75
Stores	10 85	39 12	19 65	40 55	7 81	.....	24 16	9 10	.....	181 51	142 04	1 84	476 63
Equipment	119 29	116 78	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	236 07
Water	11 50	.....	14 50	16 00	.....	8 75	.....	.....	.....	22 75	1 56	2 10	77 16
Repairs	.....	60 92	.....	332 28	16 65	.....	.....	.....	.....	1,470 18	1,033 60	864 82	3,778 45
Pilotage	62 50	62 50	70 00	65 00	92 00	45 00	.....	.....	.....	35 00	78 00	78 00	588 00
Towage	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wharfage	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	22 25	21 37	13 62
Contingencies	60 00	5 57	.....	18 65	.....	8 19	10 90	.....	.....	86	.....	24 53	128 70
Totals	949 18	1,071 40	951 74	1,090 42	849 95	755 68	280 28	271 43	271 33	2,723 02	2,083 44	1,870 85	13168 72
Working Expenses	949 18	1,010 48	951 74	758 14	833 30	755 68	35 06	.....	271 33	1,252 84	1,049 84	1,006 03	8,873 62
Repairs, ordinary	.....	60 92	.....	103 60	16 65	.....	.....	.....	.....	154 05	563 21	864 82	1,763 25
D. V. Repairs and wintering	.....	.....	.....	228 68	.....	.....	245 22	271 43	.....	1,316 13	470 39	.....	2,531 85
Total	949 18	1,071 40	951 74	1,090 42	849 95	755 68	280 28	271 43	271 33	2,723 02	2,083 44	1,870 85	13168 72

DREDGE "CANADA"

Wages	389 91	406 63	403 00	403 48	394 85	403 00	351 83	195 00	265 64	239 75	407 90	420 00	4,290 99
Coal	187 99	203 61	181 19	148 42	147 91	186 06	.....	.....	.....	.....	198 23	216 81	1,503 22
Provisions	95 06	78 29	88 88	90 82	86 85	122 77	50 94	.....	.....	9 11	86 17	79 75	788 64
Stores	39 16	15 35	40 21	36 93	14 15	17 85	31 03	6 49	.....	15 30	160 71	105 81	513 02
Equipment	91 44	74 80	15 15	183 16	18 56	.....	.....	.....	.....	.....	176 30	.....	559 41
Water	6 00	1 86	6 30	.....	14 22	6 05	.....	.....	.....	.....	10 88	11 88	60 11
Repairs	115 70	.....	.....	160 67	136 17	45 10	47 20	65 50	7 32	212 94	865 25	2,846 03	4,502 18
Pilotage	52 00	54 00	34 00	.....	20 00	52 00	.....	.....	.....	.....	40 00	52 00	304 00
Towage	10 00	.....	.....	.....	.....	.....	110 00	.....	.....	.....	.....	.....	120 00
Wharfage	70 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	70 00
Contingencies	1 79	1 19	33 71	5 87	2 04	9 22	5 45	1 19	3 03	7 91	9 58	2 12	83 10
Total	1,069 05	838 73	805 47	1,029 35	835 05	872 05	596 45	268 18	275 99	485 01	1,954 94	3,764 40	12794 67
Working expenses	953 35	838 73	805 47	868 68	698 58	826 95	549 25	7 68	268 67	272 07	1,089 69	918 37	8,097 49
Repairs, ordinary	115 70	.....	.....	105 96	.....	45 10	.....	10 00	7 32	149 46	865 25	2,846 03	1,144 82
D. V. repairs and wintering	.....	.....	.....	54 71	136 47	.....	47 20	250 50	.....	63 48	.....	.....	552 36
Total	1,069 05	838 73	805 47	1,029 35	835 05	872 05	596 45	268 18	275 99	485 01	1,954 94	3,764 40	12794 67

DREDGING—MARITIME PROVINCES.—*Continued.*

CLASSIFICATION OF DISBURSEMENTS of the Dredges operated by the Public Works Department during the year ended June 30, 1900.

DREDGE "NEW DOMINION"

Items.	July	August	September	October	November	December	January	February	March	April	May	June	Grand Totals
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Wages	370 00	378 40	370 00	380 03	311 84	103 32	107 75	225 00	529 39	911 52	305 81	382 33	1,378 39
Coal	.....	110 25	.....	27 31	.....	.....	.....	.....	.....	.....	220 30	28 65	386 51
Provisions	71 71	61 17	3 00	51 00	92 28	1 75	.....	.....	.....	.....	123 47	.....	404 38
Stores	.....	.....	.....	.....	13 50	.....	.....	.....	.....	16 30	63 61	171 30	264 71
Equipment	.....	.....	.....	.....	3 00	.....	.....	.....	.....	.....	51 00	17 75	71 75
Water	.....	.....	.....	.....	5 50	.....	.....	.....	.....	.....	.....	186 89	192 39
Repairs	.....	2 20	5 25	2 75	77 68	.....	15 98	120 01	230 26	.....	1,090 13	.....	1,544 26
Pilotage	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Towage	337 50	390 00	360 00	390 00	446 95	.....	.....	.....	.....	.....	330 00	520 00	2,774 45
Wharfage	30 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	30 00
Contingencies	.....	.....	.....	.....	17 35	7 29	.....	.....	.....	.....	.....	6 09	30 73
Total	809 21	942 02	738 25	851 09	968 10	112 36	123 73	345 01	759 65	930 82	2,184 32	1,313 01	10077 57
Working Expenses	809 21	942 02	733 00	848 34	890 42	112 36	.....	.....	529 39	930 82	1,094 19	1,126 12	8,015 87
Repairs, ordinary	.....	.....	5 25	2 75	24 91	.....	15 98	9 98	.....	.....	1,090 13	186 89	1,335 89
D. V. repairs and wintering	.....	.....	.....	.....	52 77	.....	107 75	335 03	230 26	.....	.....	.....	725 81
Total	809 21	942 02	738 25	851 09	968 10	112 36	123 73	345 01	759 65	930 82	2,184 32	1,313 01	10077 57

DREDGE "PRINCE EDWARD"

Wages	377 75	369 32	369 25	366 50	366 50	254 70	147 50	150 78	169 38	183 69	362 19	377 50	3,495 06
Coal	.....	87 07	.....	.....	242 87	.....	147 93	.....	.....	128 23	264 00	1 87	871 97
Provirions	.....	157 41	.....	80 70	116 67	85 60	38 21	.....	.....	3 04	9 02	190 88	681 53
Stores	1 00	95 48	.....	101 93	.....	14 41	20 05	.....	.....	.....	15 93	.....	248 80
Equiqment	4 44	.....	.....	111 83	.....	.....	45 90	.....	.....	.....	3 50	.....	165 67
Water	25 00	27 88	25 00	83 06	56 92	12 86	.....	.....	.....	.....	23 44	25 00	279 16
Repairs	.....	95 68	.....	55 67	9 64	34 98	.....	21 25	297 23	76 18	103 40	1,114 44	1,808 47
Pilotage	.....	3 00	.....	8 00	8 00	13 50	.....	.....	.....	.....	.....	.....	32 50
Towage	475 00	1,146 87	.....	637 50	2,155 50	200 00	.....	.....	.....	.....	432 50	650 00	5,697 37
Wharfage	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Contingencies	.....	12 69	.....	3 00	8 37	41 25	10 63	.....	.....	5 56	4 32	8 76	94 52
Total	883 19	1,995 40	394 25	1,448 19	2,964 47	657 30	410 22	172 03	466 61	396 64	1,218 30	2,368 45	13,375 05
Working expensea.	883 19	1,899 72	394 25	1,392 52	2,954 83	622 32	267 72	.....	169 38	320 46	1,114 90	1,254 01	11,273 30
Repairs, ordinary..	.....	95 68	.....	12 55	9 64	34 98	.....	.....	.....	33 75	103 40	1,114 44	1,404 44
D. V. Repairs and wintering	.....	.....	.....	43 12	.....	.....	142 50	172 03	297 23	42 43	.....	.....	697 31
Total	883 19	1,995 40	394 25	1,448 19	2,964 47	657 30	410 22	172 03	466 61	396 64	1,218 30	2,368 45	13,375 05

DREDGING.—MARITIME PROVINCES.

CLASSIFICATION OF DISBURSEMENTS of Dredges operated by Public Works Department, &c., during the year ended 30th June 1900.

DREDGE "GEO. McKENZIE."

Items.	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	Grand Total
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts
Wages	381 50	858 00	381 50	381 50	379 51	317 87	146 57	140 32	452 13	504 13	383 90	375 88	4,702 81
Coal	27 60	9 00	50	104 20	1 00	.....	.....	.....	.....	.....	36 00	277 50	455 80
Provisions	43 10	115 69	69 63	67 54	63 08	41 81	.....	.....	15 00	9 54	175 42	51 98	652 79
Stores	.....	2 83	5 08	3 45	25 28	10 09	.....	.....	.....	25 29	25 03	.....	97 05
Equipment	6 90	.....	.....	47 35	.....	.....	.....	.....	27 30	.....	49 14	.....	130 69
Water	.....	54 50	133 00	78 00	78 00	57 00	4 00	.....	.....	.....	66 00	63 00	533 50
Repairs	.....	29 02	13 35	187 23	.....	.....	.....	57 37	102 24	34 39	360 71	.....	784 31
Pilotage	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Towage	125 00	825 00	650 00	650 00	655 00	435 35	.....	.....	.....	.....	1,100 00	650 00	5 090 35
Wharfage	.....	25 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	25 00
Contigencies	16 31	31 46	1 65	3 80	7 13	25 29	1 00	.....	59 77	1 60	10 15	11 97	170 13
Total	600 41	1,950 50	1,254 71	1,523 07	1,209 00	887 41	151 57	197 69	656 44	574 95	2,206 35	1,430 33	12642 43
Working Expenses	600 41	1921 48	1,241 36	1,335 84	1,209 00	887 41	9 07	51 37	467 13	330 68	1,845 64	1,430 33	11329 72
Repairs, ordinary	.....	29 02	13 35	.....	.....	.....	.....	.....	.....	34 39	360 71	.....	437 47
D. V. repairs and wintering	.....	.....	.....	187 23	.....	.....	142 50	146 32	189 31	209 88	.....	.....	875 24
Total	600 41	1,950 50	1,254 71	1,523 07	1,209 00	887 41	151 57	197 69	656 44	574 95	2,206 35	1,430 33	12642 43

DREDGE "CAPE BRETON."

Wages	438 93	445 31	444 16	442 37	410 00	297 65	180 00	410 71	282 07	415 04	424 22	435 00	4,625 46
Coal	92 05	131 25	.....	99 93	115 50	.....	.....	.....	.....	.....	.....	161 33	600 06
Provisions	95 38	75 05	74 96	98 26	108 29	50 91	.....	2 00	9 63	.....	30 39	84 17	629 04
Stores	.....	46 83	1 45	.....	10 30	15 14	.....	2 68	.....	.....	171 43	34 77	282 60
Equipment	10 79	.....	.....	115 38	.....	15 45	.....	.....	105 00	.....	.....	348 13	594 75
Water	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	44 00	44 00
Repairs	263 30	53 53	.....	137 81	5 11	.....	23 08	90 53	314 47	153 26	61 37	222 90	1,325 36
Pilotage	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Towage	.....	2 50	.....	.....	14 00	.....	.....	.....	6 00	.....	6 00	.....	28 50
Wharfage	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Contigencies	.....	.....	.....	.....	.....	2 67	.....	.....	.....	.....	.....	4 50	7 17
Total	900 45	754 47	520 57	893 75	663 20	381 82	203 08	505 92	717 17	568 30	693 41	1,334 80	8,136 94
Working expenses	900 45	700 94	520 57	755 94	658 09	381 82	.....	4 68	291 70	415 04	632 04	1,111 90	6,373 17
Repairs, ordinary	.....	53 53	.....	137 81	5 11	.....	.....	.....	.....	56 80	56 37	222 90	532 52
D. V. repairs and wintering	.....	.....	.....	.....	.....	.....	203 08	501 24	425 47	96 46	5 00	.....	1,231 25
Total	900 45	754 47	520 57	893 75	663 20	381 82	203 08	505 92	717 17	568 30	693 41	1,334 80	8,136 94

DREDGING—MARITIME PROVINCES.

CLASSIFICATION OF DISBURSEMENTS of the Dredges operated by the Public Works Department during the Year ended June 30, 1900.

DREDGE "CLAM SHELL."

Items.	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	Grand Total.
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Wages	471 13	489 73	147 72	520 89	303 02	64 11	60 00	73 15	100 00	220 65	243 85	577 38	3,571 93
Coal	122 36	163 57	61 66	78 75							119 77	80 75	626 86
Provisions	288 11	212 05	222 44	228 44	125 40	4 80					68 81	214 95	1,365 00
Stores		102 30			49 17	2 50					38 79	7 20	199 96
Equipment		28 55	12 15	16 00	15 72							81 42	153 84
Water												6 00	6 00
Repairs	16 96	149 51	54 04		180 99	24 61	15 10		20 70	186 75	734 01	118 84	1,531 51
Pilotage													
Towage	220 00	167 00	220 00		144 12						135 00		886 12
Wharfage							30 00						30 00
Contingencies					9 93							25 54	35 47
Total	1,148 86	1,312 71	1,018 01	844 08	828 35	96 02	105 10	73 15	120 70	407 40	1,340 23	1,112 08	8,406 69
Working Expenses	1,101 90	1,163 20	963 97	844 08	647 36	71 41	30 00		100 00	220 65	606 22	993 24	6,742 03
Repairs, Ordinary	46 96	149 51	54 04		84 39	24 61	8 00			58 93	734 01	118 84	1,279 29
D. V. Repairs and Wintering					96 60		67 10	73 15	20 70	127 82			385 37
Total	1,148 86	1,312 71	1,018 01	844 08	828 35	96 02	105 10	73 15	120 70	407 40	1,340 23	1,112 08	8,406 69

Wages													227 07	227 07
Coal														
Provisions														
Stores														
Equipment													26 64	26 64
Water														
Repairs														
Pilotage														
Towage														
Wharfage														
Contingencies														
Total													248 71	248 71
Working Expenses													248 71	248 71
Repairs, Ordinary														
D. V. repairs and wintering														
Total													248.71	248 71

EDGING MARITIME—PROVINCES—*Continued.*

CLASSIFICATION AND QUANTITIES of Material removed by Dredges operated by the Public Works Department, during the Year ended June 30, 1900.

DREDGE "ST. LAWRENCE."

Description of Material Dredged.	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	Grand Total.
	$ yds.	$ yds.	$ yds.	$ yds.	$ yds.	$ yds.	$ yds.	$ yds.	$ yds.	$ yds.	$ yds.	$ yds.	$ yds.
Hard-pan													
Boulders, stone and tin					5 25								5 25
Gravel													
Clay and boulders					24 50	9 00							33 50
Clay and sand											136 50	140 00	276 50
Sand – ordinary		66 50											66 50
Sand and mud		129 50	42 00										171 50
Mud	168 00		77 00	164 50		40 00							449 50
Total	168 00	196 00	119 00	164 50	29 75	49 00					136 50	140 00	1,002 75

DREDGE "CANADA."

Hard-pan					3 60								3 60
Boulders													
Gravel											3 75		3 75
Clay			1 80										1 80
Clay and mud				20 00		20 70					20 00		60 70
Sand—ordinary													
Mud					30 60								30 60
Mud and shells	61 20	76 50	55 80	22 30							10 00	74 70	300 50
Total	61 20	76 50	57 60	42 30	34 20	20 70					33 75	74 70	400 95

DREDGE "NEW DOMINION."

Hard-pan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clay	.....	.....	.....	3,300	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,300
Gravel and clay	.....	.....	.....	550	.....	.....	.....	.....	.....	.....	.....	.....	200	750
Clay and sand	.....	.....	.....	3,750	.....	.....	.....	.....	.....	.....	.....	1,450	1,100	6,300
Sand and rubbish	.....	.....	2,200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,200
Sand—ordinary	11,725	13,000	8,375	3,550	2,300	.....	.....	.....	.....	.....	.....	.....	2,200	41,150
Sand and mud	.....	.....	1,475	.....	.....	.....	.....	.....	.....	.....	.....	1,700	5,100	8,275
Mud and Clay	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7,400	7,400
Total	11,725	13,000	12,050	11,150	2,300	.....	.....	.....	.....	.....	.....	3,150	16,000	69,375

DREDGE "PRINCE EDWARD."

Hard-pan	1,080	1,125	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,205
Boulders	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gravel	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clay and mud	4,298	7,425	4,500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,6223
Clay and stone	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sand and mud	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,938	12,600	16,538
Sand, mud and shells	.....	.....	.....	7,650	2,205	.....	.....	.....	.....	.....	.....	.....	.....	9,855
Mud	4,275	2,160	3,735	3,510	5,243	2,970	.....	.....	.....	.....	.....	.....	.....	21,893
Total	9,653	3,285	11,160	15,660	7,448	2,970	.....	.....	.....	.....	.....	3,938	12,600	66,714

DREDGING—MARITIME PROVINCES.—*Continued.*

CLASSIFICATION OF DISBURSEMENTS of the Dredges operated by the Public Works Department during the Year ended June 30, 1900.

DREDGE "GEO. McKENZIE"

Items	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	Grand Total.
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Hard-pan	7,565	3,555	.....	.....	.....	1,995	.....	.....	.....	685	1,110	.....	14,910
Boulders	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gravel, sand and stone	.....	.....	925	.....	740	.....	.....	.....	.....	.....	.....	4,895	6,560
Clay and stone	.....	.....	.....	350	1,500	.....	.....	.....	.....	.....	.....	.....	1,850
Mud and stone	.....	1,545	5,000	3,675	.....	.....	.....	.....	.....	.....	495	.....	10,715
Sand—ordinary	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sand—very fine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mud	.....	.....	.....	3,185	1,750	.....	.....	.....	.....	.....	.....	.....	4,935
Total	7,565	5,100	5,925	7,210	3,990	1,995	.....	.....	.....	685	1,605	4,895	38,970

DREDGE "CAPE BRETON"

Hard-pan					5,460							300	5,760
Boulders, logs and ballast	200		500	1,250	310							90	2,440
Gravel			165										165
Clay, rock and boulders		5,470											5,470
Mud and stone	10,710	1,460										3,740	15,910
Sand—ordinary													
Clay and mud		7,460	12,440										19,900
Mud	1,945	8,605	840	10,300	2,000							7,000	30,690
Total	12,945	22,995	13,945	11,550	7,770							11,130	80,335

DREDGE "CLAM SHELL."

Hard-pan													
Boulders													
Gravel	4,770	2,385									490	4,340	11,985
Clay, sand and gravel			3,835	2,200									6,035
Clay and stone													
Sand, gravel, mud and sticks		2,935											2,935
Sand				945	3,325								4,270
Mud				1,000									1,000
Total	4,770	5,320	3,835	4,145	3,325						490	4,340	26,225

DREDGING BY HAND AT MILTON, YARMOUTH CO., N. S.

Mud												343	343
Total												343	343

DREDGING IN THE MARITIME PROVINCES.

For the Fiscal Year ended 30th June 1900.

Dredge.	Locality.	Date.	Time Actual dredging		Quantity, Cubic Yards.	Expenditure at locality.	Per cubic yd. for local expenditure.	Wintering, repairs, equipt & Sup'tdence *pro rata*	Total Cost.	Per cubic yd. for total expenditure.
			Hrs.	Min.		$ cts.		$ cts.	$ cts.	$ cts.
St. Lawrence ..	Pictou Landing Pictou Co., N.S.	Bet. July 1 to 31 & Sept 11 to 13 '99. Sept 20 to 23 & Sept 28 to Oct 31 1899....	202	45	39,200	3,117 51	0 07·952	2,663 30	5,780 81	0 17·74
	Pictou Bar., Pictou Co., N.S.....	Aug. 1 to 31 & Sept. 1 to 5 '99	89	20	23,800	1,042 30	0 04·379	890 43	1,932 73	0 08·12
	Acadia Coal Co., Pictou Co. N.S..	Sept. 6 to 9 1899	6	25	1,750	139 00	0 07·942	118 74	257 74	0 14·70
	Halifax I.C.Ry. Piers, Halifax Co. N.S.....	Nov. 4 to Dec. 18 1899.....	64	25	7,875	1,424 41	0 18·087	1,216 87	2,641 28	0 33·45
	Summerside, Prince Co., P.E.I ...	May 1 to June 30 1900.....	175	00	27,650	1,808 36	0 06·540	1,544 89	3,353 25	0 12·12
Canada	D.A.Ry. Basin, Yarmouth, N.S...	Bet. July 1 & Oct. 31 1899.	211	25	17,820	2,136 50	0 11·98	2,958 08	5,094 58	0 28·58
	Channel to Lewis Whf, Yarmouth, N.S.....	" Sept. 2 & Dec. 18 1899.	120	40	9,630	1,685 50	0 17·50	2,333 67	4,019 17	0 41·73
	Laws Whf., Yarmouth, N.S.....	Oct. 17 to 24 1899	11	10	900	170 00	0 18·88	235 37	405 37	0 45.04
	Bakers Whf., Yarmouth, N.S.....	Sept. 18 to 30 1899 & May 12 to 26 1900	33	25	2 700	596 69	0 22·09	826 11	1,422 80	0 52·69
	Yarmouth Channel, Yarmouth, N.S	May 9th to June 30 1900, less time at Bakers.....	105	20	9,045	1,101 78	0 12·18	1,525 43	2,627 21	0 29·04
New Dominion.	Ward's Shoal, Salmon Riv. Queen's Co., N. B.....	July 1 to Sept. 26 1899.....	631	30	34,750	2,614 40	0 07·52	2,249 43	4,863 83	0 13·99
	Curley's Shoal, Salmon River, Queen's Co., N.B	Sept. 27 to Oct. 23 1899 & May 18 to June 30 1900...	504	30	31 025	2,506 05	0 08·07	2,156 65	4,662 70	0 15·02
	Jemseg, Queen's Co., N.B.....	Oct. 24 to Nov. 11 1899.....	122	30	3,600	624 00	0 17·333	537 02	1,161 02	0 32·25
Prince Edward.	P. E. I. Ry. Whf., Charlottetown, P. B. I.....	July 1 to 15 & July 23 to Aug. 9 1899.....	230	25	6,503	1,160 75	0 17·85	656 15	1,816 90	0 27·93

	Poole's Whf., Charlottetown, P.E.I	July 16 to 22 & Aug 9 to 12 '99	83	10	5,805	204 00	0 03·51	115 35	319 35	0 05·50
	Malpecque, Prince Co., P.E.I	Aug. 23 to Nov. 2 1899	444	35	28,575	3,483 32	0 12·18	1,968 96	5,452 28	0 19·08
	French River, Prince Co., P.E.I	Nov. 10 to Dec. 8 '99 & May 10 to June 30 1900	469	55	25,831	4,243 98	0 16·31	2,381 97	6,595 95	0 25·53
Geo. McKenzie	Grand Etangs, Inverness Co., C.B., N.S.	July 1 to Aug. 13 1899	264	00	10,555	1,695 75				
	Harbor au Bouche Antigonish Co., N. S.	Aug. 18 to Dec. 20 1899 & April 22 to May 31 1900	633	00	23 520	7,174 55	0 30·50	2,130 52	9,305 07	0 39 56
							0 16·06	503 56	2,199 31	0 20·93
	Cook's Cove, Guysboro Co., N.S	June 5 to 30 1900	111	00	4,895	1,467 39	0 29·97	435 76	1,903 15	0 38·47
Cape Breton	St. John Winter berths, St. John Co., N.B	July 1 to Nov. 17 '99 & June 2 to 30 1900	551	15	80,335	3,430 78	0 04·27*	5,198 60	8,629 38	0 10·74
Clam Shell	Springhill, St. John River, York Co., N.B	July 1 to Aug. 31 '99 & May 18 to June 30 1900	630	00	14 920	3,293 12	0 22·07	1,985 93	5,279 05	0 35·38
	Robinson's Bar., St. John river, York Co., N.B	Sept. 1 to Oct. 26 1899	395	00	6,965	1,717 16	0 24·65	1,035 54	2,752 70	0 39·58
	Ox Island, Sunbury, Co., N.B	Oct. 27 to Nov. 12 '99	94	00	4,340	551 31	0 12·61	332 47	883 78	0 23·63
	Total		6184	45	341,654	47,358 61	0 12·85	36 000 80	83,359 4	0 24·39
Hand dredging	Milton, Yarmouth Co., N.S	June 18 to 30 1900			343	248 71	0 72·51		248 71	
	Total								83,608 12	

*No towage included, provided by the city.

DREDGING—MARITIME PROVINCES—*Continued.*

EXPENDITURE FOR DREDGING in Nova Scotia for the twenty-eight Years ended June 30, 1900.

County	Locality	Total for the twenty-seven Years ended June 30, 1899.			For the Year 1899-1900.			Total Quantity	Total Cost	Total Cost for each County
		Quantity	Cost	Cost for County	Quantity	Cost	Cost for County			
		c. yds.	$ cts.	$ cts.	c. yds.	$ cts.	$ cts.	c. yds.	$ cts.	$ cts.
Antigonish	Antigonish	22,025	3,649 15					22,025	3,649 15	
	Harbor au Bouche	35,723	10,398 26		23,520	9,305 07		59,243	19,703 33	
	Tracadie	12,245	5,530 29					12,245	5,530 29	
	McNairs's Cove	11,265	10,035 68					11,265	10,035 68	
	Bayfield	12,871	9,505 79					12,871	9,505 79	
	Arisaig	8,230	7,452 26	46,571 43			9,305 07	8,230	7,452 26	55,876 50
Annapolis	Annapolis	2,825	1,635 68	1,635 68				2,825	1,635 68	1,635 68
Cape Breton	Lingan	22,267	9,275 56					22,267	9,275 56	
	Sydney	54,600	17,781 54					54,600	17,781 54	
	Little Glace Bay	46,450	16,936 02					46,450	16,936 02	
	Port Caledonia	17,413	8,242 21					17,413	8,242 21	
	Beneeadie Pond	20,860	5,993 90					20,860	5,993 90	
	Christmas Island	19,045	3,364 98					19,045	3,364 98	
	Tow Bay	3,255	1,892 32					3,255	1,892 32	
	Main à Dieu	4,680	2,720 76	66,207 29				4,680	2,720 76	66,207 29
Colchester	Tatamagouche	65,480	20,373 07	20,373 07				65,480	20,373 07	20,373 07
Cumberland	Parrsboro'	42,595	12,804 68					42,595	12,804 68	
	Wallace	93,865	24,140 37	36,945 05				93,865	24,140 37	36,945 05
Digby	Digby	12,585	5,056 29					12,585	5,056 29	
	Weymouth	88	28 62	5,084 91				88	28 62	5,084 91
Guysboro	Guysboro	5,400	1,413 53					5,400	1,413 53	
	Larry's River	47,655	16,519 85					47,655	16,519 85	

	Port Mulgrave	4,347	2,494	81						4,347	2,494	81	
	Sherbrooke	1,260	496	49	20,924	68				1,260	496	49	
	Cook's Cove					4,895	1,903	15	1,903 15	4,895	1,903	15	22,827 83
Halifax	Chezzetcook	3,920	2,593	71						3,920	2,593	71	
	Halifax Ferry	6,177	2,063	38						6,177	2,063	38	
	Herring Cove	26,101	12,049	68						26,101	12,049	68	
	Ketch Harbour	4,227	1,690	53						4,227	1,690	53	
	Richmond Wharf	792	182	53						792	182	53	
	Roche's Wharf	1,750	620	28						1,750	620	28	
	Halifax Railway, terminus	27,690	8,415	51		7,875	2,641	28		35,565	11,056	79	
	Jaddore	21,515	4,958	56						21,515	4,958	56	
	North-West Arm	7,350	2,970	39						7,350	2,970	39	
	Cunard's Wharf	1,400	530	04						1,400	530	04	
	Salmon River	14,288	5,962	93						14,288	5,962	93	
	Spry Bay	10,665	3,075	72						10,665	3,075	72	
	Eastern Passage	2,070	596	97						2,070	596	97	
	Sambro	4,815	1,388	61	47,098	84			2,641 28	4,815	1,388	61	49,740 12
Inverness	Whycocomagh	19,760	3,491	31						19,760	3,491	31	
	Campbell's Pond	4,940	872	83						4,940	872	83	
	Port Hastings	270	190	37						270	190	37	
	Cheticamp	170,740	52,863	40						170,740	52,863	40	
	Mabou	128,347	49,126	92						128,347	49,126	92	
	Port Hood	7,153	3,619	81						7,153	3,619	81	
	Grand Etang	425	1,231	94	113396	58	10,555	2,199	31 2,199 31	10,980	3,431	25	113,595 89
Lunenburg	Lunenberg	70,510	22,194	57						70,510	22,194	57	
	Mahone Bay	21,844	5,958	65						21,884	5,958	65	
	Vogler's Cove	11,610	5,075	53	33,228	75				11,610	5,075	53	33,228 75
Pictou	Acadia Coal Co., Wharf	12,310	4,093	81			1,750	257	74	14,060	4,351	55	
	Albion Mines	9,475	2,181	25						9,475	2,181	25	
	East River	114,407	47,696	43						114,407	47,696	43	
	Halifax Coal Co., Wharf	1,650	359	90						1,650	359	90	
	Pictou Public Wharf	7,020	1,634	82						7,020	1,634	82	
	" Market Wharf	78,250	21,687	04						78,250	21,687	04	
	" Railway Wharf	51,414	12,907	08						51,414	12,907	08	
	" Landing Wharf	9,445	3,117	59			39,200	5,780	81	48,685	8,898	40	
	" Steam Ferry Co. slip	720	246	18						720	246	18	
	" Bar						23,800	1,932	73	23,800	1,932	73	
	Vale Colliery	1,395	682	15						1,395	682	15	
	River John	85,173	22,243	98						85,173	22,243	98	
	Granton	25,110	10,707	59						25,110	10,707	59	
	New Glasgow	35,445	11,795	79						35,445	11,795	79	

EXPENDITURE FOR DREDGING in Nova Scotia for the twenty-eight Years ended June 30, 1900.—*Continued.*

County	Locality	Total for the twenty-seven Years ended 30 June, 1899.			For the Year 1899-1900.			Total Quantity	Total Cost	Total Cost for each County
		Quantity	Cost	Cost for County	Quantity	Cost	Cost for County			
		c. yds.	$ cts.	$ cts.	c. yds.	$ cts.	$ cts.	c. yds.	$ cts.	$ cts.
Pictou	Middle River	15,060	4,984 40					15,060	4,984 40	
	C. Dwyer's Wharf	5,400	1,087 66					5,400	1,087 66	
	" Berth for ss. *Campana*	5,850	2,000 22					5,850	2,000 22	
	Dwyer & Co's Wharf	360	123 09	147548 98			7,971 28	360	123 09	155,520 26
Queens	Liverpool	33,730	9,960 70					33,730	9,960 70	
	Port Mouston	10,620	2,283 77	12,244 47				10,620	2,283 77	12,244 47
Richmond	D'Escousse	23,650	10,052 76					23,650	10,052 76	
	St. Peter's Canal	90,830	27,435 95					90,830	27,435 95	
	St. Peters	7,150	2,407 41					7,150	2,407 41	
	Grand Goulet	23,584	5,570 49					23,584	5,570 49	
	River Bourgeois	18,920	4,468 87					18,920	4,468 87	
	Marine slip	320	56 53					320	56 53	
	Poulemout	10,080	2,566 14					10,080	2,566 14	
	Tourchu Harbour	16,875	9,454 94	62,013 09				16,875	9,454 94	62,013 09
Shelburne	Lockeport	75,358	18,026 86					75,358	18,026 86	
	Barrington Passage	40,780	13,123 31					40,780	13,123 31	
	Osborne	990	145 31					990	145 31	
	Wood's Harbour	1,170	245 45					1,170	245 45	
	Barrington Pass and Sherrow's Channel	9,090	1,074 02	32,614 95				9,090	1,074 02	32,614 95
Yarmouth	Yarmouth	323,587	86,091 30	86,091 30	40,095	13,569 13		363,682	99,660 43	
	Milton				343	248 71	13,817 84	343	248 71	99,909 14
Hants	Windsor	5,450	1,627 60	1,627 60				5,450	1,627 60	1,627 60

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Victoria	Aspy Bay		3,820	1,569 95	1,569 95						3,820	1,569 95	1,569 95			
Dredge "*C. B.*"				762 98	762 98							762 98	762 98			
losses				733,939 60	733,939 60	152,033		37,837 93		37,837 93	2,471,909	771,777 53	771,777 53			
		2,319,876														

EXPENDITURE FOR DREDGING in Prince Edward Island for the twenty-eight Years ended June 30, 1900.

County.	Locality.	Total for the twenty-seven Years ended 30th June 1899.			For the Year 1899-1900.			Total Quan'ty	Total Cost.	Cost for each County.
		Quan'ty	Cost.	Cost for County.	Quan'ty	Cost.	Cost for County.			
		c. yds.	$ cts.	$ cts.	c. yds.	$ cts.	$ cts.	c. yds.	$ cts.	$ cts.
Kings	Grand River	76,170	15,304 04					76,170	15,304 04	
	Montague River	132,480	22,819 11					132,480	22,819 11	
	Murray Harbor South	99,453	17,638 73					99,453	17,638 73	
	Sturgeon	16,026	6,066 27					16,026	6,066 27	
	St. Mary's wharf	21,963	4,752 55					21,963	4,752 55	
	Georgetown Railway wharf	1,002	408 32					1,002	408 32	
	Cardigan bridge	35,955	8,619 36					35,955	8,619 36	
	Newport	3,240	917 82					3,240	917 82	
	Souris	3,825	1,083 53	77,609 73				3,825	1,083 53	77,609 73
Queen's	Charlottetown Railway wharf	79,648	21,001 55		6,503	1,160 75		86,151	22,162 30	
	" Pownal wharf	14,193	2,963 50					14,193	2,963 50	
	" Ferry	10,075	2,006 99					10,075	2,006 99	
	" Steam Nav. Co.	13,113	5,491 77					13,113	5,491 77	
	" Connollys wharf	9,978	4,469 68					9,978	4,469 68	
	" Peake Bros.	12,195	5,362 46					12,195	5,362 46	
	" Queen Street slip	3,915	1,109 03					3,915	1,109 03	
	" Geo. Peake's wharf	5,805	1,644 42					5,805	1,644 42	
	" Poole's wharf	6,435	1,405 95		5,805	204 00		12,240	1,609 95	
	" McMillan's	6,165	1,320 13					6,165	1,320 13	
	" Dom. building sewer	5,355	1,146 68					5,355	1,146 68	
	" Public sewerage	2,880	679 12					2,880	679 12	
	Webster's Corner, East River	203	43 47					203	43 47	
	Crapaud, Victoria	109,652	31,747 99					109,652	31,747 99	
	Pownal Bay	33,610	6,536 20					33,610	6,536 20	
	Rocky Point	82,920	13,426 13					82,920	13,426 13	
	Vernon River	17,860	6,326 72					17,860	6,326 72	
	Wood Islands	2,780	548 00					2,780	548 00	
	Nine Mile Creek	31,650	6,286 46					31,650	6,286 46	

	Hickey wharf	750	150	51						750	150	51	
	Carr's Point	12,165	2,441	28						12,165	2,441	28	
	Pinette	3,825	756	24						3,825	756	24	
	Fort Augustus	3,195	631	68						3,195	631	68	
	Southport Ferry	45,300	7,508	75						45,300	7,508	75	
	Red Point	7,161	3,879	60						7,161	3,879	60	
	North Rustico	13,536	4,775	38						13,536	4,775	38	
	South Rustico	11,649	4,109	67						11,649	4,109	67	
	Gauthiers Creek	17,847	8,305	50						17,847	8,305	50	
	Malpeque					28,575	3,483	32		28,575	3,483	32	
	French River				146,014	86	25,831	4,213	98	9,062	05	25,831	4,213	98	155,076	91
Prince	Summerside	56,486	17,412	79			27,650	1,808	36			84,136	19,221	15		
	Hurds Point Pier	59,295	11,913	99								59,295	11,913	99		
	Tignish	11,387	13,005	45								11,387	13,005	45		
	Cascumpec	1,157	538	42								1,157	538	42		
	Cape Traverse	16,740	5,105	89								16,740	5,105	89		
	Holman's wharf	9,585	1,269	21	49,245	75				1,808	36	9,585	1,269	21	51,054	11
		11086	24	272,870	34	272,870	34	94,364	10870	41	10,870	41	1 202 988	283,740	75	283,740	75

Expenditure for Dredging in Quebec for the twenty-eight Years ended 30th June 1900.

From Appropriations, Maritime Provinces.

County.	Locality.	Total for the twenty-seven Years ended 30th June 1899.			For the Year 1899-1900.			Total Quan'ty	Total Cost.	Cost for each County.
		Quan'ty	Cost.	Cost for County.	Quan'ty	Cost.	Cost for County.			
		c. yds.	$ cts.	$ cts.	c. yds.	$ cts.	$ cts.	c. yds.	$ cts.	$ cts.
Magdalen Islands, Co. Gaspé	House Harbour	6,800	2,392 92					6,800	2,392 92	
	Amherst Harbour	495	242 05	2,634 97				495	242 05	2,634 97
Témiscouata	River du Loup	2,587	825 47	825 47				2,587	825 47	825 47
Rimouski	Rimouski	8,123	3,997 59	3,997 59				8,123	3,997 59	3,997 59
		18,005	7,458 03	7,458 03				18,005	7,458 03	7,458 03

DREDGING MARITIME PROVINCES—*Continued.*

EXPENDITURE for Dredging in New Brunswick for the twenty-eight years ended 30th June, 1900.

County.	Locality.	For the twenty-seven years ended 30th June, 1899.			For the year 1899-1900.			Total quantity	Total cost.	Cost for each county.
		Qu'ntity Cub. yds	Cost.	Cost for County.	Qu'ntity Cub. yds	Cost.	Cost for County.	Cub. yds		
			$ cts.	$ cts.		$ cts.	$ cts.		$ cts.	$ cts.
Gloucester	Bathurst	98,637	29,095 79	29,095 79				98,637	29,095 79	29,095 79
Kent	Richibucto	140,228	44,001 19					140,228	44,001 19	
	Cocagne	27,180	9,601 45					27,180	9,601 45	
	Buctouche	13,005	4,934 24					13,005	4,934 24	
	" Priests' Point	3,510	1,110 70					3,510	1,110 70	
	" Chapel Point	4,140	1,310 07					4,140	1,310 07	
	" Robertson's wharf	45	14 23	60,971 88				45	14 23	60,971 88
King's	Belleisle Point	60,170	8,156 76					60,170	8,156 76	
	Kennebecasis River	116,270	20,081 83					116,270	20,081 83	
	Moss Glen	10,200	1,924 47	30,163 06				10,200	1,924 47	30,163 06
Northumberland	Horse Shoe. Miramichi	208,892	55,058 36					208,892	55,058 36	
	Outer Bar "	29,935	7,965 31					29,935	7,965 31	
	Grand Dune "	37,975	10,121 67					37,975	10,121 67	
	Gordon Flats "	22,425	4,403 95	77,549 29				22,425	4,403 95	77,549 29
Queen's	Crand Lake	93,555	16,372 96					93,555	16,372 96	
	Dr. McManu's Cove	20,440	4,522 82					20,440	4,522 82	
	Jemseg	83,030	16,291 96		3,600	624 00		86,630	16,915 96	
	Waashademoak	48,975	6,340 83					48,075	6,340 83	
	Grimross, Midground	12,040	3,274 99					12,040	3,274 99	
	Gagetown Creek Canal	33,590	5,968 99					33,590	5,968 99	
	Spoon Island	3,000	402 51					3,000	402 51	
	Ward's shoal, Salmon Riv., Queen's Co	6,175	1,174 49		34,750	2614 40		40,925	3,788 89	
	Curley's shoal " "			54,349 55	31,025	2506 05	5,744 45	31,025	2,506 05	60,094 00
Restigouche	Dalhousie	22,301	6,543 08					22,301	6,543 08	
	Traverse	110,810	21,415 93	27,959 01				110,810	21,415 93	27,959 01
St. John	I. C. Railway terminus	159,472	41,553 75					159,472	41,553 75	
	Navy Island	25,294	9,296 79					25,294	9,296 79	
	Marble Cove	29,925	4,374 40					29,925	4,374 40	
	Murray's Mills	23,880	3,441 65					23,880	3,441 65	
	Indiantown wharf	1,615	192 83					1,615	192 83	

	Long wharf	7,137	2,680	24							7,137	2,680	24	
	Miller & Woodman's	9,275	1,090	42							9,275	1,090	42	
	Hayward & Stetson	8,015	942	29							8,015	942	29	
	International wharf	450	52	90							450	52	90	
	Adams' wharf	7,513	3,247	29							7,513	3,247	29	
	Anchor Line wharf	4,695	996	81							4,695	996	81	
	Dominion Atlantic Railway wharf	15,525	4,484	72							15,525	4,484	72	
	St. John winter berths	240,213	37,526	13			80,335	3430	78		320,548	40,956	91	
	" Harbour channel	3,413	5,063	92							3,413	5,063	92	
	Purvus Murchie mill	675	142	57							675	142	57	
	McAvity wharf	2,640	270	98							2,640	270	98	
	Lawton's "	570	101	46							570	101	46	
	Thorne's "	1,980	249	02							1,980	249	02	
	Maritime Nail Co	1,425	224	52							1,425	224	52	
	Cushing's mill	20,850	1,222	86	117,155	55				3,430	78	20,850	1,222	86	120,586	33
Sudbury	Oromocto	287,873	55,775	79								287,873	55,775	79		
	McLean's wharf	625	181	59								625	181	59		
	Ox Island				55,957	38	4,340	551	31	551	31	4,340	551	31	56,508	69
Westmoreland	Pointe du Chêne	92,925	27,599	90	27,599	90						92,925	27,599	90	27,599	90
York	Fredericton	115,070	19,651	33								115,070	19,651	33		
	St. Mary's Ferry	15,570	6,827	36								15,570	6,827	36		
	Gibson	30,395	4,379	52								30,395	4,379	52		
	Naashwaak	1,600	435	22								1,600	435	22		
	Fisher & Chestnut shoals	8,200	1,547	12								8,200	1,547	12		
	Canada Eastern Railway wharf	3,250	938	82								3,250	938	82		
	Springhill	700	305	77			14,920	3293	12			15,620	3,598	89		
	Robinson's Bar				34,085	14	6,965	1717	16	5,010	28	6,965	1,717	16	39,095	42
	Clam shell dredge, equipment		1,591	12	1,591	12							1,591	12	1,591	12
	Totals	2327298	516477	67	516477	67	175,935	14736	82	14,736	82	2506233	531214	49	531214	49

STATEMENT of dredging showing quantities removed in each Province and cost of each work for the twenty-eight years ended 30th June 1900.

FISCAL YEAR.	NEW BRUNSWICK.		NOVA SCOTIA.		QUEBEC.		PRINCE EDWARD ISLAND.		Quantity. Total	Total Expenditure.	Cost Cubic Yard
	Quantity.	Cost.	Quantity.	Cost.	Quantity.	Cost.	Quantity.	Cost.			
	c. yds.	$ cts.	c. yds.	$ cts.	c. yds.	$ cts.	c. yds.	$ cts.	c. yds.	$ cts.	$ cts.
1872-3	38,060	13,240 50	23,260	8,422 70					61,320	21,663 20	0 35·328
1873-4	57,725	14,395 57	18,600	6,545 61	6,800	2,392 92			83,125	23,334 10	0 28·071
1874-5	78,223	17,325 05	24,416	13,238 83			18,655	9,892 89	121,294	40,456 77	0 33·354
1875-6	79 995	17,040 52	91,974	21,885 90			58,283	10,891 80	230,192	49,818 22	0 21·642
1876-7	97,690	23,161 90	127,785	34,846 74			74,460	12,758 27	299,935	70,766 91	0 23·594
1877-8	81,070	23,323 92	106,857	29,607 94			82,860	12,011 18	270,787	64,943 04	0 23·983
1878-9	132,555	27,400 22	116,307	28,267 59			46,490	9,164 07	295,352	64,831 88	0 21·951
1879-80	63,540	16,581 79	127,684	34,765 84	765	347 08	36,390	12,674 98	228,379	64,396 69	0 28·197
1880-1	44 315	12,385 85	87,118	23,061 64	2,317	693 44	46,335	9,298 53	180,085	45,439 46	0 25·232
1881-2	79,640	18,626 87	89,566	33,363 71			47,325	9,356 57	216,531	61,347 15	0 28·331
1882-3	48,565	13,422 70	143,616	42,996 93			68,535	11,080 37	260,716	67,500 00	0 25·890
1883-4	47,058	17,103 38	157,560	49,050 58	8,123	3,997 59	79,750	13,355 05	284,368	79,569 01	0 27·959
1884-5	128,997	24,460 35	76,164	25,250 73			55,075	8,668 01	268,359	62,376 68	0 23·242
1885-6	68,505	14,874 63	56,790	21,482 05			17,137	10,349 66	142,432	46,706 34	0 32·792
1886-7	69,440	11,452 86	53,400	25,621 19			6,137	6,214 74	128,977	43,288 79	0 33·56
1887-8	50,152	9,252 50	84,175	29,847 60			3,775	5,899 90	138,102	45,000 00	0 32·58
1888-9	63,633	16,598 08	56,910	32,697 00			24,240	15,502 95	144,783	64,798 03	0 27·29
1889-90	86,068	20,544 93	59,783	22,821 55			31,422	11,085 39	177,273	54,451 87	0 30·71
1890-1	96,588	20,375 06	61,698	24,386 57			19,004	8,843 92	177,200	53,605 55	0 30·23
1891-2	75,023	20,592 85	81,993	27,376 08			31,382	12,788 34	188,398	60,757 27	0 32·249
1892-3	108,035	23,742 26	40,834	18,125 58			66,585	15,112 83	215,454	56,980 67	0 26·44
1893-4	77,505	21,564 27	59,581	28,664 99			61,536	12,269 24	198,622	62,498 50	0 31,46
1894-5	59,715	13,630 11	105,463	32,202 70			48,060	10,428 90	213,238	56,261 71	0 26·38
1895-6	98,905	21,352 63	36,428	15,828 89			36,360	10,299 93	171,693	47,481 45	0 27,65
1896-7	203,975	34,050 86	84,735	22,080 46			51,078	10,937 62	339,788	67,068 94	0 19·73
1897-8	187,325	21,611 17	147,085	31,497 57			46,710	10,701 49	381,120	69,810 23	0 18·31
1898-9	105,058	23,315 82	155,510	36,628 81			51,040	13,283 71	311,608	73,228 34	0 23·50
1899-1900	175,935	28,232 46	152,033	37,589 22			94,364	17,537 73	422,332	83,359 41	0 19.76
	2,502,235	5,45659 11	2,427,325	758,155 00	18,005	7,458 03	1,202,988	290,408 07	6,151,553	1601680 21	0 25·87

STATEMENT of dredging showing quantities removed by hand in each Province and cost of such dredging for the twenty-eight years ended 30th June 1900.

FISCAL YEAR.	NOVA SCOTIA.		NEW BRUNSWICK.		QUEBEC.		PRINCE EDWARD ISLAND.		Total Quantity.	Total Expenditure.	Cost per Cubic Yard
	Quantity.	Cost.	Quantity.	Cost.	Quantity.	Cost.	Quantity.	Cost.			
	c. yds.	$ cts.	c. yds.	$ cts.	c. yds.	$ cts.	c. yds.	$ cts.	c. yds.	$ cts.	$ cts.
1878–9			245	555 13					245	555 13	2 26·58
1879–80			12,370	3,666 90					12,370	3,666 90	0 29·64
1880–1			11,140	2,560 25					11,140	2,560 25	0 22·98
1881–2			10,640	2,650 00					10,640	2,650 00	0 24·98
1882–3			8,190	2,500 00					8,190	2,500 00	0 30·52
1883–4			5,460	2,500 00					5,460	2,500 00	0 45·78
1884–1899			Nil.	Nil.					Nil.	Nil.	Nil.
1899–1900			343	248 71					343	248 71	0 72·54
			48,388	14,680 99					48,388	14,680 99	0 30·34

STATEMENT OF DREDGING in the Maritime Provinces, showing quantities removed by and expenditure of each dredge during the twenty-eight Years ended 30, June 1900.

Dredge.	Total quantities and cost for twenty-seven Years ending 30th June 1899.			Fiscal Year 1899-1900.			Total for twenty-eight Years ended 30th June 1900.		
	Total Quantity.	Total cost.	Cost per cubic yard.	Total Quantity.	Total cost.	Cost per cubic yard.	Total Quantity.	Total cost.	Cost per cubic yard.
	c. yds.	$ cts.	$ cts.	c. yds.	$ cts.	$ cts.	c. yds.	$ cts.	$ cts.
" St. Lawrence "	1,217,239	333,609 27	0 27·40	100,275	13,965 81	0 13·92	1,317,514	347,575 08	0 26·38
" Canada "	826,219	261,170 50	0 31·61	40,095	13,569 13	0 33·84	866,314	274,739 63	0 31·58
" New Dominion "	1,232,705	226,608 63	0 18·38	69,375	10,687 55	0 15·40	1,302,080	237,296 18	0 18·22
" Prince Edward "	1,102,714	269,515 38	0 24·44	66,714	14,184 48	0 21·26	1,169,428	283,699 86	0 23·90
(Old) " Cape Breton "	534,938	139,074 33	0 25·99				534,938	139,074 33	0 25·99
" Geo. McKenzie "	605,590	240,847 21	0 39·77	38,970	13,407 53	0 34·40	644,560	254,254 74	0 39·44
" Cape Breton "	197,551	39,101 00	0 19·79	80,335	8,629 38	0 10·74	277,886	47,730 38	0 17·17
" Clam Shell "	700	1,896 89	2 70·98	26,225	8,915 53	0 33·99	26,925	10,812 42	0 40·15
	5,717,656	1,511,823 21	0 26·44	421,989	83,359 41	0 24·39	6,139,645	1,595,182 62	0 25·98

STATEMENT OF DREDGING performed by hand in the Maritime Provinces, showing quantities removed and expenditure at each locality for twenty-eight Years ended 30, June 1900.

Locality.	Total quantities and cost for twenty-seven Years ending 30th June 1899.			Fiscal Year 1899-1900.			Total for twenty-eight Years ended 30th June.		
	Total Quantity.	Total cost.	Cost per cubic yard.	Total Quantity.	Total cost.	Cost per cubic yard.	Total Quantity.	Total cost.	Cost per cubic yard.
	c. yds.	$ cts.	$ cts	c. yds.	$ cts.	$ cts.	c. yds.	$ cts.	$ cts.
Parrboro, N.S.	42,595	12,804 68	0 30·06				42,595	12,804 68	0 30 06
Windsor, N.S.	5,450	1,627 60	0 29·86				5,450	1,627 60	0 29 86
Milton, N.S.				343	248 71	0 72·51	343	248 71	0 72 51
	48,045	14,432 28	0 30·03	343	248 71	0 72·51	48,388	14,680 99	0 30 34

PROVINCE OF QUEBEC.

RIVER ST. LAWRENCE SHIP CHANNEL.

The River St. Lawrence Ship Channel between Montreal and Quebec, is 160 miles in length. Of this about 65 per cent is natural deep water not requiring any improvement.

Before the commencement of dredging operations the shallowest place was on the flats of Lake St Peter, where, at ordinary low water, the depth was 10½ feet.

In 1888 the Montreal Harbour Commissioners had completed and opened the Channel, from Montreal down to tide water, with a depth of 27½ feet at the same stage of low water.

Since 1889 the dredging operations have been conducted by this Department.

From 1889 until 1898 almost the whole of the dredged portion of the river, except the Channel in Lake St. Peter, was gone over. The bottom was scraped and cleaned; many curves and narrow places were widened, and in tide water, shoals were dredged, to avoid, as much as possible. the necessity of waiting for the tide.

The extraordinary low water of 1895 and 1897, and the increase in size of vessels, urgently called for a wider and deeper channel, and for this new, larger and more powerful dredges and plant were required.

In 1899 the dredging plant was in a position to warrant the commencement of a more extensive plan of operations. Two new elevator dredges of large type, with their tugs and plant had proved their efficiency. Two powerful steel dredges designed according to the best practice, and experience in this identical work, with their tugs &c., were almost completed; and two more, to complete the six required, were authorized.

With this dredging fleet, and the necessary repair shops and ship yard at Sorel available, and having in view the faults of the old channel, the type of steamships using it, and the necessity of work capable of immediate utility, the question of type of channel to give the best results was carefully considered.

The old channel depth was 27½ feet at the low water of ordinary years, but as will be seen from the attached table, this depth could not be relied on during occasions of extraordinary low water.

The lowest water in the 27½ foot channel on record, was 25 feet 10 inches, on November 1st 1895.

As the water on some furure occasion may go even lower, it was decided to adopt for "Extreme Low Water" a river level 10 inches lower than that of November 1st 1895; or a low water corresponding to nearly 8 feet on the flats of Lake St. Peter.

As almost all accidents in the channel have been the result of vessels striking the edge of the bank, whether from pilots negligence, defect in steering-gear or otherwise, it was decided to make the improved channel as wide as could be dredged in one cut; and to straighten curves and lengthen tangents as much as economical considerations would permit.

It was considered advisable to immediately undertake the section from the limits of Montreal down to where the tide could be utilized; a length of about 100 miles in which there would be about 50 miles of dredging to be done.

In 1899 the new proposition was commenced.

In general this proposition may be stated to be the making of a channel from the eastern limit of Montreal Harbour down to tide water, 400 to 500 feet wide, and 29 feet deep at "extreme low water," together with a possible anchorage basin in Lake St. Peter.

At the date of writing, the close of the season of 1900, a length of more than 10 miles out of the 50 is completed.

The fifth new dredge is expected to be ready some time in 1901, and the sixth in 1902.

With equal success, and operations conducted with the same vigour as in 1900, it is expected that this proposition will be completed in 5 or 6 more seasons.

In the meantime, although the shallowest place will govern the available depth: the wider, straighter and deeper channel will be, as completed, safer and easier of navigation.

The present ship channel between Montreal and Quebec has a minimum width of 300 feet, with the bends all at least 450 feet. The depth depends on the stage of river level. It is 27½ feet when the depth on the flats of Lake St. Peter is 10½ feet. The following table gives the average depths during navigation season since 1890:

RIVER ST. LAWRENCE SHIP CHANNEL.

TABLE showing depth of water between Montreal and Quebec. 1890–1900.

Year.	Average depth for each month.							From Sorel gauge During each year. (May to Nov.)	
	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Highest	Lowest.
	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.	ft. in.
1890.....	35 6	35 3	31 9	30 6	30 9	29 9	30 6	37 0	29 0
1891.....	34 6	31 3	29 9	29 9	30 0	28 3	28 3	36 9	27 3
1892.....	31 0	31 9	31 6	30 6	28 9	28 3	28 3	33 6	27 3
1893.....	36 0	34 3	30 9	29 9	29 6	28 6	28 0	37 6	27 6
1894.....	34 6	31 9	31 0	29 0	28 3	28 9	29 0	36 0	27 7
1895.....	33 3	31 3	28 3	28 3	27 6	26 9	26 9	34 6	25 10
1896.....	33 6	30 6	28 9	28 0	27 6	27 9	29 0	37 0	27 4
1897.....	35 6	32 6	30 3	29 3	28 0	27 0	27 6	37 0	26 9
1898.....	31 6	30 9	29 8	28 6	28 2	28 3	28 6	32 1	26 9
1899.....	36 0	31 9	30 3	28 6	27 6	28 0	27 9	37 9	26 9
1900.....	33 6	30 9	30 6	29 6	28 1	28 9	29 2	35 9	27 4

DREDGING operations from July 1st 1899 to end of season 1900.

Locality	Description of Work.	Width.	Length of Channel dredged 1899 & 1900
Ile Ste. Thérèse	Widening and deepening	450 ft. 29' 0" E. L. W.	0.3 miles.
Varennes to Cap St. Michel	Widening and deepening	450 to 500 ft. 29' 0" E. L. W.	3.0 "
Cap St. Michel to Ile Bellegard	Straightening, widening and deepening	450 ft. 29' 0" E. L. W.	1.4 "
Ile Bellegard to Verchères	Straightening, widening and deepening	450 ft. 29' 0" E. L. W.	2.0 "
Ile au Bœuf	Straightening, widening and deepening	450 ft. 29' 0" E. L. W.	0.3 "
Ile de Grâce Channel	Straightening, widening and deepening	450 ft. 29' 0" E. L. W.	1.7 "
Stone Island	Widening and deepening	450 ft. 29' 0" E. L. W.	1.1 "
Three Rivers	Straightening, widening and deepening	600 ft. 29' 0" E. L. W.	0.5 "
Champlain and Pointe Citronille	Cleaning up small sand bars	— ft. 27' 6" O. L. W.	— "
Cap Santé	Completion of new channel	500 ft. 29' 0" E. L. W.	0.2 "
Ste. Croix Bar	Completion ½ width new channel	500 ft. 29' 0" E. L. W.	0.3 "
	Total length of dredging completed in 1899 and 1900		10.8 miles.
	Estimated length of dredging between Montreal Harbour and Batiscan		50.0 "

NOTE.—" E. L. W." is 2.40 feet lower than old Ship Channel datum of 27½ foot channel.

During the season of navigation of 1900 the whole of the dredged or doubtful portions of the river channel from the eastern limit of Montreal Harbour to Quebec were thoroughly tested and examined.

This work together with the placing and supervision of the dredges, occupied the whole time of one Engineer and an Assistant Engineer with the necessary steamer and equipment; throughout the whole season.

The places of most danger were examined first.

At Cap à la Roche, the channel as dredged, was in perfect order.

Near Champlain the sand bars were found as usual. These sand bars are composed of norrow ridges and banks of sand. They are not dangerous and only cause trouble to heavy draft flat bottomed ships. These sahd bars were removed before the season of low water commenced.

An attempt is being made to devise a way to prevent these sand bars forming after the now usual practice of the prevention of snow banks in railway cuttings.

The Lake St. Peter Channel has banks of 17 feet, in soft blue clay which has held good for 13 years withont any re-dredging.

The examination here showed that while the centre of the channel and the whole of the north half were in perfect order, there were parts of the south bank hacked, and washed and caved in.

Arrangements are being made to widen and deepen these parts of the Lake St. Peter channel early in 1901.

The whole of the remainder of the Ship Channel was found in perfect order, free of obstructions.

The River St. Lawrence Ship Channel from the limits of Montreal Harbour to Quebec and under the control of this department was almost entirely free from accidents during the season of 1900; and none were in any way attributable to the channel.

The total cost of the Ship Channel, including plant shops, &c., up to the end of the fiiscal year 1899-1900 was $5,619,320.66 and the quantity dredged in cubic yards amounted to 24,532,270.

For the fiscal year the cost was for dredging $100,191.01 and plant and shops &c., $265,270.78, while the quantity dredged was 1,107,894 cubic yards.

Five elevator dredges were employed during the fiscal year ended June 30th 1900.

DREDGE "LAURIER".

The dredge "Laurier" continued working from July 1st. 1899 at Varennes, widening to 450 feet and deepening to 29.0 feet at extreme low water, completing this particular work on Oct., 12th, during the 87 days work, 186,000 cubic yards of blue clay were removed. From Oct., 12th, until Nov., 28th 1899 and from April 28th until June 30th 1900, this dredge worked on the Cap St. Michel straight channel; straightening, widening to 450 feet, and deepening to 29.0 feet at E. L. W. From May 15th until the close of the fiscal year the dredge worked day and night. During the 96 days, including 35, day and night, 274, 160 cubic yards of blue clay were dredged.

The total quantity dredged by the dredge Laurier during the fiscal year amounted to 460,160 cubic yards, costing $21,374,08 or $4\frac{64}{100}$ cents per cubic yard.

DREDGE "LAVAL".

On July 1st 1899 the dredge "Laval" was working on the south half of the 500 foot cut through some isolated shoals at Cap Santé. This work was completed on August 12th and tested to 29.0 feet. During the 37 days work with the aid of the stone iifter, 11,800 cubic yards of stones and gravel were removed at a cost of $26\frac{1}{100}$ cents per yard.

From August 14th until Sept. 9th 1899, this dredge worked on the first cut

of the channel through Ste, Croix Bar. In the 24 days work 19,700 cubic yards of sand and stones were removed, with the aid of the stone lifter, at a cost of $10\frac{15}{100}$ cents per yard.

From Sept. 11th until Oct. 14th this dredge was engaged cleaning up the sand bars at Pointe Citrouille near Champlain, nearly half the time being lost for repairs. In the 28 days 15,825 yards were removed costing $14\frac{54}{100}$ cents per cubic yard.

From Oct. 16th until Nov. 30th with the exception of 8 days at Three Rivers, this dredge worked at Stone Island, near Sorel, widening and deepening. In the 33 days work 35,650 cubic yards of soft clay were removed costing $7\frac{79}{100}$ cents per yard.

During the 8 days work at Three Rivers this dredge was engaged cutting the tops off small isolated shoals in otherwise deep water. The quantity dredged of clay and stones amounted to 3,100 cubic yards and cost $21\frac{50}{100}$ cents per yard.

From April 30th until June 30th 1900, this dredge worked at Three Buoys channel below Cap St. Michel, straightening, widening and deepening. During the 53 days work including 34 of night work. this drege removed 99,158 cubic yards of hard clay and stones, at a cost of $7\frac{39}{100}$ cents per yard.

The total quantity dredged by this dredge during the fiscal year amounted to 185,383 cubic yards costing $18,332.53 or $9\frac{9}{100}$ cents per yard.

DREDGE "NO. 8".

Dredge "No. 8" worked in Quebec Harbour under the supervision of the Quebec Harbour Commissioners from July 1st 1899 until the close of the season.

From May 11th until June 30th 1900 this dredge worked on very difficult work at Three Rivers, widening and deepening the channel opposite the city. During the 46 days work 10, 986 cubic yards of stone and clay were removed at a cost of $3,591.60 or $32\frac{69}{100}$ cents per yard.

DREDGE "NO. 11".

During the whole of the fiscal year dredge "No. 11" worked widening to 450 feet, and deepening to, 29.0 feet; the channel from Varennes to Cap St. Michel.

From July 1st until Nov. 25th 1899, and from May 15th until June 30th 1900, making 159 days working, this dredge removed 208,530 cubic yards of soft clay at a cost of $16,164.44 or $7\frac{75}{100}$ cents per yard.

DREDGE "LADY ABERDEEN".

The dredge "Lady Aberdeen" a large and powerful new steel dredge, the result of long experience in design and practice, built at the Departmental shops at Sorel was put in commission in May 1900. This dredge a type of a thoroughly modern elevator dredging machine proved a complete success in every way.

Commencing May 12 this dredge worked until the close of the fiscal year at l'Ile de Grâce near Sorel, widening and deepening. In 41 days work 185,800 cubic yards were removed at a cost of $6,845.84 or $3\frac{68}{100}$ cents per yard.

DREDGING SHIP CHANNEL, RIVER ST. LAWRENCE BETWEEN MONTREAL AND QUEBEC,

Vessels.	Fuel.	Wages.	Board.	Stores and Materials	Refitting and Repairs.	Expenditure on New Plant and Ship yard improvement.	Proportion of General Maintenance expenses, including engineering, inspection, etc.	Total expenditure for each vessel.	Total expenditure for each service.
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Dredge Laurier	2,491 25	3,750 40	1,345 49	1,066 60	3,341 84		2,776 64	14,772 22	
" Laval	2,320 50	3,636 02	1,369 59	665 21	2,448 94		2,416 63	12,856 89	
" "									
" "									
" "									
" "									
" "									
" "									51,919 12
" "									
" No. 11	1,976 50	2,889 26	987 53	432 65	2,310 47		1,989 83	10,586 24	
" " 8	1,061 50	2,885 51	1,003 33	368 16	2,088 92		1,714 61	9,122 03	
" " 8									
" " 8									
" " 8									
" Lady Aber'n	392 00	1,434 82	492 48	882 97	526 39		863 08	4,581 74	
" "									
Stone Lifter No. 2	21 14	420 96	92 90	160 26	285 68		227 37	1,218 31	1,218 31
" " 2									
Tug St. Jean Iberv'le	1,454 85	2,206 43	788 08	640 40	272 20		1,239 90	6,601 86	
" Cartier	1,006 39	2,116 05	737 05	240 62	346 31		1,029 22	5,475 64	
" Minnie F. Parsons	501 13	827 84	251 23	327 77	769 08		619 62	3,296 67	
" Emilia	536 14	1,833 87	679 43	383 41	258 37		854 41	4,545 63	47,053 58
" St. Frs.	518 76	1,542 42	482 25	413 87	286 88		750 93	3,995 12	
" Eureka	1,367 09	2,237 70	791 45	930 30	2,608 17		1,836 66	9,771 37	
" J. Pratt	1,420 00	3,245 57	1,071 62	587 07	804 72		1,650 16	8,779 14	
" St. Ja'es	986 26	1,928 48		486 03	324 16		863 22	4,588 15	
Hydrographic Survey									
New Dredging Plant.									
New Phil'gs & Eq'nt						17,796 38			
" Steel D. No. 3						40,639 75			
" Steel D. No 4						40,432 85			
" Wooden D. No. 5						31,607 14			
" D. No. 6						1,261 74			
" Tug St. J. No. 4						3,379 92			
" " No. 5						17,337 95			
" " No. 6						11,750 56			
" " No. 7						1,175 20			
4 New Dumping Scows						3,005 44			
3 New Dumping Scaws						3,120 11			
New B. No. 2						2 40			
" Stone L. No. 3						28 39			
Elect'al Eq't of D., T. & Y.						15,972 90			
Fuel on hand						11,763 85			
Con's Mate'l & S. on hand						65,996 20			
	16,053 51	30,955 34	1,092 43	7,585 32	16,672 13	265,270 78	18,832 28	100,191 01	100,191 01

CLASSIFICATION OF DISBURSEMENTS FOR FISCAL YEAR ENDED JUNE 30TH, 1900.

Stone Lifter Service.	Tug Service.	Hydrographic Survey Service.	Total cost of working each dredge and attending plant.	Number of Working days.	Hours of actual Work.	Cost of each Locality.	Number of Cubic Yards Dredged.	Cost per Cubic Yard.	Kind of Material removed.	Locality of Dredging
$ cts.	$ cts.	$ cts.	$ cts.			$ cts.				
.....	6,601 86	.....	21,374 08	183	1602½	21,374 08	460,160	4 $\frac{64}{100}$	Blue C. & S.	Varennes
.....	5,475 64	.....	18,332 53	37	224½	3,083 20	11,800	26 $\frac{12}{100}$	Sand & St'n.	Cap Santé
.....	.....	.....	.....	24	147½	1,999 91	19,700	10 $\frac{15}{100}$	" "	Ste. Croix
.....	.....	.....	.....	28	143½	2,333 23	15,825	14 $\frac{74}{100}$	Sand	P't Citronille
.....	.....	.....	.....	2	3	166 66	150	1.11 $\frac{1}{100}$	Soft. C & St.	Champlain
.....	.....	.....	.....	12	74½	999 95	13,300	7 $\frac{51}{100}$	" "	Ile Lapierre
.....	.....	.....	.....	8	52	666 64	3,100	21 $\frac{50}{100}$	" "	Three Rivers
.....	.....	.....	.....	21	132½	1,749 92	22,350	7 $\frac{82}{100}$	" "	Ile Lapierre
.....	.....	.....	.....	53	661	7,333 02	99,158	7 $\frac{39}{100}$	Clay	Varennes
.....	5,578 20	.....	16,164 44	159	1445½	16,164 44	208,230	7 $\frac{77}{100}$	Blue C. & S.	Varennes
.....	3,995 12	.....	13,117 15	1	2½	78 08	600	13 $\frac{01}{100}$	Clay & Stone	Sillery
.....	.....	.....	.....	4	17	312 31	1,950	16 $\frac{01}{100}$	" "	Cap Blanc
.....	.....	.....	.....	117	676½	9,135 16	59,325	15 $\frac{39}{100}$	Sand	Louise Basin
.....	.....	.....	.....	46	300	3,591 60	10,986	32 $\frac{69}{100}$	Clay & Sto.	Three Rivers
.....	2,264 10	.....	6,845 84	59	492¼	5,770 11	145,250	3 $\frac{97}{100}$	Clay	Ile de Grace
.....	.....	.....	.....	11	89½	1,075 73	35,000	3 $\frac{07}{100}$	"	SteAnne de S
.....	.....	.....	.....	30	102½	870 21	630	1.38 $\frac{14}{100}$	Boulders....	Cap Santé
1,218 31	.....	.....	1,218 31	12	120	348 10	80	4.35 $\frac{15}{100}$	"	Three Rivers
.....	.....	.....								
.....	.....	.....								
.....	.....	.....								
.....	.....	.....								
.....	.....	.....								
.....	.....	.....								
.....	9,771 37	.....								
.....	8,779 14	.....								
.....	4,588 15	4,588 15								
.....	.....	47,676 90								
1,218 31	47,053 38	52,265 05	77,052 35	878	6291½	77,052 35	1,107,894			

DREDGING AT BUCKINGHAM WHARF, QUE.

During the 17th and 18th of July, and the 6th to the 10th October 1899, dredging was done by the dredge "T.F.M. No. 1," at Buckinghm wharf, making 4 cuts 70 feet long, 15 feet wide and one cut 60 feet long, 20 feet wide, to a depth of 10 feet at low water.

The material removed consisted of 2350 cubic yards of mud, clay and sawdust.

DREDGING AT CHATEAUGUAY, QUE.

Between the 13th of November and the 2nd of December 1899, dredging was performed on the Chateauguay River, by the dredge "Little Giant," below the basin, removing sand and boulder shoals, which forms in this locality by the spring freshets, greatly retarding navigation.

7630 cubic yards of boulders, clay and hard-pan were removed.

On the 23rd May 1900, work was resumed at this place by the dredge "No. 4" principally an a shoal, at the mouth of the River and continued up to the 30th June 1900.

The total quantity of material removed, at this place, consisted of 204,320 cubic yards of hard-pan, boulders and clay.

COTEAU LANDING, QUE.

Operations were begun at this place on October 7th 1899, by dredge "No. 4," under coutract awarded to L. Cohen & Sons, for the dredging of a channel through a boulder shoal, between the New Elevator Dock and the Soulanges canal. This work continued up to the 4th November 1899

On the 9th May 1900, operations at this place were resumed by the contractor, and continued up to the 30th June, end of the fiscal year, removing 11,138 cubic yards of boulders and gravel.

DREDGING AT DORVAL, QUE.

Between the 7th of August and the 2nd September, also betweeen the 11th of September and the 4th of October 1899, dredging was done at this place, by the dredge "Little Giant," a channel was made from the boat landing out to deep water, 75 feet wide at the outer end, and 150 feet wide at the shore end, all to a depth of 10 feet at low water.

23,433 cubic yards of sand and clay vere removed.

DREDGING ISLE PERROT, QUE.

Dredging was performed at this place, by the Dredge "Little Giant" deepening the approach to wharf, to 7 feet at low water. A greater depth could not be made owing to the rock bottom.

716 cubic yards of hard-pan and shale rock were removed.

DREDGING AT LOTBINIERE QUE.

Between the 21st of May and 20th of June 1900, the Dredge "Nithsdale" worked at this place. Two cuts were made along the face of the wharf, 270 feet long, 25 feet wide, to a depth of 8 feet at low tide. Three cuts 100 feet long, to a depth of 6 feet at low tide were also made, at the east end of a boulder shoal opposite the wharf, and near the main channel.

The material removed consisted of 5599 cubic yards of clay and boulders.

DREDGING IN OTTAWA RIVER (GREEN SHOALS).

Between the 20th September and the 5th October, dredging was done at the Green Shoal, alongside the lighthouse near East-Templeton, by the Dredge "T. F. M. No. 1." During the above period, two cuts were made, 165 feet long and 10 feet wide, and one cut 165 feet long and 20 feet wide, to a depth of 10 feet, near lighthouse, and 9 feet on the north side.

The material removed consisted of 1450 cubic yards of boulders and shale rock.

DREDGING AT POINTE CLAIRE QUE.

On the 5th of October 1899, operations were begun at this place, by the dredge "Little Giant" and continued up to the 11th November 1899.

From the main channel to the wharf, two cuts were made one 800 and one 400 feet in length, each 25 feet wide, and 10 feet deep.

9400 cubic yards of boulders, hardpan and clay were removed.

Owing to the lateness of the season and rough weather, dredging was discontinued before the work was completed.

DREDGING AT RICHELIEU RIVER, QUE.

Dredging operations were being continued in this river at the beginning of the fiscal year, by the Dredge Canals No. 1. In the harbour at St. Johns, three cuts were made, in the center of the channel, one 460 feet, one 450 feet and one 270 feet long each cut 25 feet wide and 9½ feet deep.

In the channel below Isle-aux-Noix, there was one cut made, 1,687 feet long, 25 feet wide and 10 feet deep.

In the channel on the Pointe-à-la-Mule Flats, two cuts were made, each 1,000 feet in length, 25 feet wide and 10 feet deep at low water.

31,650 cubic yards of sand, hard-pan boulders and clay were removed.

RIVIÈRE DU LIÈVRE.

Dredging operations were resumed at this place on the 19th July, and continued up to the 19th of September, also between the 11th of October, and the 22nd November, 1899, channels were made through shoals at the mouth of the river, and in the river itself. As this material is composed largely of slabs the dredging was very difficult.

At Mr. Larens' wharf, Masson village, two cuts were made and an old dam removed to permit the vessels free access to the wharf.

On the 10th May, 1900, operations were resumed on this river, by the dredge "T. F. M. No. 1," and continued up to the 30th June, removing the slab, boulder, and hardpan shoals above and below Ross' dock. All work done on this river was to a depth of 10 feet at low water.

The total quantity of material removed, consisted of, 57,200 cubic yards of slabs, sawdust, clay, boulders and hardpan.

DREDGING AT ST. FRANCIS, QUE.

Dredging operations were being performed, by the dredge "St. Louis" in the river from the 1st of July, 1899, continuously up to the 13th November, the close of navigation.

The work done during this period was between, Pierreville Mills, which are located 3 miles from the mouth of the river upwards to the 6-mile mark a short distance above Isle-à-l'Aile. Five cuts were made at different sections between

the above points as follows: 2,467, 3,330, 1,300, 1,151 and 714 feet in length to a depth of 5 feet at low wrter.

10,555 cubic yards of sand were removed.

DREDGING AT ST. JEAN DES CHAILLONS, QUE.

From June the 21st to 30th, the close of the fiscal year, 1900, the dredge "Nithsdale" worked at this place removing 3,272 cubic yards of gravel, clay and boulders.

DREDGING AT ST. LAURENT D'ORLEANS, QUE.

Between the 11th and the 16th of November, 1899, the dredge "Nithsdale" was engaged, dredging on the western side of the St. Laurent wharf. Two cuts were made, 100 feet long 22 feet wide, to a depth of 8 feet at onter end, and 6 feet at inner end, being the greatest depth obtainable owing to a rock bottom.

The material removed consisted of 1,225 cubic yard of sand.

DREDGING AT ST MICHEL DE BELLECHASSE, QUE.

On the 3rd July, 1899, the dredge "Nithsdale" was employed, at St. Michel, and worked there until the 10th of November, doing the following dredging:

Opposite the face of the wharf two cuts, 400 feet long, and two 300 feet long were made, each cut being 25 feet wide, also one cut on the western side of the wharf, 100 feet long all to a depth of 9 feet at low tide.

The material removed consisted of 17,591 cubic yards of clay, stone, boulders and hardpan.

The work at this place being in tidal waters not more than 6 hours work per day could be performed, and a great part of the time was lost from rough weather owing to exposed locality.

DREDGING AT ST. NICHOLAS, QUE.

On the 1st May 1900 the dredge "Nithsdale" commenced operations at this place and continued up to the 19th of the same month, making two cuts along side of the wharf, 120 feet long, 25 feet wide, to a depth of 10 feet at outer end and 6 feet at inner end, all the depth that could be made owing to a rock bottom.

3,395 cubic yards of material were removed, consisting principally of stones and old timber.

DREDGING AT VALLEYFIELD, QUE.

From the 4th of June, up to the close of the fiscal year, dredging was continued at Valleyfield, deepening and widening the channel leading to the cotton mills. This work was performed by the dredge "No. 7." One cut made 500 feet long, 25 feet wide, to a depth of 10 feet. 2,440 cubic yards of boulders were removed.

YAMASKA RIVER, QUE.

Between the 25th April and 30th June 1900, dredging operations were carried on in this river, below the Yamaska dam, deepening the channel a distance of 2,491 feet to a depth of 5 feet at low water.

10,145 cubic yards of sand were removed.

PROVINCE OF ONTARIO.

DREDGING AT BELLEVILLE, ONT.

Between the 9th and 26th of October 1899, the dredge "Queen," worked at Belleville, making two cuts in the harbour channel, one 400 feet and one 500 feet in length, to a depth of 10 feet at low water.

The material removed consisted of 5,490 cubic yards of gravel and boulders.

DREDGING AT COBOURG, ONT.

On the 3rd July 1899, the dredge "Nipissing" was working at Cobourg, deepening between the piers and continued there to the 26th of the same month. The following cuts were made from the T out to the light-house: One 1145 ft., one 895 ft., one 350 ft. and one 100 ft. in length, each cut being 25 feet wide to a depth of 14 feet at low water. 11,249 cubic yards of sand and hard-pan were removed.

DREDGING AT COLLINGWOOD, ONT.

The dredge "Challenge" and plant was engaged at this place from the 6th November to the 7th December 1899, deepening from the main channel, to the Meat Company's proposed new wharf. A cutting was made 540 feet long, 25 feet wide, to a depth of 15 feet at low water and 5040 cubic yards of clay were removed. On the 15th May 1900, the dredge resumed operations at this place and continued to work there up to the 30th June, the close of the fiscal year, completing one cut from the channel to the Meat Company's wharf, 1330 feet long, 25 feet wide and 15 feet deep, as well as deepening along the old Slub wharf to Charlton's Mill pond; where a cut was made 530 feet long, and one adjoining cut 300 feet long to a depth of 10 feet at low water.

The total quantity of material removed at this place, was 18,695 cubic yards of clay, boulders stone and sand.

DREDGING AT DESERONTO, ONT.

Work was done at this place by the dredge "Queen," between the 5th and 16th of June 1900, deepening an approach to the smelting works ore dock. Two cuts were made 150 feet long and one cut 100 feet, to a depth of 16 feet at low water. 1,800 cubic yards of mud and clay were removed.

DREDGING AT FORT WILLIAM, ONT.

On the 1st July 1899, dredging operations were being performed at Fort William, on the Kaministiquia River, and was continued up to 4th Nov. 1899.

The work done by the spoon dredge "Arthur" consisted in deepening in front of the New Steel Elevator wharf and coal docks, for the purpose of allowing free access for deep draught vessels. Dredging was done to 20 ft. at low water and the material removed consisted of 49,770 cubic yards of sand and clay.

Dredging was resumed along New Steel Elevator Dock, on the 15th of May 1900, continuing up to the 30th June, the close of the fiscal year.

17,488 cubic yards of sand and clay were removed.

DREDGING AT HAMILTON, ONT.

Between the 26th and 30th June 1900, the dredge "Queen" worked at the Hamilton Smelting works dock, making two cuts 250 feet long and one cut 60 feet long to a depth of 16 ft. at low water, and removed 1080 cubic yards of clay.

DREDGING AT HAWKESBURY, ONT.

Dredging operations were continued at this place, from the previous fiscal year, up to the 4th August 1899.

The channel between Higgenson's and Lawlor's wharfs was deepened and widened and a turning basin partially made at Lawlor's wharf.

A depth of 8 ft. was made at low water and 8,755 cubic yards of clay, stone, sand and boulders were removed.

As experienced in many other localities, the work at this place could not be completed satisfactorily, owing to the large number of boulders encountered necessitating the services of a stone-lifter.

DREDGING AT JORDAN ONT.

On the 3rd July 1899, the Dredge "Ontario" was working at this place, and continued up to the 13th of the same month, completing a turning basin, 140 feet square to a depth of 12 feet at low water, also completing a channel from the basin out to deep water to same depth.

The material removed consisted of 5,580 cubic yards of sand.

DREDGING AT KINGSTON ONT.

The Dredge "Queen" commenced operations in this harbour on the 22nd August 1899, and continued to work until the 6th October, also between the 1st and 21st of November. The work consisted of widening the approach to Richardson's elevator, deepening along western side of Montreal Transportation Company's elevator, and the approach to Crawford's dock; the dredging in front of Richardson's elevator was done to a depth of 18 feet and the other work to 14 feet at low water. The material removed consisted of 11400 cubic yards of hardpan and gravel.

The Dredge "Nipissing" was also placed at work in this harbour on the 9th November and worked there until the 21st November, the close of navigation, deepening along the front of the Montreal Transportation Company's wharf com-

pleting the work that was left unfinished by the Elevator Dredge. The depth of water made was 18 feet and the material removed was 2362 cubic yards of hard-clay.

Operations were resumed, in the harbour, on the 17th of May 1900; the Dredge "Queen" continuing up to the 2nd June and the Dredge "Nipissing" up to the 30th June 1900. The Dredge "Queen" was engaged at further widening the approach to the docks while the "Nipissing" performed the following work: on each side of the Montreal Transportation Company's elevator; on the west side two cuts were made, one 300 feet long, inside of break-water, and one cut 115 feet long on the ontside, also a basin was made on the east side, 200 feet long, and 250 feet wide, to a depth of 15 feet at low water, with an inside cut, extending 100 feet farther alongside of elevator. The material removed was as follows:—Dredge "Queen; 1800 cubic yards of hard-pan. Dredge "Nipissing" 13.455 cubic yards of clay.

DREDGING AT MEAFORD ONT.

The Dredge "Challenge" was engaged at this place, between the 3rd and 26th July 1899, in deepening and widening the inner harbour, completing a basin 250 feet long, 100 feet wide, to a depth of 13 feet at low water, and removing 12, 420 cubic yards of sand gravel and clay.

DREDGING AT NEWCASTLE ONT.

From the 2nd to the 11th of October 1899, work in this harbour was per formed by the Dredge "Ontario". One cut being made from the month of the piers, into the harbour, a distance of 980 feet, to a depth of 12 feet, except at the inner end, where only 9½ feet could be obtained owing to a rock formation.

5760 cubic yards of sand were removed.

Between the 18th and 22nd June 1900, the Dredge "Queen" made one cut along the east pier, 580 feet long, 25 feet wide, to a depth of 14 feet, to enable coal vessels to enter and unload.

The material removed at this place, consisted of 1800 cubic yards of sand.

DREDGING AT OAKVILLE ONT.

The Dredge Nipissing was engaged, at Oakville Ont., between the 21st of September 1899, and the 20th. October, dredging fonndations for new piers and and removing a gravel bar which had formed owing to a break in the old pier. The dredging was done to a depth of 14 feet at low water. The material removed consisted of 18 317 cubic yards of clay gravel and boulders.

DREDGING AT OSHAWA ONT.

Between the 17th. and 26th. of July 1899, the dredge "Ontario" was employed at this locality, dredging through a sand shoal, at the east side of the pier, through which a cutting was made, 256 feet long, 50 feet wide, to a depth of 12 feet at low water; Removing 4380 cubic yards of sand and hardpan;

DREDGING AT PICTON ONT.

On the 1st. July 1899, the dredge "Queen" was working at Pictou Ont., in front of the crib-work, opposite the Orphan's Home, and continued there up to the 14th., of the same month. Three cuts were made out to deep water 225 feet long 25 feet wide, 13 feet at outer end and 10 feet at inner end. At Rathbun's wharf, two cuts were made 75 feet long, to a depth of 12 feet from the front of the wharf out to deep water.

The quantity of material removed at both places was 2610 cubic yards of mud and blasted rock.

DREDGING AT PORT HOPE, ONT.

On the 27th July 1899, the dredge "Nipissing" commenced operations at Port Hope, Ont., and remained there up to the 20th of September, deepening between the piers, from the entrance to the harbour to 12 feet at low water. The plant was then taken to Oakville and returned to Port Hope, on the 1st November and continued operations on the entrance to the new harbour up to the 8th of the same month. The total quantity of material removed at this place was 25,311 cubic yards of sand.

DREDGING AT ROCKLAND, ONT.

Between the 1st and 15th of July 1899, dredging was done at this place, by the dredger "T. F. M. No. 1," cleaning the approaches to the wharf, as well as in front of the wharf itself, to a depth of 12 feet at low water.

8,200 cubic yards of slabs, sawdust and clay were removed.

DREDGING IN SOUTH NATION RIVER ONT.

On the 25th September, operations were commenced in this river, by the dredge "Dundas" below Cass Bridge, and continued up to the 31st October 1899. This work consisted in deepening the river and casting over the dredged material on the bank.

Work was resumed at this place, on June the 28th, and continued to the end of the fiscal year.

A channel 725 feet long and 25 feet wide was made. About 4500 cubic yards of clay, boulders and gravel were removed.

DREDGING AT THORNBURY ONT.

The dredge "Challenge" commenced operations, at Thornbury, on the 29th July, and worked there up to the 31st October 1899, dredging alongside the pier to the new breakwater, to a depth of 15 feet, as well as inside the breakwater where a basin was made, 400 feet long and 250 feet wide, tapering to 100 feet at inner end to a depth of 14 feet at low water.

The material removed consisted of 38,940 cubic yards of hard-pan, mud, sand and gravel.

DREDGING AT WHITBY HARBOUR ONT.

Operations in this harbour were continued from the 27th July to the 28th September 1899, also between the 16th of October and the 20th of November 1899.

One cut was made in front of Watson's wharf, 404 feet long, 25 feet wide and 12 feet deep, and one cut between Watson's wharf and the elevator, 145 feet long, 25 feet wide and 16 feet deep.

From the harbour out to deep water, the following cuts were made: two 1050 feet long, 24 feet wide, alongside the eastern pier. One each of 875, 920 and 995 feet in length, having a total width of 73 feet, alongside the western pier, all to a depth of 12 feet at low water.

39,100 cubic yards of sand, and mud were taken out as well as a number of sunken logs.

DREDGING AT WOLFE ISLAND ONT.

Operations were performed at this place, by the dredge "Queen", between the 15th. July and 19th. of August 1899 deepening in front of steamboat wharf out to navigable water. Two cuts were made, 590 and 640 feet respectively, and along the face of the wharf, three cuts were made of 150, 180 and 300 feet in length, all to a depth of 9 feet at low water. 7,800 cubic yards of mud and clay were removed.

DREDGING—MARITIME PROVINCES.

CLASSIFICATION OF DISBURSEMENTS of the Dredges operated by the Public Works Department during the year ended June 30, 1900.

DREDGE "CHALLENGE" AND PLANT

Items.	July	August	September	October	November	December	January	February	March	April	May	June	Grand Total
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts	$ cts	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Wages	418 39	420 00	420 00	420 00	420 00	189 68		30 00			420 00	420 00	3,158 07
Coal	251 37	116 12	9 30	172 97	121 98	60 00						545 21	1,276 95
Wood		178 17		63 00								26 80	268 03
Provisions	112 35	113 00	113 00	113 00	113 00	51 48				25 14		113 00	753 67
Stores			4 98	9 18	10 63	3 21						138 36	166 36
Equipment	4 00		42 15		21 70								67 85
Repairs	43 68	156 49		2 50		10 25			172 42	476 96		401 93	1,264 23
Pilotage													
Towage													
Contingencies	4 38			1 90		49 09			15 70	8 02		19 00	98 09
Total	834 17	983 78	589 43	782 55	687 31	363 41		30 00	188 12	510 12	420 00	1,664 36	7,053 25
Working Expenses	790 49	827 29	589 43	780 05	687 31	353 16		30 00	15 70	33 16	420 00	1,262 43	5,789 02
Repairs, ordinary.	43 68	156 49		2 50		10 25			172 42				385 34
" extraordinary										476 96		401 93	878 89
Total	834 17	983 78	589 43	782 55	687 31	363 41		30 00	188 12	510 12	420 00	1,664 36	7,053 25

DREDGING—QUEBEC & ONTARIO.—*Continued.*

CLASSIFICATION OF DISBURSEMENTS of the Dredges operated by Department of Public Works during the year ended June 30 1900.

DREDGES "NIPISSING" & "PLANT."

Items.	July.	August.	September.	October.	November.	December.	January.	Feb.uary.	March.	April.	May.	June.	Grand Total.
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Wages	386 29	395 00	407 00	395 00	370 00	72 14	30 00	30 00	30 00	.....	420 83	395 00	2,931 36
Coal	154 25	344 45	.....	92 82	126 41	.....	.....	.....	.....	.....	.....	383 93	1,101 86
Provisions	101 39	103 00	106 15	103 00	94 33	11 61	.....	.....	.....	.....	.....	185 14	704 62
Stores	2 75	6 52	2 55	9 25	.....	.....	.....	.....	.....	.....	.....	256 89	308 92
Equipment	.....	14 33	32 29	.....	.....	.....	.....	30 96	.....	.....	.....	.....	46 62
Repairs	68 35	128 80	7 90	28 51	45 98	265 14	.....	.....	20 47	219 67	21 49	836 61	1,642 90
Contigencies	.....	.....	17 77	.....	26 59	29 15	.....	.....	.....	.....	.....	18 92	92 43
Total	713 03	992 10	573 66	628 58	663 31	378 04	30 00	60 96	50 47	219 67	442 32	2,076 49	6,828 61
Working expenses	644 68	863 30	565 76	600 07	617 33	112 90	30 00	60 96	30 00	.....	420 83	1,239 88	5,185 71
Repairs, ordinary	68 35	128 80	7 90	28 51	45 98	.....	.....	.....	20 47	.....	21 47	.....	321 48
" extraordinary	.....	.....	.....	.....	.....	265 14	.....	.....	.....	219 67	.....	836 61	1,321 42
Total	713 03	992 10	573 66	628 58	663 31	378 04	30 00	60 96	50 47	219 67	442 30	2,076 49	6,828 61

DREDGING—QUEBEC & ONTARIO—*Continued.*

CLASSIFICATION OF DISBURSEMENTS of the Dredges operated by the Public Works Department during the year ended 30th June, 1900.

DREDGE "ONTARIO" AND PLANT.

Items.	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	Grand Totals.
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Wages	395 00	395 00	345 00	395 00	437 57				101 61			54 50	2123 68
Coal	254 38	121 95	146 97	201 46	266 61							38 82	1139 99
Wood													
Provisions	103 00	103 00	103 00	103 00	134 00							56 67	602 67
Stores	4 53		6 10	17 72	13 69						16 89	205 11	247 14
Equipment			30 74		2 29								39 97
Repairs	9 38		4 50	76 93	14 67					413 42	1670 71	1536 24	3725 85
Pilotage					50 00							15 00	65 00
Towage													
Contingencies	13 61	4 00			115 95							16 50	148 66
Total	780 10	624 00	645 91	794 11	1132 78				101 61	413 42	1687 60	1922 87	8112 40
Working expenses	770 72	624 00	641 41	717 18	1118 11				101 61		16 89	386 63	4386 55
Repairs, ordinary	9 38		4 50	76 93	14 67								105 48
Repairs, extraordinary										413 42	1670 71	1536 24	2620 37
Total	780 10	624 00	645 91	794 11	1132 98				101 61	413 42	1687 60	1922 87	8112 40

CLASSIFICATION OF DISBURSEMENTS of the Dredges operated by the Public Works Department during the year ended June 30, 1900.

DREDGE "QUEEN" AND PLANT.

Items.	July	August	September	October	November	December	January	February	March	April	May	June	Grand Total
	$ cts.	$ cts.	$ cts.	$ cts	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts
Wages	373 49	395 56	402 86	355 00	371 61	71 30	30 00	30 00	30 00		193 33	379 17	2,632 32
Coal	157 43	345 42	187 56	237 97	161 87							434 01	1,524 26
Wood												4 48	4 48
Provisions	95 58	101 39	103 45	100 42	92 35	7 74						173 79	677 72
Stores	21 37	3 10	6 85	10 58	3 30				69 86			154 04	269 10
Equipment		8 50	4 66	12 90	6 40						10 55		43 01
Repairs	2 84	20 91	24 46	233 13	58 17	52 44				154 58			554 43
Pilotage												25 00	25 00
Contingencies	9 15	6 65	7 75		12 56					15 92		9 15	61 18
Total	680 86	881 53	729 84	957 75	693 70	144 04	30 00	30 00	99 86	170 50	203 88	1,179 64	5,791 50
Working Expenses	660 02	860 62	705 38	724 62	634 53	91 60	30 00	30 00	99 86	15 92	203 88	1,179 64	5,237 67
Repairs, ordinary	20 84	20 91	24 46	233 13	58 17	52 44				154 58			554 43
" extraordinary													
Total	680 86	881 53	729 84	957 75	693 70	144 04	30 00	30 00	99 86	170 50	203 88	1,179 64	5,791 50

DREDGING—QUEBEC AND ONTARIO.—*Continued.*

CLASSIFICATIONS OF DISBURSEMENTS of the Dredges operated by the Public Works Department during the year ended June 30, 1900.

DREDGE CANALS "No. 1."

Items.	July	August	September	October	November	December	January	February	March	April	May	June	Grand Total
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts	$ cts	$ cts.	$ cts	$ cts	$ cts	$ cts.
Wages	360 00	385 00	420 00	390 00	295 50		30 00	30 00			408 09	390 00	2 708 50
Coal	150 94	112 12	150 00	100 00	50 00							584 90	1,147 96
Provisions	120 00	120 00	120 00	101 75	66 01							200 00	727 76
Stores	10 34	6 43	9 00	6 52	2 78							15 00	50 07
Equipment	1 00	1 45	7 90										10 35
Repairs	18 62	88 81	18 08	21 18	13 06	102 77				208 16	166 61	174 52	811 81
Contingencies										5 80			5 80
Total	660 90	713 81	724 98	619 45	427 35	102 77	30 00	30 00		213 96	574 61	1,364 42	5,462 25
Working Expenses	642 28	625 00	706 90	598 27	414 29		30 00	30 00		5 80	408 00	1,189 90	4,650 44
Repairs, ordinary	18 62	88 81	18 08	21 18	13 06	102 77							262 42
" extraordinary										208 16	166 61	174 52	549 39
Total	660 90	713 81	724 98	619 45	427 35	102 77	30 00	30 00		213 96	574 61	1,364 42	5,462 25

CLASSIFICATION OF DISBURSEMENTS of Dredges operated by the Public Works Department, &c.—*Continued.*

DREDGE ST. "LOUIS" AND PLANT.

Items.	July.	August.	September.	October.	November.	December.	January.	February.	March	April.	May.	June.	Grand Total
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Wages	350 00	350 00	350 00	350 00	214 35						350 00	350 00	2,314 35
Coal	74 75		35 00	36 34									146 09
Wood							25 50						25 50
Provisions	103 00	103 00	103 00	103 00	58 17							234 56	704 73
Stores	18 00												18 00
Equipment	2 86												2 86
Repairs	65 30	56 61	44 66	3 25	80 10	56 65				195 81		66 61	568 99
Contingencies					1 23		4 50					14 50	20 23
Total	613 91	509 61	532 66	492 59	353 85	56 65	30 00			195 81	350 00	665 67	3,800 75
Working expenses	548 61	453 00	488 00	489 34	273 75		30 00				350 00	599 06	3,231 76
Repairs, ordinary	65 30	56 61	44 66	3 25	80 10	56 65						66 61	373 18
" extraordinary										195 81			195 81
Total	613 91	509 61	532 66	492 59	353 85	56 65	30 00			195 81	350 00	665 67	3,800 75

DREDGING—QUEBEC AND ONTARIO—*Continued.*

CLASSIFICATION OF DISBURSEMENTS of Dredges operated by the Public Works Department during the Year ended June 30, 1900.

DREDGE "No. 7" AND "PLANT"

Items	July	August	September	October	November	December	January	February	March	April	May	June	Grand Total
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Wages	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	67 10	475 29	542 39
Coal	.....	.....	.....	.....	.....	321 92	.....	.....	.....	.....	.....	170 00	491 92
Provisions	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	174 66	174 66
Stores	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	28 27	28 27
Repairs	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	426 43	1,426 43
Contingencies	.....	.....	329 60	378 05	309 10	.....	.....	.....	.....	.....	.....	48 90	1,065 65
Total	.....	.....	329 60	378 05	309 10	321 92	.....	.....	.....	.....	67 10	1,673 55	2,729 32
Working expenses	.....	.....	329 60	378 05	309 10	321 92	.....	.....	.....	.....	67 10	897 12	2,302 89
Repairs extraordinary	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	426 43	126 43
Total	.....	.....	329 60	378 05	309 10	321 92	.....	.....	.....	.....	67 10	673 55	2,729 32

DREDGE "LITTLE GIANT"

Wages	58 00	52 00	52 00	46 00	63 00	.....	.....	.....	.....	.....	.....	76 00	347 00
Contingencies	1,776 00	1,740 00	1,792 00	1,364 00	2,152 00	.....	.....	.....	.....	.....	.....	5 00	8,829 00
Total	1,834 00	1,792 00	1,844 00	1,410 00	2,215 00	.....	.....	.....	.....	.....	.....	81 00	9,176 00
Working expenses	1,834 00	1,792 00	1,844 00	1,410 00	2,215 00	.....	.....	.....	.....	.....	.....	81 00	9,176 00
Total	1,834 00	1,792 00	1,844 00	1,410 00	2,215 00	.....	.....	.....	.....	.....	.....	81 00	9,176 00

DREDGING—QUEBEC AND ONTARIO—*Continued.*

CLASSIFICATION OF DISBURSEMENTS of Dredges operated by the Public Works Department during the Year ended June 30, 1900.

DREDGE "NITHSDALE"

Items	July	August	September	October	November	December	January	February	March	April	May	June	Grand Total
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Wages	365 00	365 60	365 00	365 00	237 47	.....	.....	.....	.....	25 90	372 26	365 00	2,450 63
Wood	.....	.....	.....	2 30	.....	.....	.....	.....	.....	.....	.....	.....	2 30
Provisions	110 00	110 00	110 00	110 00	65 34	.....	.....	.....	.....	.....	.....	236 15	741 49
Stores	6 43	2 30	8 49	2 97	14 85	.....	.....	.....	.....	.....	.....	.....	35 04
Repairs	24 60	.....	.....	86 18	34 58	.....	.....	.....	.....	.....	.....	20 00	165 36
Contingencies	1,088 00	1,383 00	1,345 07	1,383 00	760 45	.....	.....	.....	.....	.....	.....	2,606 00	8,565 52
Total	1,594 03	1,860 30	1,828 56	1,949 45	1,102 69	.....	.....	.....	.....	25 90	372 26	3,227 15	11,960 34
Working expenses	1,569,43	1,860 30	1,828 56	1,863 27	1,068 11	.....	.....	.....	.....	25 90	372 27	3,207 15	11,794 98
Repairs, ordinary	14 60	.....	.....	86 18	34 58	.....	.....	.....	.....	.....	.....	20 00	165 36
Total	1,594 03	1,860 30	6,828 56	1,949 45	1,102 69	.....	.....	.....	.....	25 90	372 26	3,227 15	11,960 34

DREDGE "T. F. M. No. 1"

Wages	32 50	67 50	65 00	65 00	47 50	.....	.....	.....	.....	.....	52 50	73 00	403 00
Contingencies	2,080 00	1,996 00	1,788 00	2,072 00	1,516 00	.....	.....	.....	.....	.....	1,428 00	2,048 00	12,928 00
Total	2,112 50	2,063 50	1,853 00	2,137 00	1,563 50	.....	.....	.....	.....	.....	1,480 50	2,121 00	13,331 00
Working expenses	2,112 50	2,063 50	1,853 00	2,137 00	1,563 55	.....	.....	.....	.....	.....	1,480 50	2,121 00	13,331 00
Total	2,112 50	2,063 50	1,853 00	2,137 00	1,563 50	.....	.....	.....	.....	.....	1,480 50	2,121 00	13,331 00

DREDGING QUEBEC AND ONTARIO—*Continued.*

CLASSIFICATION OF DISBURSEMENTS of Dredges operated by the Public Works Department during the Year ended June 30, 1900.

DREDGE "ARTHUR"

Items	July	August	September	October	November	December	January	February	March	April	May	June	Grand Total
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Wages	79 00	81 00	78 00	78 00	25 00	.....	.....	.....	.....	.....	75 00	75 00	491 10
Contingencies	1,874 60	1,544 00	1,904 00	1,960 00	288 00	.....	.....	50 00	.....	.....	1,090 00	1,778 00	10,488 00
Total	1,953 10	1,625 00	1,982 00	2,038 00	313 00	.....	.....	50 00	.....	.....	1,165 00	1,853 00	10,979 10
Working expenses	1,953 10	1,625 00	1,982 00	2,038 00	313 00	.....	.....	50 00	.....	.....	1,165 00	1,853 00	10,979 10
Total	1,953 10	1,625 00	1,982 00	2,038 00	313 00	.....	.....	50 00	.....	.....	1,165 00	1,853 00	10,979 10

DREDGE "No. 4"

Wages	.....	.....	.....	127 50	.....	.....	.....	.....	.....	.....	4 40	76 50	208 40
Stores	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	63	.....	63
Contingencies	.....	.....	.....	1,615 89	.....	.....	.....	.....	.....	.....	.....	2,392 50	4,007 89
Total	.....	.....	.....	1,743 39	.....	.....	.....	.....	.....	.....	5 03	2,468 50	4,216 92
Working expenses	.....	.....	.....	1,743 39	.....	.....	.....	.....	.....	.....	5 03	2,468 50	4,216 92
Total	.....	.....	.....	1,743 39	.....	.....	.....	.....	.....	.....	5 03	2,468 50	4,216 92

DREDGING—QUEBEC AND ONTARIO—*Continued.*

CLASSIFICATION OF DISBURSEMENTS of Dredges operated by the Publis Works Department during the Year ended June 30, 1900.

DREDGE "DUNDAS"

Items	July	August	September	October	November	December	January	February	March	April	May	June	Grand Total
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Wages	.....	.....	149 16	260 06	121 34	.....	.....	.....	.....	.....	.....	201 86	732 36
Wood	.....	.....	.....	121 95	31 50	.....	.....	.....	.....	.....	.....	.....	153 45
Stores	.....	.....	2 25	7 60	.....	.....	.....	.....	.....	.....	.....	.....	9 85
Repairs	.....	.....	.....	5 93	.....	.....	.....	.....	.....	.....	.....	.....	5 93
Contingencies	.....	.....	10 35	1 28	1 00	.....	.....	.....	.....	.....	.....	.....	12 63
Total	.....	.....	161 76	396 76	153 84	.....	.....	.....	.....	.....	.....	201 86	914 22
Working expenses	.....	.....	161 76	390 83	153 84	.....	.....	.....	.....	.....	.....	201 86	908 29
Repairs, ordinary	.....	.....	.....	5 93	.....	.....	.....	.....	.....	.....	.....	.....	5 93
Total	.....	.....	161 76	396 76	153 84	.....	.....	.....	.....	.....	.....	201 86	914 22

DREDGING—QUEBEC AND ONTARIO—*Continued.*

CLASSIFICATION AND QUANTITIES of Material removed by Dredges operated by the Public Works Department during the Year ended June 30, 1900.

DREDGE "CHALLENGE"

Description of Material dredged	July	August	September	October	November	December	January	February	March	April	May	June	Grand Total
	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.
Hard-pan	.....	690	2,740	3,080	.....	.....	.....	.....	.....	.....	.....	.....	6,510
Boulders	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	100	100
Gravel	3,690	6,540	5,120	10,720	.....	.....	.....	.....	.....	.....	.....	.....	25,980
Clay	7,320	.....	.....	.....	4,920	120	.....	.....	.....	.....	.....	5,520	17,880
Clay and Stone	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,785	2,785
Sand—ordinary	2,280	8,130	.....	.....	.....	.....	.....	.....	.....	.....	3,960	1,290	15,660
Mud	.....	1,140	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,140
Total	13,290	16,500	7,860	13,800	4,920	120	.....	.....	.....	.....	3,960	9,695	70,055

DREDGE "ONTARIO"

Hard-pan	380	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	380
Sand—ordinary	9,580	12,340	9,600	11,100	7,500	.....	.....	.....	.....	.....	.....	.....	50,120
Mud	1,740	2,589	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4,320
Total	11,700	14,920	9,600	11,100	7,500	.....	.....	.....	.....	.....	.....	.....	54,820

DREDGING—QUEBEC AND ONTARIO—*Continued.*

CLASSIFICATION AND QUANTITIES of Material removed by Dredges operated by the Public Works Department during the Year ended June 30, 1900.

DREDGE "NIPISSING"

Description of Material dredged	July	August	September	October	November	December	January	February	March	April	May	June	Grand Total
	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.
Hard-pan	2,000	.....	.....	.....	2,362	.....	.....	.....	.....	.....	3,898	9,557	17,817
Boulders	.....	.....	62	80	.....	.....	.....	.....	.....	.....	.....	.....	142
Gravel	.....	.....	2,400	5,700	.....	.....	.....	.....	.....	.....	.....	.....	8,100
Clay	.....	.....	3,125	6,950	.....	.....	.....	.....	.....	.....	.....	.....	10,075
Sand—ordinary	11,649	16,124	3,112	.....	3,675	.....	.....	.....	.....	.....	.....	.....	34,560
Total	13,649	16,124	8,699	12,730	6,037	.....	.....	.....	.....	.....	3,898	9,557	70,694

DREDGE "QUEEN"

Hard-pan	.....	.....	2,790	480	4,470	.....	.....	.....	.....	.....	1,620	180	9,540
Boulders	600	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	600
Gravel	.....	.....	.....	5,490	.....	.....	.....	.....	.....	.....	.....	.....	5,490
Clay	3,240	5,160	1,920	840	.....	.....	.....	.....	.....	.....	.....	2,040	13,200
Sand—ordinary	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,800	1,800
Mud	2,310	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	840	3,150
Total	6,150	5,160	4,710	6,810	4,470	.....	.....	.....	.....	.....	1,620	4,860	33,780

DREDGING—QUEBEC AND ONTARIO—*Continued.*

CLASSIFICATION AND QUANTITIES of Material removed by Dredges operated by the Public Works Department during the Year ended June 30, 1900.

DREDGE "ST. LOUIS"

Description of Material dredged	July	August	September	October	November	December	January	February	March	April	May	June	Grand Total
	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.
Sand—ordinary	4,485	4,665	4 290	4,840	1,425	.....	.....	.....	.....	585	4 800	4,770	29,700
Total	4 485	4,665	4,290	4 840	1.425	.....	.....	.....	.....	585	4 800	4.770	29,700

DREDGE "No. 7"

Boulders	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,440	2,400
Total	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,440	2,440

CANALS No. 1"

Hard-pan	5,300	3'930	700	.....	.....	.....	.....	.....	.....	.....	.....	....	9 930
Boulders	.....	160	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	160
Clay	.....	600	3,190	2,300	950	.....	.....	.....	.....	.....	4 050	5,430	16,520
Sand—ordinary	.....	.....	1,510	2,290	1,240	.....	.....	.....	.....	.....	.....	.....	5,040
Total	5,300	5,690	5,400	4,590	2,190	.....	.....	.....	.....	.....	4,050	5,430	31,650

DREDGING—QUEEEC AND ONTARIO—*Continued.*

CLASSIFICATION AND QUANTITIES of Material removed by Dredges operated by the Public Works Department during the Year ended June 30, 1900.

DREDGE "NITHSDALE"

Description of Material dredged	July	August	September	October	November	December	January	February	March	May	April	June	Grand Total
	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.
Hard-pan	200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	200
Boulders	150	160	105	25	10	.....	.....	.....	.....	.....	1,190	4,464	6,101
Clay	.....	.....	.....	.....	.....	336	.....	.....	.....	.....	.....	.....	.....
Clay and Stone	4,060	4,600	3,535	3,580	555	.....	.....	.....	.....	.....	5,075	1,820	23,220
Sand—ordinary	.....	.....	.....	.....	1,230	.....	.....	.....	.....	.....	.....	.....	1,225
Totals	4,410	4,760	3,640	3,605	1,785	336	.....	.....	.....	.....	6,265	6,281	31,082

DREDGE "No. 4"

Hard-pan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	475	1,520	1,995
Boulders	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	760	.....	760
Gravel	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	905	.....	905
Clay	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	760	10,735	11,495
Clay and Stone	.....	.....	.....	4,298	265	.....	.....	.....	.....	.....	.....	.....	4,563
Totals	.....	.....	.....	4,298	265	.....	.....	.....	.....	.....	2,900	12,255	19,718

DREDGING—QUEBEC AND ONTARIO—*Continued.*

CLASSIFICATION AND QUANTITIES of Material removed by Dredges operated by the Public Works Department during the Year ended June 30, 1900.

DREDGE "LITTLE GIANT"

Items	July.	August.	September.	October.	November	December.	January.	February.	March.	April.	May.	June.	Grand Totals
	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds.	c. yds	c. yds.	c. yds	c. yds
Hard-pan	.....	.....	617	1,960	580	.....	.....	.....	.....	.....	.....	.....	3,097
Boulders	155	.....	.....	95	146	30	.....	.....	.....	.....	.....	.....	426
Gravel	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	620	3,605	4,225
Clay	.....	10,000	10,335	6,225	7,570	2,104	.....	.....	.....	.....	.....	.....	36,234
Clay and Stone	6,800	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6,800
Sand—ordinary	500	1,995	780	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,275
Totals	7,455	11,995	11,732	8,220	8,296	2,134	.....	.....	.....	.....	620	3,605	54,057

DREDGE "T. F. M. No. 1"

Hard-pan	2,175	3,600	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,400	7,175
Boulders	175	150	1,950	350	.....	.....	.....	.....	.....	.....	300	600	3,525
Gravel	.....	500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	500
Clay and Slab Saw Dust	8,200	1,600	8,950	10,700	10,800	.....	.....	.....	.....	.....	2,950	2,800	45,400
Clay and Stone	.....	.....	.....	2,250	.....	.....	.....	.....	.....	.....	.....	.....	2,250
Sand—ordinary	1,100	2,700	.....	.....	.....	.....	.....	.....	.....	.....	350	1,800	5,950
Mud	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5,250	1,850	7,100
Totals	11,650	7,950	10,900	13,300	10,800	.....	.....	.....	.....	.....	8,850	8,450	70,200

DREDGE "ARTHUR"

Clay	5,166	5 280	5,536	6,410	.....	.....	.....	.....	.....	.....	.....	5,653	28,045
Sand—ordinary	7,122	5,000	6,900	6,500	1,856	.....	.....	.....	.....	.....	7,132	4,703	39,213
Totals	12,288	10,280	12,436	12,910	1,856	.....	.....	.....	.....	.....	7,132	10,356	67,258

DREDGING — QUEBEC AND ONTARIO.

STATEMENT showing material removed at different localities, total annual expenditure on each Dredge, and average cost per cubic yard, for fiscal year ended 30th June, 1900.

DREDGE "CHALLENGE"

Location.	Hard-pan.	Boulders.	Gravel.	Clay.	Clay and Stone.	Sand, ordinary	Sand, fine.	Mud.	Total cubic yards.
	c. y.	c. y.	c. y.	c. y.	c. y.	c. y.	c. y.	c. y.	c. y.
Meaford	.....	.....	5,625	3,705	.....	3,090	.....	.....	12,420
Thornbury	8,330	.....	19,700	.....	60	9,350	.....	1,500	38,940
Collingwood	200	160	.....	9,850	2,280	6,180	.....	25	18,695
	8,530	160	25,325	13,555	2,340	18,620	.....	1,525	70,055

Total annual expenditure, $7,053.25. Cost per cubic yard, 10.3-5 cts.

DREDGE "ONTARIO"

Jordan Harbour	.....	.....	.....	.....	.....	5,580	.....	.....	5,580
Oshawa	150	.....	.....	.....	.....	4,230	.....	.....	4,380
Whitby	.....	.....	.....	8,190	.....	30,910	.....	.....	39,100
Newcastle	.....	.....	.....	.....	.....	4,060	.....	2,200	6,260
	150	.....	.....	8,190	.....	44,780	.....	2,200	55,320

Total annual expenditure, $8,112.40. Cost per cubic yard, $14\frac{1}{11}$ cts.

DREDGE "NIPISSING"

Cobourg	1,000	.....	.....	.....	.....	1,612	8,637	.....	11,249
Port Hope	.....	.....	.....	.....	.....	18,524	6,787	.....	25,311
Oakville	.....	475	8,000	9,842	.....	.....	.....	.....	18,317
Kingston	15,817	.....	.....	.....	.....	.....	.....	.....	15,817
	16,817	475	8,000	9,842	.....	20,136	15,424	.....	70,694

Total annual expenditure, $6,828.61. Cost per cubic yard, $9\frac{5}{8}$ cts.

DREDGE "QUEEN"

Picton	.....	510	.....	.....	.....	.....	.....	2,100	2,610
Wolfe Island	.....	.....	.....	7,320	.....	.....	.....	480	7,800
Kingston	6,690	.....	.....	5,880	630	.....	.....	.....	13,200
Belleville	.....	.....	5,490	.....	.....	.....	.....	.....	5,490
Deseronto	.....	.....	.....	960	.....	.....	.....	840	1,800
Newcastle	.....	.....	.....	.....	.....	1,800	.....	.....	1,800
Hamilton	.....	.....	.....	1,080	.....	.....	.....	.....	1,080
	6,690	510	5,490	15,240	630	1,800	.....	3,420	33,780

Total annual expenditure, $5,824.53 Cost per cubic yard, $17\frac{1}{4}$ cts.

STATEMENT showing the materials removed at the different localities, &c.—*Continued.*

DREDGE "ST. LOUIS."

Location.	Hard-pan.	Boul-ders.	Gravel.	Clay.	Clay and Stone.	Sand ordinary	Sand fine.	Mud.	Totals. Cubic Yards.
	c. y.	c. y.	c. y.	c. y.	c. y.	c. y.	c. y.	c. y.	c. y.
St. Francis	.....	.....	.....	1,995	.....	17,560	.....	.....	19,555
Yamaska	.....	.....	.....	.....	.....	10,145	.....	.....	10,145
	.....	.....	.....	1,995	.....	27,560	.....	.....	29,700

Total annual expenditure $3,800.75. Cost per cubic yard 12¾.

DREDGE "No. 7."

Valleyfield	.....	2,440	.....	.....	.....	.....	.....	.....	2,440

Total annual expenditure $2729.32. Cost per cubic yard $1.11⅝.

DREDGE "CANALS No. 1."

St. Johns	9,720	870	.....	12,170	.....	1,660	.....	.....	24,420
Richelieu	.....	.....	.....	4,155	.....	3,075	.....	.....	7,230
	9,720	870	.....	16,325	.....	4,735	.....	.....	31,650

Total annual expenditure $5,462.25. Cost per cubic yard 17¼ c.

DREDGE "DUNDAS."

South-Nation	.....	.....	.....	.....	.....	.....	.....	.....	4,500

Total annual expenditure $914.22. Cost per cubic yard 20¼ c.

DREDGE "NITHSDALE" (Contractor's.)

St. Michel	1,235	2,151	.....	1,000	13100	105	.....	.....	17,591
St. Laurent	.....	.....	.....	.....	.....	1,225	.....	.....	1,225
St. Nicholas	.....	190	.....	.....	3,205	.....	.....	.....	3,395
Lothinière	.....	2,799	.....	1,000	1,800	.....	.....	.....	5,599
St. Jean des Chaillons	.....	362	.....	.....	2,910	.....	.....	.....	3,272
	1,235	5,502	.....	2,000	21015	1,320	.....	.....	31,082

Total annual expenditure $11,960.34. Cost per cubic yard 38½ c.

STATEMENT showing the material removed at the different localities, &c. —*Concluded.*

DREDGE 'No. 4' (Contractor's).

Location.	Hard-pan.	Boulders.	Gravel.	Clay.	Clay and Stone.	Sand ordinary	Sand fine.	Mud.	Total Cubic Yards.
	c. y.	c. y.	c. y.	c. y.	c. y.	c. y.	c. y.	c. y.	c. y.
Coteau Landing		95		2,220	2,853			300	5,468
Chateauguay	1,995			6,080	6,175				14,250
	1,995	95		8,300	9,028				19,718

Total annual expenditure $4,246$\frac{75}{100}$. Cost per cubic yard, 21$\frac{3}{5}$ cts.

DREDGE 'LITTE GIANT' (Contractor's)

Hawkesbury		2,405			6,350				8,755
Dorval				23,433					23,433
Isle Perrot	617								617
Pointe Claire	1,520	220		7,660					9,400
Chateauguay					6,182				6,182
Coteau Landing					5,670				5,670
	2,137	2,625		31,093	18,02				54,057

Total annual expenditure $9,176.60. Cost per cubic yard 16$\frac{3}{4}$.

DREDGE 'T. F. M. No. 1" (Contractor's)

Rockland					8,200				8,200
Buckingham				2,250		1,100			3,350
Rivière du Lièvre	3,600	4,950		6,050	38,750	3,850			57,200
Ottawa River		1,450							1,450
	3,600	6,400		8,300	46,950	4,950			70,200

Total annual expenditure $13,331.00. Cost per cubic yard 19 cts.

DREDGE "ARTHUR" Contractor's)

Fort William				29,747		37,511			67,258

Total annual expenditure $10,979.10 Cost per cubic yard 16$\frac{1}{3}$ cts.

DREDGING—QUEBEC AND ONTARIO—*Concluded.*

CONSTRUCTION AND RENEWAL OF DREDGING PLANT

During the Spring of 1900 a new hull for dredge "Ontario" and two new 100 yard sea deck scows were under construction.

The two old 60 yard hopper scows were overhauled and put in working order.

Parts of the machinery of the dredge "Ontario" and the tugs "Delisle" and "Sir John" were also renewed at Ottawa.

The following expenditure was incured.

NEW DREDGE PLANT.

New dredge hull	$8,501.00
Two 100 yard hopper scows	4,518.60

DREDGE VESSELS REPAIRS.

Two old 60 yard hopper scows, repaired	878.19
Renewal of machinery	5,047.27

PROVINCE OF MANITOBA

The extraordinary amount of repairs, that the plant has had to undergo last winter, brought up the cost per cubic yard to a pretty high figure, but the work had to be done, in order to maintain the plant in a fair degree of efficiency.

The two scows were practically rebuilt, new side timbers of British Columbia fir were put in, as well as the planking and reframing of both the stern and bows.

The tug "Sir Hector" had also to be rebuilt, a great deal of her hull was renewed, new oak frames as well as new deck beams, oak planking, etc., etc. The cabin was also rebuilt. Leaks in the boiler were patched up, etc. All of which raised the average cost of repairs and likewise the average cost of moving the material per cubic yard. Good work was done for the amount of money expended.

DREDGING—MANITOBA.

CLASSIFICATION OF DISBURSEMENTS of the Dredges operated by the Public Works Department during the year ended June 30, 1900.

DREDGE "WINNIPEG"

Items.	July	August	September	October	November	December	January	February	March	April	May	June	Grand Totals
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Wages	625 00	625 00	603 00	394 41	319 00	361 00	80 00	80 00	324 50	519 72	825 75	630 50	5,387 88
Coal	.....	693 45	.....	.....	.....	.....	.....	.....	.....	.....	.....	903 17	1,596 62
Wood	.....	30 00	29 10	5 25	.....	.....	.....	.....	.....	.....	.....	.....	64 35
Provisions	200 15	176 58	144 63	.....	.....	.....	.....	.....	.....	.....	7 15	291 89	820 40
Stores	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	34 40	31 51	65 91
Equipment	202 67	47 00	33 72	36 00	.....	.....	.....	.....	30 95	.....	.....	.....	350 34
Repairs	29 57	9 43	7 50	94 38	776 19	53 10	.....	.....	17 65	1,173 75	335 70	356 45	2,853 72
Contingencies	21 54	13 00	74 00	18 02	12 90	85	.....	.....	6 75	9 96	12 12	22 60	191 74
Total	1078 93	1594 46	891 95	548 06	1108 09	414 95	80 00	80 00	379 85	1,703 43	1,215 12	2,236 12	11,330 96
Working Expenses	1049 36	1585 03	884 45	453 68	331 90	361 85	80 00	80 00	362 20	529 68	879 42	1,879 67	8,477 24
Repairs Ordinary	29 57	9 43	7 50	94 38	60 90	53 10	.....	.....	17 65	20 40	46 55	45 60	385 08
" extraordinary	.....	.....	.....	.....	715 29	.....	.....	.....	.....	1,153 35	289 15	310 85	2,468 64
Total	1078 93	1594 46	891 95	548 06	1108 09	414 95	80 00	80 00	379 85	1,703 43	1,215 12	2,236 12	11,330 96

STATEMENT showing the material removed at different localities, the total annual expenditure on each dredge, and the average cost per cubic yard.

Localities.	Total.
	c. y.
West Slough at West Selkirk	21,900
Mouth of Red River (east channel) Lake Winnipeg	15,480
Total	37,380

Total expenditure during fiscal year 1900, $11,330.96. Average cost per cubic yard, 30·31 cents.

PROVINCE OF BRITISH COLUMBIA.

(a) DREDGING GENERALLY, B. C.

The expenditure under this head includes cost of surveys of Serpentine River and Victoria Harbour, the expenses of tug "Princess" while working for the Marine Department, and clearing snags from Nicomeekle River.

The details of expenditure are as follows:—

Wages	$ 227 85
Provisions	225 00
Materials	142 38
Survey, Victoria Harbour	250 48
Survey, Serpentine River	177 05
Total	$1,022 76

(b) DREDGING, SNAG BOAT "SAMSON."

The snag boat "Samson" was employed during the year in removing snags from the Fraser River between the Chilliwhack and the Sand heads, and from the North Arm and Pitt River, also in taking soundings and making survey of mouth of the river and in looking after buoys, etc,, marking the channel through the Sand heads at the mouth of the river.

The following is a table showing the number of hours that the snag boat "Samson" was employed at various works during the year ending 30th June last, exclusive of Sundays and holidays:—

Number of snags removed	344
Hours Snagging	557
" Buoy service	595
" Repairs	208
" Sounding and surveying	190
" Driving piles, etc	250
" Coaling, watering, taking on supplies, cleaning boiler, etc	1,250
Total	1,050

The running expenses of the snag boat "Samson" were as follows:—

Wages	$ 6,650 54
Provisions	1,334 36
Materials	871 87
Coal	971 63
Wood	373 50
Water	15 00
Hospital account	251 00
* Contingencies	65 67
Total	$10,542 57

* This amount includes washing, etc.

SNAG BOAT "SAMPSON."

The sum of $640.51 was expended in repairs to the snag boat "Samson" during the year, divided as follows:—$168.56 for small minor repairs, and $471.96 for extraordinary repairs, which included some new timbers and planking on the sides and new canvas over the whole of the upper deck:—

(c) DREDGE "MUD LARK."

The dredge "Mud Lark" was moved from Nanaimo to Victoria on the 10th of April last, and dredging operations were commenced at the latter place on the 26th of that month and were continued until the end of June, during which time 14,715 cubic yards of hard clay and gravel were removed. This dredging was done at the mouth of the harbour and considerable time was unavoidably lost on account of wind and swell.

The details of expenditure are as follows:—

Wages	$2,311 66
Provisions	382 04
* Materials	1,623 26
Water	9 00
Coal	318 83
Total	$4,644 79

* This amount includes $1,286.72 paid for repairs to tug "Princess."

DREDGE "MUD LARK," TUG "PRINCESS," AND SCOWS.

The sum of $1,345.02 was expended on this service, $67.90 being used in small minor repairs and $1,277.12 in general repairs to dredge, tug and scows.

The dredge was hauled out on toe ways at the mouth of the Fraser River and the guides for the bow spud anchors were renewed and repaired, and some small repairs were made, which were found necessary when the dredge was examined after being hauled out. The boiler was also repaired.

The tug "Princess" was placed in the Esquimalt Graving Dock and had a new propeller shaft put in.

On the 9th of May 1900, the Dredge was ready for work and was taken from Golden to Athalmer, where work was commenced in dredging the Salmon Beds. This was necessary as a new bridge has been put across the river at this point and the channel required widening to allow the steamers to pass with safety through the draw span.—

This work was completed on the 26th June, when the dredge was removed to Peterborough Landing, and an attempt was made to open a channel from the main river to a slough running back of the Peterborough Road, where it comes down from the side hill to the low land in the valley, which is flooded during the summer freshet.—

A party of five men were sent down the river on a scow from Athalmer to cut brush and overhanging trees from the bank of the river to remove snags from the channel, and to cut cord wood at various places along the river for the use of the dredge during the summer, as the Upper Columbia Navigation Co. could not supply the dredge with cord-wood this year as they had done in previous years.

The following are the details of the expenditure in connection with this service :

Wages	$1,854.76
Materials	455.88
Provisions	527.18
Rent of storehouse	100.00
*Contingencies	109.45
Total	$3,047.27

*This amount includes fares, freight, etc.

DREDGING PLANT.

The following is a summary description of the dredging plant owned and operated by the Public Works Department in the various parts of the Dominion.

MARITIME PROVINCES.

The self-propelling elevator dredge "St. Lawrence" (iron hull)—	
Length over all	175 feet.
Beam	30 "
Draft when loaded, aft	13·5 "
" " forward	8·5 "
Least working depth, (ladder with 32 buckets dropped 30 feet from bow)	8·5 "
Greatest working depth, (bucket ladder dropped 40 feet from bow)	28·0 "
Capacity of hopper for spoil material	350 cubic yards.
Speed when light	6 to 7 miles per hour.
Speed when loaded	3 to 4 "
Daily rate of dredging in hard material	350 to 700 cubic yds
" " ordinary earth	750 to 1,000 "
" " soft material	1,050 to 1,400 "
The self-propelling elevator dredge "Canada" (iron hull).—	
Length over all	130 feet.
Beam	20 "
Draft when loaded, aft	11·5 "
" " forward	7·0 "
Least working depth	7·0 "
Greatest working depth (ladder 24 buckets)	16·0 "
Capacity of hopper for spoil material	90 cubic yards.
Speed when light and newly painted	6 to 7 miles per hour
Speed when loaded	3 to 4 "
Daily rate of dredging in hard bottom	180 to 270 cubic yards
" " with ordinary digging	180 to 360 "
" " in soft material	360 to 450 "
The spoon dredge "New Dominion" (wooden hull)—	
Length over all	90 feet.
Width	28 "
Draft	5½ "
Greatest working depth	21 "
Daily rate of dredging in hard material	300 cubic yards.
" " with ordinary material	450 "
" " in soft material	600 to 700 "
Number of dump scows or barges used	4 "
The spoon dredge "Prince Edward" (wooden hull)—	
Length	80 feet.
Width	28 "
Draft	6 "
Greatest working depth	20 "
Daily rate of dredging in hard material	400 cubic yards.
" " ordinary material	500 "
" " soft material	600 to 700 "
Number of accompanying dump scows	3 "
The spoon or dipper dredge "George McKenzie" (wooden hull)—	
Length	90 feet.
Width	28 "
Draft	5 "
Greatest working depth	22 "
Daily rate of dredging in hard material	350 cubic yards.
" " ordinary material	500 "
" " soft material	600 "

The boom and dipper dredge "Cape Breton" (steel hull)—

Length	91	feet.
Beam	36	"
Draft	7 ½	"
Greatest working depth	34	"
Daily rate of dredging in hard material	1,000	cubic yards.
" " ordinary material	1,500	"
" " soft material	2,000	"
Number of barges used (each of 210 cubic yards capacity)	2	"

N. B. Tug service performed by hired tugs in the Maritime Provinces.

SHIP CHANNEL RIVER ST. LAWRENCE, BETWEEN QUEBEC AND MONTREAL.

The elevator dredge "Laurier" (wooden hull)—

Length over all	168·0	feet.
Width of beam	32·0	"
Depth of hold	14·0	"
Average draught	10·5	"
Greatest working depth	42·5	"
Daily rate of dredging in hard clay, about	1,700	cubic yards.
" " ordinary earth, about	3,000	"
" " soft clay (Lake St. Peter)	4,000	"

The elevator dredge "Laval" (wooden hull, small buckets)—

Length over all	150·0	feet.
Width of beam	30·0	"
Depth of hold	14.0	"
Average draught	11·0	"
Greatest working depth	43·5	"
Daily rate of dredging in hard material	400	cubic yards.
" " ordinary clay	2,000	"

The elevator dredges "Nos. 11" and "12" (wooden hulls)—

Length over all	137·0	feet.
Width of beam	29·5	"
Depth of hold	11.0	"
Average draught	8·5	"
Greatest working depth	38·0	"
Daily rate of dredging in hard material, about	200	cubic yards.
" " ordinary clay "	2,000	"

The elevator dredge "No. 8" (wooden hull)—

Length over all	137·0	feet.
Width of beam	29·6	"
Depth of hold	11·0	"
Average draught	8·6	"
Greatest working depth (short bucket frame)	27·0	"
Daily rate of dredging in hard meterial, about	200	cubic yards.
" " soft clay, about	1,800	"
" " ordinary clay, about	1,200	"

Elevator dredge "No. 4."—

Length over all	77 feet 3 inches.	
Beam	27 feet 0 inches.	
Depth	6 feet 6 inches.	
Built	1872.	
Engine	Horizontal non condensing.	
Cylynder } Diar	14 inches.	
Cylynder } Stroke	16 inches.	
Steam pressure	85 lbs.	
Capacity of bucket	2½ cubic yards.	
Depth to which dredge can work	33 feet.	

Rebuilt and alterred in 1890.

Elevator dredge "No. 7."—

Length over all	77 feet 3 inches.
Beam	27 feet 0 inches.
Depth	7 feet 0 inches.
Built	1874.
Engine	Horizontal non condensing.
Cylinder { Diar	14 inches.
Cylinder { Stroke	16 inches.
Steam pressure	85 lbs.
Capacity of bucket	$1\frac{1}{2}$ cubic yard.
Depth of which dredge can work	32 feet.

Rebuilt in 1889.

The stone lifter "No. 2" (wooden hull)—

Length over all	80·0 feet.
Breadth	25·0 "
Depth of hold	7·9 "
Size of well	22 by 10·0 "

Fourteen dumping scows, the dimensions and capacities of which are as follows—

No. of Scows.	Length.	Breadth.	Depth of Hold.	Capacity.
1	60 feet.	16 feet.	$6\frac{1}{2}$ feet.	60 cubic yards.
7	80 "	16 "	7 "	75 "
2	84 "	20 "	8 "	150 "
2	90 "	18 "	7 "	150 "
2	95 "	23 "	$8\frac{1}{2}$ "	200 "

The coal large "Caroline"—

Length over all	103·7 feet.
Breadth	22·5 "
Depth of hold	8·3 "
Capacity	250 tons.

The coal barge "Waverly"—

Length over all	100·0 feet.
Breadth	20·9 "
Depth of hold	7.1 "
Capacity	250 tons.

The coal scow "No. 1"

Length over all	80·0 feet.
Breadth	16·0 "
Depth of hold	4·5 "
Capacity	90 tons.

The coal scow "No. 2"

Length over all	54·0 feet.
Breadth	18·0 "
Depth of hold	4·0 "
Capacity	60 tons.

The sounding scow—

Length over all	60·0 feet
Breadth	25·0 "
Depth of hold	4·5 "

The winch scow "No. 1"

Length over all	54·0 feet
Breadth	18·0 "
Depth of hold	4·0 "

The winch scows "No. 2"—

Length over all	50·0 feet.
Breadth	19·0 "
Depth of hold	4·0 "

The above ship channel plant was attended in 1899-00 by the tugs "John Pratt," "St. James," "St. Francis," "C. J. Brydges," "M. J. Parsons," "Cartier," "St. John d'Iberville" and "Emelia."

The spoon dredge "St. Louis" (wooden hull)—

Length	50·0 feet.
Width	14·0 "
Depth of hold	4·0 "
Draft	2·5 "
Greatest working depth	12·0 "
Daily rate of dredging in hard-pan, etc	50 cubic yards.
" " in soft material	300 "

Dredge attended by tug "Daisy" with two dump scows, having a capacity of 30 cubic yards; plant used only for light digging.

A twin stone lifter (catemaran style)—

Length of each wooden hull	42·0 feet
Width " "	8·5 "
Depth of hold	3·0 "
Draft	1·0 "
Distance between hulls	7·0 "

One wooden scow for reserve and supply for Q. & O. dredging fleet—

Length	59·0 feet.
Breadth	17·0 "
Depth of hold	8·3 "
Draft when loaded	6·0 "
Capacity	100 tons.

Quebec and Ontario.

The elevator dredge No. 9 (wooden hull)—

Length	137·0 feet.
Width	29·0 "
Depth of hold	11·0 "
Draft	9·0 "
Greatest working depth	38·0 "
Daily rate of dredging in hard material	200 cubic yards.
" " in soft "	2,000 "

Dredge attended by tug "Delisle" with two dump scows, each of 80 cubic yards capacity.

The dipper dredge "Queen" (wooden hull)—

Length	65·3 feet.
Width	25·0 "
Depth of hold	5.0 "
Draft	3·0 "
Greatest working depth	16·0 "
Daily rate of dredging in hard material	200 cubic yards.
" " in medium firm material	400 "
" " in soft material	600 "

Dredge attended by tug "Ottawa" with two dump scows, of 60 cubic yards capacity.

The dipper dredge "Nipissing" (wooden hull)—

Length	70·7 feet.
Width	25·0 "
Depth of hold	6·0 "
Draft	4·5 "
Greatest working depth	20·0 "
Daily rate of dredging in hard-pan, etc	300 cubic yards.
" " in stiff clay	500 "
" " in soft clay and sand	800 "

Dredge attended by tug "St. Paul" and two dump scows, of 75 cubic yards capacity.

The dipper dredge "Ontario" (wooden hull)—

Length	71·0 feet.
Width	25·0 "
Depth of hold	6·0 "
Draft	4·5 "
Greatest working depth	20·0 "
Daily rate of dredging in hard material	300 cubic yards.
" " in medium firm material	500 "
" " in soft clay and loose sand	800 "

Dredge attended by tug "Sir John" with two dump scows, of 60 cubic yards capacity.

The dipper dredge "Challenge" (wooden hull)—

Length	70·5 feet.
Width	25·0 "
Depth of hold	6·0 "
Draft	4·5 "
Greatest working depth	21·0 "
Daily rate of dredging in hard material	300 cubic yards.
" " in medium firm or ordinary earth	500 "
" " in soft clay and loose sand	800 "

Dredge attended by tug "Trudeau" with two dump scows, having a capacity of 60 cub. yds

Manitoba.

The dipper dredge "Winnipeg" (wooden hull)—

Length	71 feet.
Width	25 "
Depth of hold	6 "
Draft	4·5 "
Greatest working depth	20·0 "
Daily rate of dredging in hard material	300 cubic yards.
" " ordinary earth	500 "
" " solft clay and loose sand	800 "

Dredge attended by tug "Sir Hector" with two dump scows, having a capacity of 60 cubic yards, and a coal barge.

The "Prlestman" dredge.

Tho steamer "Victoria."

British Columbia.

The dipper dredge "Mud Lark" (wooden hull)—

Length	90·0 feet.
Width	30·0 "
Depth of hold	7·9 "
Draft	4·6 "
Greatest working depth	40·0 "
Daily rate of dredging in hard-pan and hard gravel and boulders	300 to 400 cubic yds.
" " medium hard earth	500 to 600 "
" " soft material, mud, etc	800 "

Dredge "Mud Lark" attended by tug "Princess" and three dump scows.

The self-propelling stern wheel, clam-shell dredge "Muskrat"—

Length	60·0 feet.
Width	30.0 "
Depth of hold	3·3 "
Draft	1·7 "
Daily rate of dredging in loose gravel, etc., the only kind of material which has been worked so far	300 cubic yards.

The "Muskrat" works with two scows in attendance.

The snag-boat "Samson" and one scow.

The snagging scow built for use on the Fraser while the "Samson" was operating on the Stikine.

GRAVING DOCKS.

The Dominion Government owns and maintains three graving docks, viz :— The Lorne Graving Dock, at Lévis, in the Province of Quebec; the Kingston Graving Dock, at Kingston, in the province of Ontario; and the Esquimalt Graving Dock, at Esquimalt, near the city of Victoria, in British Columbia

LEVIS DRY DOCK.

The town of Levis is situated on the south shore of the St. Lawrence, opposite the city of Quebec.

Construction.—In 1878 the construction of a dry dock was commenced by the Harbor Commissioners of Quebec at St. Joseph de Lévis or Lauzon, a village two miles below the city of Lévis. The amount required for the prosecution of the work was loaned by the Dominion Government to the Commissioners of the Harbour of Quebec, under the authority of the Act 38 Victoria, chap. 56, assented to on April 8th 1875.

The dock was completed in 1886, at a cost of $910,000.00; on September 1st of that year, the S. S. "Titania" was docked therein.

The dock became a public work of the Dominion of Canada under authority of the Act 50 Vic. chap. 6, assented to on May 22nd 1888, which also released the Quebec Commissioners from all obligation to repay to the Government of Canada the whole or any part of the advances made to them towards the coustruction of the work or any sums in payment of the interest thereon. The dock came under the control and administration of the Department of Public Works on Octber 17th 1890.

The general plan of the dock is a rectangular figure, 445 feet long, 100 feet wide at coping level and 73 feet wide at the bottom, with a circular head 31 feet radius. Square offsets of 19 feet on each side from the top, width of the timber slides and stairs, which are placed in pairs, side by side, at both ends. The width of the inner invert, between the main body of the dock and the caisson berth is 8 feet, making the total length of the dock, inside the first meeting face of the caisson, 484 feet.

The depth of water on the sill is 26½ feet at the high water spring tides and 20½ feet at high water neap tides.

The entrance of the dock is 62 feet wide, and it closes by a caisson travelling on rollers, worked by a pair of high pressure auxiliary engines of 34 horse-power These engines also work the small pump with a capacity of 900 gallons per minute, which is used to clear the drainage well, the dock is constantly kept dry with this pump. The main pumps, two in number, are of the ordinary style of lift pumps, 4 feet in diameter and 5 feet stroke, and discharge 14,000 gallons per minute. They are worked by a pair of jet condensing engines, 27½ inch cylinders with 36-inch stroke, and of 400 horse power. Steam is supplied by three tubular boilers, 14 feet 10 inches in length and 6 feet in diameter.

The dock proper is built of the best quality of limestone from the Terrebonne quarries, the courses being exceptionally heavy and laid in Portland cement. It is lighted by 12 arc lamps supplied from a Thomson & Houston dynamo, so that vessels can be docked at night and work carried on without interruption.

The following is a statement showing the number of vessels docked, the cost of maintainance and repairs, and the amounts collected during each fiscal year from the time the control of the dock was assumed by the government up to and including the present fiscal year. Under the head of repairs and improvements are

set down the amounts expend for such works and additions as could not be performed by the ordinary staff of the dock. In all cases the cost of small repairs and ordinary care of the machinery is included under the head of maintenance.

Fiscal Year.	Number of vessels docked.	Repairs and Improvements.	Maintenance.	Revenue.	Remarks.
		$ cts.	$ cts.	$ cts.	
1888-89	3	.....	4,965 67	2,349 60	Ordinary care and small repairs.
1889-90	5	2,194 90	9,331 74	17,498 99	Cleaning, painting, repairs to machinery.
1890-91	5	6,286 24	5,605 31	18,063 52	Iron beams placed under the bearings of the shaft of the main pumps, machinery painted and generally overhauled, a quantity of gravel and stones removed by one of the departmental dredges, assisted by a stone lifter, from the shoal off the entrance of the dock
1891-92	3	4,981 35	8,298 76	4,384 97	Sluice valves in caisson and culverts taken off their seats, cleaned of all dust and replaced inside of caisson scraped and two coats of cement wash applied; outside of caisson and folding bridge painted and joints in masonry of dock repointed. General and thorough repairs to engines and auxiliary pumps and boilers.
1892-93	11	2,626 03	7,838 47	13,306 43	Engine house and shop painted three coats; caisson placed in chamber, and bottom and lower portion of sides and ends scraped and painted two coats; timber facing repaired to ensure close joint with invert and side walls
1893-94	8	.....	7,967 07	13,310 94	Stone foundation for coal shed built, shed not completed.
1894-95	7	.....	8,321 62	13,795 19	Coal shed completed, ordinary care to machinery
1895-96	8	.....	9,205 80	8,835 39	Caisson berth and recess cleaned of sediment, bottom, sides and ends of caisson scraped of all dust and painted two coats.
1896-97	7	.....	7,718 88	12,346 57	Head and side of dock levelled back of coping and drain put in; 40 staging planks 130 horizontal timbers purchased.
1897-98	7	.....	6,148 32	19,839 97	Ordinary care and repair to pumping machinery and caisson.
1898-99	8	.....	7,235 88	13,786 09	Stringers of caisson folding bridge were replaced by iron girders; the planking of the folding bridge and over the caisson chamber was renewed; 800 feet of 2½ inch hose were purchased to replace that which had been in use for 9 years; ordinary care to machinery.
1899-00	3	.....	5,096 17	9,860 21	
	75	76,088 52	87,733 69	147,377 87	

The amount of $3,307.62 expended for maintenance and repairs during the first six months of the year may be subdivided as follows:

Staff	$1,925.81
Labourers	350.51
Coal, oil, waste and small repairs	1,031.30
	$3,307.62

During the first six months of the last fiscal year the dock was kept in excellent working condition with the ordinary care and slight repairs to the caisson and pumping machinery.

On the 23rd october 1899, a contract was entered into with Mr. Powers of Levis to lengthen the dock by 116 feet, in order to obtain a total length of 600 feet, the work was being proceeded with when the writer was transferred to Ottawa from his position of Dock Master, in the month of february 1900.

The total amount expended on this work is $1,012,033.67 made up of $910,000 for construction, and $102,033.66 for maintenance and repairs.

KINGSTON DRY DOCK.

Kingston is situated at the outlet of Lake Ontario, 172 miles west of Montreal, and is an important commercial centre.

Construction.—In 1888 the construction of a dry dock, located near the centre of Kingston harbour was commenced and was completed in 1892, at a cost of $461,097.72.

It is built of limestone laid in cement mortar ; has good yard accommodation, and can take in any vessel that passes through the Welland canal ; the depth of water on the sill being 14½ at low water, and 16½ feet at high water.

The general plan of this dock is a rectangular figure. The length from the foot of the stairway, at its head over the keel blocks, and up to the inner invert is 280 feet This invert is 10 feet wide, hence from the inner side of the caisson to the foot of the stairs the distance is 290. By placing the cassion gate out on the apron the last mentioned length can be increased by 23 feet to 313 feet. The length at coping level from the outer end or lake face of the wing walls of the dock to the top of the stairway at itt head is 370 feet. The width of the dock between walls is 47 feet at floor level ane 70 feee at coping level. Its depth from the top of coping to the floor at the sides is 20 feet 6 inches, the radius of the inverts being 193 feet. The rudder well commences at 10 feet from the face of the inner invert and is 2½ wide, 24 feet long, and 12 feet long keel blocks are placed at 5 feet centres from end to end of the dock ; there are also 32 bilgs blocks at 10 feet centres on the floor of the dock.

The caisson is 59 feet in length on long face, 57 feet on short face, 13 feet wide by 22 feet deep. It is operated by a worm gear arrangement in connection with the auxiliary engines hereinafter alluded to.

The large steam boilers (battery of 4) are connected and provided with controlldg valves, so that one or more of them may be used at the same time. The length of the shell is 14 feet, each boiler has 83-3½ inch flues of the same length as the shell, diameter 5 feet 6 inches ; thickness of plates ⅜ inch. Pressure of steam carried, 100 pounds to square inch.

The small auxiliary boiler is of the drop flue type. The shell, which is 9 by 4 feet, plates ⅜ inch thick, has 250 drop flues 1¼ by 18 inches, with circulating tubes. This boiler saves from 50 to 75 per cent of the fuel required to keep up steam in one of the large boilers for general purposes, when the main pumps are not being operated.

The main engines two in number, are of the vertical high pressure type, the cylinders being 18 by 18 inches. These engines operate the main pumps.

The main pumps are of the centrifugal type, having each a 20 inch diameter discharge, and jointly capable of discharging 30,000 gallons per minute against a head of 33 feet.

The auxiliary engines are of the vertical high pressure type. The two cylinders are each 12 by 12 inches. These engines operate the auxiliary pump and the caisson.

The fire pump was made by Knowles Co., of Boston ; its steam cylinder is 15

by 21 inches and the water cylinder 10 by 21 inches. This pump can be used to do the duty of the auxiliary pump, should the latter be disabled.

The pony engine and pump has two steam cylinders, each 6 by 7 inches; its water cylinder is 4 by 7 inch. This pump is used for feeding the water supply to the boilers and for sprinkling purposes, and is capable of supplying 3,000 gallons per minute against a head of 32 feet.

A large steam derrick is used for lifting purposes in connection with docking operations and repairs.

Beside the machinery building which is of stone, and measures 84 by 36 feet, exclusive of chimney 15 by 15 feet at the base; a wooden metal cased shed, 30 by 40 feet, has been erected to the southward of the said building for the storage of coal. The dock property is inclosed by a wooden fence of the best description, 868 feet long, with gates on Gore and Union streets.

During the fiscal year this dock was maintained in good working condition, ordinary care being bestowed on the pumping machinery, caisson, derrick, &c. No new work was undertaken.

Electric lights and a ship carpenter's shed are wanted to complete the full equipment of the dock.

The following is a statement showing the number of vessels docked, the cost of repairs and maintenance, and the amounts collected during each fiscal year since the dock is in oporation, up to and including the present fiscal year. Under the head of "Repairs and improvements" are set down the amounts expended for such works and additions as could not be performed by the ordinary staff of the dock. In all cases the cost of ordinary care and small repairs to the machinery is included under the head "maintenance."

Fiscal Year.	Number of vessels docked.	Repairs and Improvements.	Staff and Maintenance.	Revenue.	Remarks.
		$ cts.	$ cts.	$ cts.	
1891-92	21	442 33	4,978 90	2,105 70	A travelling crane erected in the engine room, 32 bilge blocks with the necessary hauling chains placed in position.
1892-93	51	48,612 54	8,033 91	6,196 49	A vertical boiler 4 feet in diameter, by 9 feet in height was purchased. Fire pump removed from upper to lower floor of engine room. A shed for storage of coal was built, also a wooden fence 868 feet in length around the dock property.
1893-94	44	782 97	6 607 46	7,453 01	Minor repairs.
1894-95	24	.....	5,939 51	2,878 23	Steam derrick painted; stone work pointed with Portland cement. Wood work of engine house painted, etc.
1895-96	65	925 00	5,357 16	3,954 78	Potting in sprocket wheels and chains in lieu of old drums and cables for operating the caisson, etc.
1896-97	58	.....	4,657 10	6,360 60	Minor repairs.
1897-98	35	.....	4,733 79	7,448 31	Painting coal shed and caisson; levelling dock premises; concreting engine room floor, etc.
1898-99	59	.....	5,046 70	7,506 88	Minor repairs and ordinary care to machinery.
1899-00	28	4,744 71	4,792 46	4,113 83	Building carpenters' shed; repairing wharfs, etc., putting in electric light apparatus, etc., new safe.
	385	55,463 55	50,146 99	48,017 83	

The expenditure of $4,700.71 incurred during the fiscal year for repairs and improvements is subdivided as follows :—

Expenditure, building repairs, &c.

Repairs to derrrick No. 1465, June 17th 1899	$ 450.00
Building Ship Carpenter's shed	2,033.84
Building w. c. and repairing wharfs and piers	1,265.97
Putting up electric lighting apparatus	772.90
New safe for office	178.00
Total	$4,700.71

The expenditure of $4,792.46 for working is as follows :—

Staff	$ 2995.00
Fuel	1114.25
Offer rent	150.00
Telephone	25.00
Water	10.00
Sundries repairs	498 21
Total	$ 4792.46

Dock, buildings, machinery, wharfs, piers, etc ; all in good order. Electric lighting very satisfactory.

Esquimalt Graving Dock.

Esquimalt, in the electoral district of Victoria, is situated on the Straits of San Juan du Fuca, about 3 miles from the city of Victoria.

Construction and description.—This dock is built in a small cove in Esquimalt Harbour. It was commenced by the provincial government of British Columbia, but the work was taken over by the Dominion Government while being proceeded with, and the dock was completed and opened in July, 1887.

The principal dimensions of the dock and caisson gate may be stated as follows :—

	Feet.	Inches.
Length of dock over keel blocks	430	0
Width of inner invert	20	0
Width of caisson chamber	15	10
Width of outer invert	15	0
Total length of dock	480	10
Width of dock at coping level	90	0
Width of dock at entrance	65	0
Width of floor of dock	41	1
Radius of inverts	16	6
Total depth of rock above inverts	33	6
Height of inverts above floor of dock	3	0
Height of keel blocks	2	10
Length of keel blocks	4	0
Length of caisson (inside facing)	67	0
Length of caisson (outside facing, reversible)	15	8

At low water the depth on the inverts is 24 feet 6 inches, and at an ordinary high water 26 feet 6 inches.

The following is a summary description of engines, boilers, pumps, electrical and diving apparatus, hoisting and hauling machinery, buoys, lathes, other machine tools and appliances, and supplies required for repairing, fire fighting and other purposes which are available for use at this station :—

Two condensing engines, cylinders 27 inches in diameter, 36-inch stroke.
Two lifting pumps, cylinders 48 inches in diameter, 60-inch stroke.
Three Cornish boilers, 6½ feet in diameter and 14 feet in length.
One high pressure auxilliary engine, cylinder 16 inches in diameter, 20-inch stroke.
One centrifugal drainage pump, 14-inch suction, 12-inch discharge.
One return tubular boiler, 5 feet 3 iches in diameter and 14½ feet in length.
One hauling engine for caisson, cyliuder 12 inches in diameter, 14-inch stroke.
One centrifugal drainage pump, 6-inch suction, 5-inch discharge.
One Edison No. 4 dynamo, 1,600 C. P., 16 lamps around dock.
One engine for dynamo, 8 inches in diameter by 12-inch stroke.
One iron movable stop-gate for caisson chamber.
Twenty-five iron bollards around dock.
One wooden crane, 10 tons capacity.
Eight hand capstans.
Six hydrants.
Three hose reels and 200 feet of canvas hose.
One diving apparatus complete.
One lathe, 6 foot bed.
One drilling machine.
One set of taps and dies complete.
One steam box for bending planks.
Two iron warping buoys.
Two dolphins to mark channel at entrance of dock.

The following is a statement showing the number of vessels docked, the cost of repairs and maintenance, and the amounts collected during each fiscal year since the dock is in operation, up to and including the present fiscal year.

Under the head of repairs and improvements are set down the amounts expended for such works and additions as could not be performed by the ordinary staff of the dock. In all cases the cost of ordinary care and small repairs to the machinery is included under the head of maintenance :

Fiscal Years.	Number of Vessels Docked.	Construction.	Repairs and Improvements.	Staff and Maintenance.	Revenue.	Remarks
		$ cts.	$ cts.	$ cts.	$ cts.	
1882-7		1,149,146.25				Cost of construction, including $250,000 refunded by the Imperial Government
1887-8	6			6,342.63	5,337.46	Electric lights installed, &c.
1888-9	18		8,571 22	12,720.10	14 811.86	Electric lighting completed ; a lathe and drill set up ; a small centrifugal pump substituted for the auxiliary pump ; sheds for the fire-hose carts erected, &c. Some dredging done.
1889-90	10		7,150.00	12 719.94	13 563.62	New keel blocks, hand rails, staunchions, &c., provided, and minor repairs effected by dock staff.
1890-1	30		2,639.65	12,725.90	29 603.14	A coal shed, 58 x 36 feet, erected ; general repairs and improvements by dock staff.
1891-2	18		2,410.49	14,232.47	18 416.23	Pump wells and foundations for machinery repaired ; a large portion of engine-room floor, which had been cracked by settlement, was re-laid with Portland cement concrete, and wall of engine-house facing dock pulled down and rebuilt. In addition many minor repairs were done.
1892-3	11		8,859.78	13,196.61	23 204.38	A leak in the caisson chamber repaired, and minor improvements and repairs made.
1893-4	7			10 075.59	10,786.70	Caisson scraped, painted and machinery generally overhauled.
1894-5	11			10,419.76	6 320.25	General repairs, painting, &c.
1895-6	15			12 355.09	10,221.68	Spur driving wheel of main pumps, which had been broken, was replaced by a new wheel. A planer added to the equipment, and necessary repairs and renewals made.
1896-7	13			10,770.28	7 514.80	Ordinary repairs painting.
1897-8	14			11,745.84	6 233.52	Repairs. Furnace shed enlarged and brick drain built.
1898-9	29			11,957.05	10,315.53	Ordinary care to machinery.
1899-00	20			13,251.34	6,891.62	Ordinary repairs and small improvements.
Totals	202	1,149,146.25	29,631.14	152,512.60	163,220.79	

During the year the dock has been kept in good running order.

The total expenditure for the year amounts to $13,251.34

The greatest number of vessels docked, during the year, belonged to the Royal Navy.

The dock was occupied 109 days.

RIVIERE DU LIEVRE LOCK AND DAM.

The Rivière du Lièvre flows through the county of Ottawa, and empties into the Ottawa River at Buckingham station on the Canadian Pacific railway, 18 miles below Ottawa.

The magnitude of the trade and business done on this river, previous to the completion of the lock and dam at Little Rapids, may be judged from the following return of the output of timber and phosphate for the twelve months ended June 30th, 1888 :—

Railway ties	40,000
Cedar posts	30,000
Square timber (cubic feet)	154,395
Lumber (B.M	46,500,000
Phosphate (tons)	27,537
Mica (lbs)	10,000
Feldspar (tons	50

The river was then navigable at high water from the village of Buckingham to High Falls, a distance of 22 miles. But, during low water, navigation was practically stopped at the foot of Little Rapids, a distance of 12 miles above the village of Buckidgham. Various amounts, aggregating $10,053.68 were expended from 1881 to 1887, in improving the navigation of the river to High Falls ; boulders and ledges of rock were blasted and removed from the bed of the channel through the Long Rapids, situate 7 1/2 miles above the Little Rapids. The channel through the latter was also improved in a similar manner and a floating stage carrying a double-geared winch, was placed at its head to facilitate the passage of barges carrying phosphate. Notwithstanding those improvements, navigation still remained unsatisfactory. A careful survey of the locality was then made, and it was ascertained that any further deepening of the channel through the Little Rapids would tend to lower the level of the water in the upper reaches of the river, and render the driving of logs impossible at any other time than during the very highest stages of the waters.

Construction. The construction of a lock and dam at the Little Rapids was therefore decided upon and a contract for the execution of the works was entered into with Messrs. Poupore & Co., in December, 1886, and completed in April, 1892, at a total cost of $233,658.65.

The lock is situate on the east shore of the river. It is built of cut stone masonry in cement mortar, 150 feet long between the gates, 32 feet 6 inches wide at the bottom with eight feet of water on the mitre sills, and a lift of 13 feet 9 inches at extreme low water. Along the western face of the work a retaining wall was built and was carried 143 feet above the upper end of the latter to serve as a guide pier to the upper entrance. The dam, which is built of close-faced cribwork, is 270 feet long and 34 feet wide at the bottom ; it starts from the western face of the retaining wall opposite the upper gates of the lock, and crosses the streams to the western abutment, which is 65 feet long and 40 feet wide. Through its centre a timber slide 18 feet wide was built for the passage of timber and logs, and booms were strung from the opening to mooring piers placed on each shore of the river 290 feet above the dam.

Repairs.—During the year 1893-94 some necessary repairs were made to the west abutment of the dam and to the lower wharf at a cost of $102.65. In 1894-95,

$267.70 was expended in building a protection pier above the west abutment of the dam, to prevent the river from working its way back of this abutment during the spring freshets. In 1895-96 some minor repairs were made in filling holes and depressions in the west embankment, which was sinking in some places and required levelling, at a cost of $115.00. In 1896-97, the upper portion of the lower entrance wall which had bulged out about 14 inches for a length of 100 feet from the masonry of the lock, was taken down and a new wall, 135 feet long by 25 feet wide, built in its place. This bulge was getting worse every year, and it was feared that the pressure of the earth backing would soon cause it to collapse and block the lower entrance of the lock. The crib, 43 feet by 22 feet, built at the head of the western abutment, to prevent undermining was also completed. This crib imperfectly fulfilled its object, a quantity of water still making its way underneath the abutment, and it was found necessary to remove this source of danger by adding three feet to the height of the crib, fully ballasting it and sheating its outer face from top to bottom. The cost of these repairs amounted to $1,824.39. In 1897-98 the sum of $4,419 94 was expended in rebuilding the retaining wall from the dam to the upper end of the guide pier, a distance of 226 feet, in close face cribwork from the low water level to an elevation of 10 feet with a width of 26 to 32 feet, This reconstruction was absolutely necessary to protect the lock wall, as the face timbers of the retaining wall were gradually being pressed out by the stone ballast, the dovetails of the cross ties having split and decayed, and the cross ties being bent and broken.

The following is a statement showing the cost of the work, repairs and maintenance, and the amounts collected during each year, up to and including the fiscal year 1899 00.

Year.	Cost of Construction.	Repairs and Improvement.	Maintenance.	Revenue.	Remarks.
	$ cts.	$ cts.	$ cts	$ cts.	
1887-88..	43,329 04	.....	.....	.....	Lock and dam in course of construction.
1888-89..	64,506 74	.....	.....	.....	" "
1889-90..	50,280 50	.....	.....	.....	" "
1890-91..	40,019 14	.....	.....	.....	Masonry of lock complet-d and work on dam progressing rapidly.
1891-92..	35,247 72	.....	193 52	.....	Lock and dam comp eted and first boat locked on the 19th of April.
1892-93..	275 51	.....	952 86	243 87	Building 460 feet of booms.
1893-94..	.....	102 65	768 21	532 59	
1894-95..	.....	267 70	840 34	404 30	
1895-96..	.....	115 00	851 60	230 33	
1896-97..	.....	1,824 39	799 79	198 45	
1897-98..	.....	4,419 94	736 19	246 84	
1899-00..	.....	.....	1,579 85	296 80	
	233,658 65	6 729 68	6,713 36	2,153.18	

From the foregoing statement it will be seen that the revenue collected has diminished every year, the shrinkage being caused by the suspension of operations on the phosphate mines and the closing up of Messrs. Grandin & Racicot Co's. saw mill.

Owing to the flooding of land caused by the construction of the dam, amounts aggregating $4,559.04 were paid for damages.

The total expenditure incurred in connection with this work is as follows :—

Construction	$233 658.65
Repairs	6,729.68
Staff and maintenance	8,866.54
Claims for damages, etc	4,559.04
Total	$253,813.91

During the year 1893-94, after the construction of the lock, the sum of $1,244.94 was expended in removing boulders obstructing the channel through the long rapids.

The repairs executed last year consist of a stonewall 213 feet long, 12 feet wide, 6 feet high in front and 12 feet in the rear which was built on west side of river, below the dam, to protect the bank.

On east side of river three rounds of new timber, 145 feet in length and 10 feet in width were placed on pier commencing below the dam ; a stone wall 142 feet in length, 5 feet in height and 12 feet in width was also constructed. Some other minor repairs were made.

YAMASKA LOCK AND DAM.

This river takes its rise in the township of Bolton, in the county of Brome. It forms an outlet for several large lakes, and has a course of about 90 miles. It flows through the counties of Brome, Missisquoi, Rouville, Bagot, St. Hyacinthe, Richelieu and Yamaska, and empties into the head of Lake St. Peter on its southern side, 8 miles below Sorel.

A contract for the construction of a lift lock and dam at Ile à Cardin, one mile and three-quarters below the village of St. Michel de Yamaska, and about four and a half miles from the mouth of the river, was entered into in 1881. This work was completed in 1886 ; it gives a rise of 5¾ feet.

By the construction of those works, and by dredging done subsequently on the shoal below the lock, the river has been rendered navigable for vessels of moderate draught up to Belle Point, or Rapide de la Grosse Roche, a distance of 20 miles.

When 170 feet of the dam was carried away in 1890, the broken portion was renewed and built two feet lower than the remaining part of the dam so as to prevent the lock from being immerged at each freshet.

During the fiscal year 1899 the dam was raised to a uniform height, and 345 feet of the planking were renewed with 4-inch tamarack.

Stone ballast was put in the work where necessary.

SLIDES AND BOOMS

The Dominion Government owns and operate slide and boom works built to facilitate the passage of square timber, round logs flatted and dimension timber, &c., on the River Ottawa and tributaries, on the lower 40 miles or so of the St. Maurice, and in the Trent and Newcastle District between Fenelon Falls and Heeley's Falls.

In the subjoined reports, the superintending engineers of these river works, Messrs. G. P. Brophy, F. X. Thos. Berlinguet and R. B. Rogers, give particulars relative to the works of construction, improvement and repair carried out under their supervision on government slides, booms, piers, dams, streams, buildings, &c., during the fiscal year, the expenditures incurred for staff, maintainance,

improvements, &c., the quantities of the various descriptions of timber that pass through their works, the revenue accurred from toll levied on the said timber, and other information of general interest and utility to lumbermen and the public at large.

REPORT ON THE OTTAWA RIVER WORKS.

(By G. P Brophy, Superintendi Engngineer.)

The Acting Chief Engineer
of the Public Works of Canada,
Ottawa.

Sir :—As requested by you in your communication No. 2393, dated 9th July last, I have the honour to submit the following report on the works under my charge on the Ottawa river and certain of its tributaries, for the fiscal year ended 30th June 1900.

After the "drives" of the season of 1899 had passed, the foundations of the various river structures were examined and advantage taken of the lowest pitch of water to commence the necessary repairs, which were continued and completed during the winter and early spring months, and may be described as follows :—

REPAIRS AT STATIONS ON THE OTTAWA RIVER, (Main Stream)

Hull or North Chaudiere Station.—The top timbers of side pier on north side of upper slide were repaired, the booms and aprons overhauled and their fastenings adjusted from time to time ; rubbish removed from reserve and a tool house erected. During the winter months ice was cut from around booms to relieve them. At the Lower Slide, missing planks in bottom were replaced. The bulkhead and waste gate piers at this slide were rebuilt from low water mark and a new bulkhead platform and crab frame provided. Additional stone filling was placed in the pier dam adjacent to the waste gate on west side and the rear timbers of this dam were also repaired where found decayed. After the disastrous fire on 26th April last, considerable debris had to be removed from the slide channels before logs and dimension timber could be passed through the works. The booms and aprons were also adjusted and repaired where damaged by fire.

Ottawa or South Chaudiere Station.—The enlargement of storehouse at this station was completed ; the roofs of the sheds were repaired ; the building on side pier of slide was jacked up and strengthened ; the crossing over slide leading to storehouse yard was rebuilt ; the nuts of bolts on apron were tightened up and planks planted on apron fingers to prevent abrasion from passing timber. As the water in slide and hydraulic channels varied in height from day to day the booms and aprons had to be protected by cutting ice and adjusting chains etc. The side piers of Second Slide were covered in part with 3 in. sheeting and at the entrance to this slide a new section of boom 40 ft in length, 3 sticks in width and one deep was built and well secured by spikes and bolts. As at Hull Station, the works at Ottawa side suffered severely by fire of 26th April last. The storehouses, sheds tools, etc., were completely swept away ; the tops of side piers of slide, bulkheads etc., were all damaged. These had to be repaired temporarily, sheds built for tools and burnt materials removed from slide channels etc, to admit of passing square timber.

Chats.—The repair work at this station consisted of rebuilding upper portion of snubbing pier at head of Chats Rapids, which had been carried off by an ice shove; and spiking 1503 ft B.M. of elm plank in bottom of slide; 2 rock elm stop logs were also provided to replace others worn out.

Portage-du-Fort.—The support pier at upper end of guide boom was rebuilt 12′ x 20′ x 12′ high; a new section of double boom, 135 feet in length was built below this pier and damaged portions of slide piers on both sides were repaired (length 50′ x 10′ wide and 4 courses high).

Mountain.—A break immediately below the second bulkhead of slide was repaired, new sills and flooring being laid; a section of the flooring in bottom at outlet of slide about 60 feet in length was renewed; damaged sheeting in bottom was patched in many places throughout the whole length of slide, and at places in side walls where gouged out, a filling of hardwood plank was inserted. The north side pier of slide at extreme lower end was repaired. This pier forms a dam facing chute and the sloping surface on top was renewed, new fingers were laid and on top of these the covering of 6 inch elm was fastened. Two different sections were treated in this way, one 75 feet in length by 7 feet wide and the other 55 feet long by 20 feet wide. A broken length of double boom, 60 feet at head of slide, was also renewed.

Calumet.—At this station, the cribwork forming side of third slide, next the island, was partially displaced by spring floods. The damaged portion 80′ x 10′ in height was taken down and rebuilt. A deposit of loose stones was removed from timber channels below the slide. A washout occurred at upper end of controlling dam near third slide; the dam was extended up stream a distance of 20 feet to solid rock; the rear portion of this dam was also repaired, where damaged and a quantity of extra stone filling placed in square crib forming base. The sheeting in bottom of third slide was patched where worn thin. The covering on long dam forming basin, between second and third slides, was repaired where damaged by logs and ice. A pier supporting guide boom at entrance to first slide was repaired; the corners had become rotten and worn away; these were sheeted with plank and extra fenders put on to protect the pier from damage by ice-shoves and driftwood.

TRIBUTARIES OF THE OTTAWA.

Gatineau River.—The repairs on this stream were done principally to the piers supporting the main boom, piers Nos. 3 and 4 were sheeted with 3 inch plank on all sides, and had additional stone filling placed in them. A pier at "trip" immediately below the Canadian Pacific Railway Bridge, had become canted, owing to the foundation having been scoured out by the current of the river. A quantity of stone was deposited around the pier at base to prevent further settlement. A pier at extreme upper of boom was rebuilt in its five upper courses and stone filled. Various other piers were also repaired, fenders being added and stone filling placed in cribs. The chains, clevises, pickets links, caps, etc., of the boom were also repaired and adjusted, while some minor repairs were made to fences and to station house.

Madawaska River. At *Arnprior* a section of side pier of slide on east side immediately below bulk-head was rebuilt, 80 ft. long x 11 ft. average width by 5 ft. high. Four courses of a boom pier 11′ x 15′ at entrance to slide were rebuilt and a false bottom was put in this pier to contain stone filling. Another pier 14′ x 24′ on west bank of river, between the two railway bridges, was also repaired, 3 new courses being built and stone filling added. The sides of the slide, where worn

were covered with 3 inch plank of hardwood. New stop logs were provided for slide; the corners of piers patched; chains of booms adjusted and new clevises provided.

Calabogie Lake.—The chains of the booms here were examined and new ones substituted for those found unserviceable.

High Falls.—A coffer dam was built at entrance to slide and the piers of bulkhead, where gouged out, were repaired by inserting sheeting of 4 inch maple plank. A new pier 20 ft. square x 29 ft. high was constructed to support guide boom and another pier 16' x 20' at upper end of boom was built from low water mark.

Ragged Chute.—The top timbers of long pier at head of Chute were repaired and the sheeting on the two flat dams was patched.

Duck's Rapids.—The flat dams on both sides of river at this station were faced anew where the coverings had given out.

Chain Rapids.—The damaged portions of bulkhead piers were hewn and the surfaces afterwards covered with 4 inch maple plank. A guard iron plate 7" x $\frac{1}{2}$" x 6 ft. was placed at stop log checks and was secured with $\frac{5}{8}$" split spikes. In order to execute these repairs, it was necessary to shut off the water at head of slide by means of a coffer dam.

Coulonge River.—At a point about 500 feet above outlet of slide a support pier 90' long x 8' x 15ft high was built to prevent slide structure from shifting towards chute. Four one inch iron tie rods secured to bolts, set in solid rock, were put in position to steady the slide at this point. Accumulations of logs and debris were removed from space between slide and shore to avoid damage by surging water. The booms at head of slide were re-covered with three inch plank and broken timbers replaced. The sheeting throughout the whole slide (nearly 3,000 feet in length) was renewed at many places in both bottom and sides. Four inch maple was used for bottom, and the same material, three inches thick, for sides. New foot boards of two inch pine were substituted where the old ones had become decayed. When the sheeting of slide was underway, rotten posts, braces and sills were replaced by sound materials at the same time as the planking work progressed. A glance pier 80 feet by 9 feet by 10 feet high was built on shore to protect the bank opposite main governing dam. A pier, supporting guide boom, was rebuilt from low water mark up. The station house was also repaired, a new floor having been laid and a portion of the interior sheeted. Some minor repairs were effected at retaining boom opposite Fort Coulonge; broken sticks and chains having been renewed.

Black River.—At feeding gap, about 1 mile above slide, three piers were repaired; one was raised two courses, another three courses, and the third was rebuilt from low water mark. The sheeting in slide was patched from time to time and at the foot the sides of piers were sheeted with maple plank. A supply of four inch and six inch thick maple was provided for repairs during running season. On the 5th day of May, about 60 ft. in length of the outlet of the single stick slide was carried away by the spring floods. Temporary arrangements were made for the passage of the later "drives," by jacking up the bottom of the slide at the break.

Petewawa River.—At first and second chutes, some minor repairs were effected to the sheeting, posts and braces of the slides, and to the booms and attachments.

At *Third Chute*, the sheeting in slide was repaired throughout its whole length. The sides strengthened by additional bracing and false posts; and leaks were stopped. At the entrance to slide the bulkhead pier, on west side, was rebuilt 35' x 10' x 4 courses high, and the guide booms at entrance to slide were repaired and new pickets provided.

At *Bois-dur*, some small repairs were made to the boom fastenings and to sheeting on face of flat dam.

At *Half Mile Rapids*, the dam across northern channel was repaired; the rear timbers were renewed for a distance of about 80 feet and the face of dam was also repaired and new fingers put in. An additon was made to the dam at main shore end where a washout occurred; this consisted of a pier dam 55 feet in length by 5 feet high.

Crooked Chute.—The old single stick retaining boom was doubled, new chains furnished, a snubbing post placed in pier on north shore, 6 new stop logs and a regulating roller were provided, the sheeting, posts, and braces of slide were repaired and near the outlet hardwood fenders were spiked to pier to guard against wear from passing timber and logs.

At McDonald's Slide, new boom chains were provided; flat iron laid in slide to protect the bottom, and the sheeting, posts, etc, patched where worn and decayed.

Cedar Lake. Immediately below the retaining dam, a glance pier 176' x 10 wide x 5' high was rebuilt on the north side of river, near foot of rapids. The bulkhead frame was renewed. The old structure was supported by posts, these were cut off and the new platform carried on small piers resting on the bulkhead piers; the top was covered with 6 inch pine plank and apparatus for regulating stoplogs was remounted. Six new stop logs were provided, two snubbing posts planted in the bulkhead piers and a single stick guide boom 354 ft. in length was doubled. The sides and corners of the piers were patched with 7 inch sheeting and along the front of the dam a sufficient quantity of stone and brush was laid to stanch the leakages.

Dumoine River.—Repairs were made to the long slide. The sheeting, on both sides and bottom of slide, was repaired at different places throughout the length of the structure. At the curves spruce timber was used to protect sides from abrasion, while at the steep pitch, near the foot, a quantity of new flooring had to be laid—and to better protect the surface thereof flat bars of iron were imposed and well secured with split or self rivetting spikes.

EXTRAORDINARY REPAIRS.

North and South Chaudiere Stations.—Repairing slides, building storehouses, sheds etc., removing debris from slide channels and building temporary bridges and sidewalks for the accommodation of the traffic between Ottawa and Hull.

The "drives" of 1899 generally reached their destinations in due time, and during last spring and early summer months the waters of the Ottawa and tributaries were at a fair pitch for running timber and logs and were so maintained by timely rainfalls in the upper reaches, so that the operations of the raftsmen for the current season of 1900 promise to be successfull.

The fire-swept district included the works, bridges and storehouses belonging to the Government at Hull and the Chaudiere section of Ottawa. The bridges (with the exception of the Union Bridge) had their superstructures totally

destroyed, and the piers and abutments of some of them, more or less damaged; the general store-houses and their contents were lost and the bulkheads, side piers, booms and other appliances of the slides, shared, to a certain extent, in the wreck.

No time was lost in restoring temporary lines of communication between Ottawa and Hull, and in order to accomplish this, with as little inconvenience to the public as possible, gangs of men were employed, day and night, for a considerable time after the fire.

The following statement, prepared from information furnished by the Collector of Revenue in your Department, shows the number of pieces of the various descriptions of timber that passed these works and the revenue accrued thereon, during the fiscal year ended 30th June, 1900:—

	Pieces.
Square timber	9,809
Saw-logs	3,086,879
Boom and Dimension Timber	36,244
Round and Flat Timber	6,539
Cedars	38,471
Railroad Ties	401,278
Fence Posts	139,772
	3,718,992

Also 13,863 43/128 cords of pulp wood.
The revenue accrued on the above was $40,256.88.

In respectfully submitting the above,

I have the honour to be, sir,

Your obedient servant,

GEO. P. BROPHY.

Superintending Engineer Ottawa River Works.

REPORT ON THE ST. MAURICE RIVER WORKS.

(By F. X. Thos. Berlinguet, Superintending Engineer).

Public Works of Canada,
Resident Engineer's Office,
Three Rivers, December 15, 1900.

Eugène D. Lafleur, Esq.
Acting Chief Engineer,
Department of Public Works,
Ottawa.

Three Rivers, P.Q., December 15 1900.

Sir.—As requested in your letter No. 2383, I have the honour to submit the following report on the St. Maurice works for the fiscal year 1899-1900 ended June 30th last.

The St. Maurice, as is well known, is a river of great magnitude, it is one of the largest tributaries of the St. Lawrence, not only on account of its length, but also on account of the volume of its water. The three branches which form its outlet unite about a mile above the St. Lawrence, and from thence the river has an average width of a quarter of a mile, as far as Weymontachingue, that is to say, for more than 300 miles above its mouth.

Its course is generally through a very mountainous country, and is impeded by a great number of rapids and falls; the most important being the falls of Shawinigan, La Tuque and Grand'Mère; nevertheless there are considerable stretches which are navigable, and such is the rapidity of its current, and the roughness of its numerous falls and rapids, that no works, except those of the most solid, and permanent description, can be made to stand.

In fact, at certain seasons of the year, the river is considered unmanageable. The St. Maurice differs in this respect from the Ottawa and most other rivers where timber is made; here but few places are to be found where timber can be retained or boomed.

The St. Maurice works were commenced in December, 1851, at Three Rivers, Shawinigan and Grand'Mère, and additions thereto, to a limited extent, have been made nearly every year since.

The principal Government works extend up the River for a distance of about one hundred and thirty miles from the outlet.

Since 1892, the work has been divided into four sections, namely :—

GRANDES PILES.
GRAND'MERE.
SHAWINIGAN.
THREE RIVERS.

Grandes Piles.—Section, extends from the fall bearing the same name as far as Mékinac from the 36th mile, to the 49th mile, a distance of 13 miles.

Grand'Mère.—Section, extends from the 26th mile to the 36th., that is to say, from the Hêtres to the Grandes Piles'Fall a distance of 10 miles.

Shawinigan.—Section, extends from the 14th mile to the 26th., a distance of 12 miles, from the Gabelle Cascades to the Hêtres Falls.

Three Rivers.—Section, is 14 miles long and extends from the outlet of the River St. Maurice to the Gabelle Cascades.

When the water was at its lowest pitch and when the great bulk of the logs had passed, the foundations of the various structures were examined and repairs commenced. The work done under this head may be described as follows :—

REPAIRS AT STATIONS ON THE ST. MAURICE RIVER WORKS.

Grandes Piles Section :—The works were commenced in 1883, and additions thereto, to a limited extent, have been made nearly every year since. Some 6722 lineal feet of one to six ply booms are now in use.

Eigth piers (Nos. 7, 8, 11, 12, 13, 14, 15 and 16) supporting retaining booms were repaired. New timbers which had been carried away were replaced on tops of piers, stone filling added.

Two new piers were built at Pte. à Magdeleine to increase the capacity of the booms on the western side of the river.

Three new piers were built at Pte. à la Mine for a guide boom, also 440 lineal feet of five ply boom. The Boom master's house was shingled, and repaired. A number of boom chains were supplied. Stone ballast was put in the piers where necessary.

The total amount expended during the year is, as follows :—

Construction	$6,548.54
Staff and maintenance	5,721.00
	$12,269.54

Grand'Mère Section :—The works were commenced in 1852. Some 7569 lineal feet of one to five ply booms are now in use.

The dam built in 1878, at the head of the Grand'Mère Falls, to close the channel, where the old slide stood, so as to prevent the logs from accumulating in great quantities during the time of high water. Slight repairs were made to piers Nos. 1, 2, 3 and 4 at Pte. Trahan. Seven mooring piers 30' x 25' were built at the island above the "Petites Piles," to retain logs on the western side of the river, also 850 lineal feet of three and five ply booms were built, and a number of boom chains were supplied.

The total amount expended during the year is, as follows :—

Construction	$12,512.15
Staff and maintenance	4,471.10
	$16,983.25

Shawinigan section :—The works were commenced in 1851, and additions thereto, to a limited extent, have been made these last few years. Some 22,190 lineal feet of one to six ply booms are now in use.

1890-1900.

The bottom and sides of the slide were repaired by replacing the worn-out timber and planking with new material, the apron faced with hardwood, and the projecting spikes in the bottom and sides of the slide were countersunk. Renewing dam and bulk-head of the slide and pier at foot of slide. Piers Nos. 40, 69, 74, 73, 75, 76, 79, 81, 82, 85, 87, 88, 89, 90, were partially taken down and the damaged timbers removed and replaced by new. Plank fenders were spiked on the exposed sides of the piers : some new snubbing posts put up, and the stone filling brought up to level. Two mooring piers (Nos. 91 and 92) 25 'x30' were built at Pointe à Bernard to increase the storage of logs, also 760 lineal feet of five ply and 600 of three ply booms were built. Rebuilding the wharf down the slide. Chains, clevises, boom fastenings were overhauled and renewed. Repairs were done to the boom master's house, a number of boom chains were supplied.

The total amount expended during the year is as follows :—

Construction	$ 3,804 35
Staff and maintenance	9,727 22
	$ 13,531 57

Three Rivers Section :—The works were commenced in 1851, and additions thereto, to a limited extent, have been made these last few years, some 37,074 lineal feet of booms, two to eight ply are now in use.

1899-1900.

Two anchor piers 25 'x 30' were built above the highway bridge for the guide boom leading to the lower one at L'ile St. Quentin. The removal of a number o boulders from the channel at the sluicing gap, below the railway bridge, the object in view being, to provide the passage of timber and logs at low water season without jamming. Fourty-seven mooring piers (Nos. 11, 12, 16, 17, 19, 21, 23, 25, 26, 39, 40, 47, 49, 51, 53, 54, 56, 57, 62, 63, 64, 66, 71, 69, 72, 74, 75, 76, 93, 95, 96, 83, 85, 86, 92, 94, 97,98, 99, 100, 103, 104, 106, 107, 108, 110, were repaired, some had to be rebuilt from the water's edge, and others were partially taken down and had the damaged timbers removed and replaced by new ones, mooring posts were placed where necessary. Additional chains were provided to increase the capacity of the booms above the railway bridge, 5,724, lineal feet of 4, 6, 7, and 8 ply booms were built.

The total amount expended during the year is as follows : —

Construction	$ 7,073 24
Staff and maintenance	28,271 48
	$ 35,344 72

It will be readily seen from the following, the various points on the river where accommodation has been increased and to what extent.

		Capacity in		
		1892	1898	1900
		Logs.	Logs.	Logs.
Three Rivers Section :—				
Cap Corneilles	2 miles from outlet	100,000	200,000	200,000
Pointe à Lambert	4 " " "	.....	30,000	70,000
Shawinigan Section : —				
Iles aux Tourtes	17 " " "	.....	150,000	150,000
Bay Shawinigan	20 " " "	60,000	60,000	60,000
River Shawinigan	20 " " "	.....	10,000	10,000
Iles de la Chute, above slide	22 " " "	.....	80,000	80,000
Pointe à Bernard	23 " " "	.....	50,000	100,000
Iles des Hêtres	24 " " "	.....	150,000	200,000
Grand'Mere Section :—				
Little Piles	34 " " "	.....	30,000	100,000
Grandes Piles Section :—				
Grandes Piles	37 " " "	100,000	100,000	250,000
Pointe à Magdaleine	38 " " "	.....	100,000	200,000
		260,000	960,000	1,420,000

The following statement, furnished by the collector of slide and boom dues, shows the quantity of the various descriptions of timber that passed the Government works, during the season 1899.

Statement of the number of saw-logs, &c., that passed through the Government slide and works on the St. Maurice river during the fiscal year ended June 30th, 1900.

	Pieces.
Saw-logs	664 045
Logs for pulp wood	483 136
Square timber	3 191
	1,150 372

Recapitulation :—The total amount expended at the different sections of the St. Maurice River Works during the fiscal year ended June 30th, 1900, was of follows :

At Grandes Piles	$ 12,269 54
" Grand'Mere	16,983 25
" Shawinigan	13,531 57
" Three Rivers	35,344 72
Total	$ 78,129 08

I have the honour to be, sir,

Your obedient servant,

F. H. THOS. BERLINGUET,

Superintendant Engineer.

A complete review of these works was made in annual report of 1899, page 212, part 4.

REPORT ON THE TRENT AND NEWCASTLE DISTRICT WORKS.

(By R. B. Rogers, Superintending Engineer.

The works on this district are constructed for two purposes, namely those constructed for the benefit of navigation and constructed for the benefit of the lumbermen. The former, such as locks and canals, are under control of the Department of Railways and canals, the latter, such as slides and booms together with the improvements of the river navigation is under the charge of the Department of Public Works.

The works are situated along the river Trent and its upper waters between the Bay of Quinte on the south and Balsam lake on the north, a distance of about 170 miles.

There is a very large water-shed reaching as far north as the head waters of the Madawaska on the north and west comprising an area of over 2,000 square miles. The regulation of this large water-shed has become a very important matter to navigation, to the descent of timber and the many industries located along the route.

The water throughout the season was about normal, though the spring freshet was about the average height and passed off without doing more than the usual amount of damage to the works.

The works are now in fair condition. Most of the larger works that are required for the running of logs are built so that in future, unless other large works are erected for the lumbermen, the expenditure for maintenance and renewals will be smaller than for some years past.

The following works were executed at the different stations during the year:

OTONABEE RIVER.

The work of dredging the shoals at "Yankee Bonnet" was proceeded with. For this purpose the use of the dredge "Trent" was loaned from the Department of Railways and Canals. A fairly good channel was made, but there is considerable work yet required to be done to make it a safe channel of navigation.

LINDSAY RIVER.

A special grant was made to deepen the river at the town of Lindsay, between the old railroad bridge and the Wellington Street bridge. The greater part of the material was rock, but this was overlaid in many places with gravel which rendered the drilling very troublesome. The whole length of the channel dredged was 1,400 feet with a width of 80 feet; the depth of material dredged was between 2 and 5 feet. The channel had to be drilled and blasted for its entire length. About 6,000 cubic yards of material was removed. A considerable portion of the rock was carted away at the expense of the town for use on the streets.

KEENE

A new wharf 90 feet in length was constructed at the south side of the highway bridge in the village of Keene. The channel to the east of the wharf was also dredged. These improvements have been of great benefit to navigation and the travelling public.

MOUNT JULIAN.

A special grant was made for the improvement of the approaches to the wharf at this place. The work was done and has given much easier access to the landing.

FENELON FALLS.

The construction of the timber slide was proceeded with and completed. This work had to be stopped owing to the high water in the spring, in consequence of which it was not completed at the end of the last fiscal year. Good work has been done ; though the current from the slide would have impeded navigation less had the land owners, on the south side, not insisted on the slide being built in the old location. Piers and booms were also built below the slide : in order to preserve a channel throught the sawlogs when running.

BUCKHORN.

The south piers of the slide had become weakened by the under-mining action of the water and the decay of the timber of which it was composed, that it became necessary to strenghen it ; this was done by constructing a new pier on the down-stream side of the old pier. The floor of the slide was also renewed with six inch elm. New stoplogs were placed where required.

KATCHAWANNOE LAKE.

The boom extending from Young's Point to Lakefield, a distance of about 5 miles, was overhauled and repaired. New archors were put in where required.

Minor repairs were executed when required at the different stations along the line.

SURVEYS.

A survey was made and the soundings taken and the plans prepared for the work of removing rock and boulders at Black River and McDonald's Rapids on the Severn River.

I have the honour to be, sir,

Your obedient servant,

RICH'D. B. ROGERS,

Superintending Engineer.

BRIDGES.

It may be stated that in the older provinces of the Dominion, the Federal Government has confined itself, as a rule, to take under its exclutive control and make provision towards the construction and maintenance of important interprovincial road bridges and bridges repuired across waterways.

In the sparsely settled districts of the North-west Territories, the Government of Canada has undertaken to provide for the erection and maintenance of ordinary road bridges over large streams; bridges that are urgently needed to afford uninterrupted communication through trails and highways of national importance, which neither the municipalities, to be more immediately benefited by the structures, nor the territorial authorities most directly concerned could be expected to erect and maintain at their sole expense.

During the last fiscal year works have been executed on the following bridges:

OTTAWA.

Bridges over slide and hydraulic channels.—The sidewalks on both sides were covered with 2 inch pine plank and the roadway scraped and patched when found necessary. During the winter months ice, snow, etc., were removed from sidewalk and roadway. After the fire temporary sidewalks were built to accommodate foot passengers.

Union Bridge.—A broken diagonal tie rod underneath the roadway was taken out and repaired; other rods and braces were adjusted; the sidewalk on east side was covered with 2-inch plank and the roadway kept clean. Ice and snow were removed from sidewalks and roadway. A portion of the flooring, 13 feet in width was renewed on east side the whole length of bridge; oak, 3 inches in thickness, was used for the bottom course and 3-inch pine for top covering. The sidewalks were also patched where damaged by fire on both sides of bridge.

Hull Bridge.—The westerly portion, 8 feet in width, 90 feet long was covered with 3-inch red pine plank. The roadway and sidewalk were kept clear of ice and snow.

Roadway between Ottawa and Hull.—The masonry of the causeway and bottom of arch at north end of Union Bridge were pointed with cement mortar. A small pier of stone was built at the nort-west corner of abutment of Union Bridge to prevent stonework from crumbling away by action of surging water. The pavement was cleaned from time to time and the debris carted off. The sidewalks along causeway were temporarily repaired where damaged by fire; railings, guards, fences, etc., were erected to protect foot passengers and vehicles.

Sappers Bridge.—The space on the north side of the Sappers Bridge—the site of the old sidewalk—was laid with scoria block paving. The old road-bed was removed; a concrete foundation made, the blocks laid and then grouted. The space covered was 270 feet long, 8 feet wide, and its completion gave the whole roadway surface of the bridge, a permanent pavement.

Extraordinary repairs, in consequence of fire of 26th April last, Chaudière bridges over slides and hydraulic channels.—Removing damaged ironwork of bridge superstructure and carting it away. Clearing slide and hydraulic channels.

NORTH WEST TERRITORIES.

BATTLE RIVER BRIDGE, N.W.T.

The Battle River Bridge across the Battle river at Battleford was constructed in 1890 and collapsed in 1900.

It consisted of three spans. Two spans of 70 feet each and one span of 150 feet, with trestle approach at the north end.

The timber was of spruce and was rafted down the Saskatchewan river two years before the construction of the bridge began, that would be 1888.

In putting in masonry piers and iron superstructure there were not any quarries at or near Battleford and that the nearest place for suitable stone is Winnipeg, so that masonry would be out of the question.

There is an abundance of material for concrete, but the cost of the cement would be excessive.

Before examination of the piers and abutment, now in place, they are in very good condition, some repairs are necessary owing to damage by ice last spring, but ihey are sound and good for a number of years. It would be a pity to sacriffce these piers, as iron superstructnre could be put on and concrete piers substitnted at some future day.

The foundation upon which the piers are built is of capped piles. There is not the slightest sign of settlement.

In connection with highway bridges in this ranching country careful consideration must be exereised. The test being a band of wild cattle or horses stampeding across a bridge or becoming tangled up in the centre of a bridge and undecided which way to go. It is not customary to put horses or cattle over a bridge when the streams are fordable, but the streams are not always fordable and the bridges should be built to fully meet the conditions previously mentioned.

The Battleford bridge could be re-cconstructed upon the original plan. The timber to be brought here (Edmonton) from B. C. and framed during the fall, winter or spring, then rafted to Battleford in June next during high water or foilow the ice in April.

The timbers of the old bridge would answer for false work and all the iron would be on the spot. The cost of reconstruction would be thirty thousand dollars.

The unprecedented flood of last year altered the main channel of the river in many places ; shifted sand bars ; made many new bars and zigzaged the channel on many long stretches from one side of the river to the other, making it very difficult to foilow The sand bars are a much worse feature to contend with than the rapids at a fair stage of water.

There are twenty-four rapids between Edmonton and Battleford (the distance is 400 miles at least). The "crooked" rapids is difficult for rafting except at a high stage of water.

No rafting is attempted later than September 15th.

BELLY RIVER BRIDGE, (LETHBRIDGE.)

Lethbridge is situated at the Alberta Ry & Coal Co's mines commonly known as the Galt coal mines 109 miles from the main line of the Canadian Pacific Rail-

way and 50 miles from the International boundary line. It is on the Crows Nest Pass Railway and a line runs out of Lethbridge to Great Falls.

The bridge across the Belly river is about two miles from the town and consists of four spans of 150 feet each, in the clear, besides trestle approach at north end.

In June last an inspection was made with the intention of tightening up the bridge &c., but found that the Inspector of works for the North West Government in that district had instructions to proceed with work and in addition to tightening the bridge up to proper cambre some work had been done to the piers where they had been damaged by the ice. This work was not at all satisfactory and should not have been proceeded with at that season of the year ; the water being on the rise and no other craft to work from than a small raft, which owing to the rapid current, was always half under water. This did not conduce to economical work nor good workmanship.

During high water the debris would not in any way injure the pier and any repairs after the ice damage should be done during the winter, weather would be no hindrance as the winters there are not at all severe.

The repairs to the piers were not completed.

There is some boiler plate to be put on, not only to replace what the ice carried away, but a strip is needed from the point of the nose of piers back to the angle with the body of the piers.

The north approach is improved by throwing the railing of the approach, where it closed upon the road at a greater angle and filled in with earth. This improvement gives ample room for the string teams to make the turn with ease ; formerly they were obliged to run the leaders up the hill-side.

The appropriation authorized for tightening up the bridge and improving the north approach was $200.00. $500.00 was expected to be granted. In that event there should be a balance of $327.04 for the boiler plate necessary and completion of the wood work ; that is if the whole appropriation amounts to $700.00 but if the whole sum available $500.00 then there is a balance of $127.04. This sum will not be sufficient as $300.00 will be necessary to put the bridge in proper repair as regards substructure.

The superstructure is in excellent condition in every respect, excepting four planks in the flooring. These can be replaced when the other work is being carried out.

BELLY RIVER BRIDGE, (STANDOFF.)

Standoff is fifteen miles from Macleod due south. It consists of a small store and stopping place combined and some ranch buildings. The bridge crosses the river about half a mile from the stopping place (south).

The bridge was erected by the North West Government and consists in trestle approach on north side and 90 foot steel truss.

In connection with mountain streams it is most essential to guard against the ice flow in the first place ; the debris during flood period and further an occasional rise in August. The unprecedented flood of last year was in August.

The Belly river at Standoff is a small stream as compared with the same stream at Lethbridge, it being augmented by the Old Man's nose between Macleod and Lethbridge, where (Lethbridge) the Dominion Government placed a bridge and which has to undergo repairs through damage by ice when the piers are protected by heavy sheathing and boiler plate. It simply follows that 2" plank is not any protection on piers placed in a mountain stream. The damage from debris can only be obviated by not allowing it to accumulate.

The steel superstructure (90 feet) is very high for a highway bridge in a ranching county. It may be subjected at any time to the excessive strain of a

band of wild cattle or horses stampeding over it, or which is worse if possible, a band of cattle on the bridge and undecided as to which way they intend to go. However, it is not customary to put cattle nor horses over a bridge when the stream is fordable, but the streams are not always fordable and then the bridge is supposed to be equal to the emergency.

The steel superstructure has not been put together with sufficient care or proper workmanship as many of the rivets are so loose as to be useless.

The bridge is not located on the road allowance on the north side, as a crossing on this line could not justifiably be made, so the road to the bridge runs through private property and is not fenced in.

This matter of the road approach should be arranged with the owner to avoid damages.

EDMONTON BRIDGE.

Edmonton is on the north side of the North Saskatchewan River, in the District of Alberta, N.W.T., situated on the high table land above the deep valley of the Saskatchewan, about 192 miles north of Calgary.

On either side of the river the higher plateau is at an elevation of about 190 feet above the river level, and the slope toward the lower plateau or narrow valley is very sharp.

On the south side of the river, opposite the town of Edmontan, is 'South Edmonton,' the terminus of the Calgary and Edmonton Railway (operated by the Canadian Pacific Railway Company), from which all freight for Edmonton and the northern districts has to be taken across the river on scows or ferries and during the seasons of running ice and high water at a great disadvantage and sometimes not without danger to life and property.

In 1892 a survey was made by the Dominion Government to select a site for a traffic bridge across the Saskatchewan at Edmonton. The location of the bridge was fixed nearly opposit the centre of the town where roads leading to the foot of the hills existed or could easily be built. It was intended to build only a highway traffic bridge, and the location was made with this end in view; subsequently, the town of Edmonton, offered a contribution of $25,000 towards its construction on condition that the Government would build a combined railway and trffic bridge. This was accepted and plans ordered.

Tenders were called for the substructure or masonry work in July, 1897, and the contract awarded to Francois Lemoine, of Montreal, August 17, 1897, for the bulk sum of $36,500, not including piles in foundation, which were to be paid, as per schedule price, $1 per lineal foot in the work.

The work under contract comprised the building of three piers and two abutments, piling in foundations, rip-rapping, and road approaches on both sides.

Work commenced early in September, 1897, but was stopped November 9, for the winter. It was resumed March 27, 1898, and completed June 20.

The piers and abutments, which are made entirely of concrete, are 173 feet 8 inches distant, centre to centre. They are of rectangular section, and at the top carry a cap of cut stone for the bridge girder plates. At the base up stream and down stream ends are rounded and the ice cutter brought up with a slope of 1 to 1.

The smallest section at the top is 7 x 24 feet, and the largest section at the base 9.3 feet by 35.3 feet. The caissons have a width of 14.5 feet, and an extreme length of 52.5 feet, the foundation area being 656 square feet. The average total height of the piers above foundation bed is 38 feet, and above low water level 30 feet.

The piers are founded below the alluvial gravel deposit made by the river on indurated clay, permanent in character, and is the same material which forms the

foundation of the bluffs adjoining the river. This material is called by the miners, hard-pan or country rock. It varies very much in hardness, some spots being found relatively soft, others as hard as shale; excepting the hardest variety, it crumbles to pieces when exposed to the air.

North Pier. - Five feet in depth of drift gravel was removed at the north pier, or a total of about 250 cubic yards. At that depth 7 feet below extreme low water level a hard stratum of clay shale was reached. After testing, it proved to be only a thin crust, about 8 inches in thickness, underlaid by ordinary clay.

Piles were ordered for the foundations. The caisson was first sunk into place and piles driven inside to a very hard stratum. They were then cut off 5 feet below low water level and the caisson filled in solid, with Portland cement concrete, from the hard-pan bottom.

Centre pier.—About 250 cubic feet of drift gravel was removed from the foundation pit, to a depth of 7½ feet of water, the depth of gravel averaging 5 feet.

This gravel was underlaid by a hard stratum of indurated clay, or clay shale. Borings at different places inside the foundation area did not show any soft stratum or soft pocket and this material after testing was proved to be perfectly safe for the foundation of the pier.

South pier.—The depth of the drift gravel averaged only 6 inches and the quantity of material removed about 25 cubic yards.

The stratification there was about the same as at the north pier, though generally harder. Piles were ordered and driven in the same way as described for the north pier; 67 piles were driven in each of these piers.

Caissons.—Caissons for the three piers were made of 12 in. x 12 in. British Columbia fir timber. All joints were caulked and when sunk into place, clay was deposited outside and rammed round the base of the caissons. Concrete filling was then started, and the concrete deposited under water to a depth of about 3 feet with a specially constructed box.

After allowing three days for the setting of this layer, the caissons were pumped out and the concrete continued up to low water level, in the dry, well rammed and packed under the cross ties, and over the top of piles.

The body of the pier proper was started at low water level and carried up in a timber casing. Tongued and grooved boards were used to mould the straight faces, and thin sheet iron supported by scantlings for the end curves.

Abutments.—About 450 cubic yards of earth excavation removed from the foundation pits, and 45 piles for each abutment driven to firm stratum.

These were cut off 6 inches above formation level and a strong grillage laid on top. The concrete was well rammed around the head of the piles and between the pieces composing the grillage. No timber was left exposed.

Concrete. Proportions and ingredients for the concrete were measured by volume, a barrel of cement being taken as unity.

The proportions were as follows:

1 Portland cement; 1¾ to 2 of sand; 5 of broken stone (size 2½ in.)

A special finer concrete used for the facings was as follows:

1 Portland cement; 1½ sand; 4 broken stone (size 1½ in.)

The facing and backing were carried at the same time in the same layers.

Before placing the concrete for facing, cement mortar of 1 cement to 1 sand was spread over the previously deposited layer, close to the boards forming the casing. The concrete was then deposited, worked with the shovel and rammed,

forcing the cement mortar along the face of the mould and filling in all voids. In this way the facing was very successful, showing after the removal of the timber casing, a smooth dense surface without pits or irregularities.

Before beginning a new layer the concrete already set was well scraped, swept and thorough wetted.

During hot weather the fresh concrete was always protected from the direct rays of the sun by wet canvas sheets and sprinkled from time to time.

Cement and Cement Testing.—The work was entirely done with Portland cement. One thousand barrels of the 'Josson' brand or Belgian cement, and 1,200 barrels of the 'Samson' brand, or Owen Sound cement, were used in the work. Out of this number 12 barrels were rejected.

The tensile strength for most of the briqnettes made, after nine day's immersion in water, was over 500 pounds to the square inch, the briquettes having been previously allowed to set for 18 hours before immersion.

Quite a number of tests gave a strength of over 650 pounds to the square inch at that age.

These tests were highly satisfactory when it is considered that they were made without all the care taken in laboratories, and without any extra ramming for compactness, and when frost at night was quite frequent.

Tests of briquettes, 1 cement to 2 sand, were also satisfactory, both as to their tensile and crushing strength.

Rip-rapping.—About 300 cubic yards of rip-rap stone was deposited around the caissons.

The work in progress on 9th October, 1899 was raising the abutments and pier in concrete 8 feet. The unprecedented flood of August 1899, which covered the piers to a depth of 6 feet made it imperative that the work of raising the piers be executed.

One abutment (south) was completed and the other well underway. During the work upon two of the piers the weather was unpropitious and there were a few degrees of frost, but with large mattresses to cover the work, etc., at night, no injury occurred.

During the prosecution of this work the false work was being put up for the first two spans.

After the concrete work was finished and the false work, laying the bed plates was in order; after which the Bridge Co's engineer begun measuring out the iron.

The work went smoothly all through the winter, but one week all told, when fall work did not go on.

The bridge was opened for traffic April 4th last, but was not accepted until April, 7th.

The painting of the bridge was completed June 25th last.

The structure is first class in every respect.

Two trestle bents were put in at the north end of the bridge in connection with the approach, and the approach finished with earth; top dressed with broken stone purchased from the Bridge Company, and a layer of coal slack put on. The approach is very satisfactory.

The south approach, without the coal slack, is treated the same way.

GRAND RIVER BRIDGE.

This bridge is situated at York, Haldimand County, and was erected by the Government in 1890-91. The superstructure is composed of four spans of iron; the two ends one being 106 feet 4 inches in length and the two inner ones, 106 feet 2 inches each, total length of iron superstructure 425 feet resting upon three

stone piers and two abutments built of second class masonry. There are two approaches, the one on the east side 50 feet long.

The superstructure cost $8,800.00, and the masonry $8,153.58. The approaches cost $6,465.00.

In 1893-4-5 and 6, repairs were made to the embankments of the approaches, costing $390.00.

During the past fiscal year the whole of the iron work was repainted, the flooring renewed and the rip-rap walls around the abutments repaired at an expenditure of $773.00.

Total expenditure upon this structure to date $24,191.28

CEMENT.

CEMENT LABORATORY, Dept. of Public Works, November 13th 1900.

E. D. LAFLEUR ESQ., C. E.
Acting Chief Engineer,
Dept. of Public Works.

Sir:—I have the honour to enclose herewith, the annual report of this branch of the Department, for the year ended the 30th of June 1900.

I am, Sir,

Your obedient servant,

GEO. E. PERLEY
Engineer in Charge.

Since June 30th 1899 all samples submitted to this branch have been tested as fully as possible and reported upon to you.

The Portland cements have shown a marked improvement in all respects, they are finer ground and show a higher tensile and crushing strain, their setting is more uniform.

The above is no doubt attributable to the thorough test all cements are subjected to by the Government testing Laboratory; the importers have awakened to the fact that the largest use of the commodity has laid down very stringent rules to be followed in the testing of cements and have apprized the manufacturers to that effect, thus insuring an article superior to that imported a few years ago.

In speaking of Portland cement it is not implied that all cements labelled "Portland," are the real article; there are cements made in Belgium and so labelled, but they are only natural cements having nearly the same chemical constituents as a straight Portland, these cements are cheaper and when used in work show good results up to six months and then deteriorate, causing no end of trouble and expense, whereas a straight Portland or a silica Portland will cost more in first outlay but will be found less expensive ultimately, there being little or no deterioration.

During the year the cement supplied for the construction of Maria Street Bridge, Ottawa, in the first instance was condemned as it did not comply with the requirements of the specification which called for 350 pounds per square inch tensile stream at 7 days, out of 7 samples the variation was from 287 pounds to 343 pounds. This was "Citadel," brand, a silica Portland, fifty per cent of sand being ground with fifty per cent of a good Portland cement. A change was made for a straight Portland cement, "Star" brand of Napanee Mills, which gave the following tests, out of 9 samples the variation was from 430 pounds to 614 pounds.

"Star" brand was authorized to be used at Portage du Fort bridge, when the samples were sent to the laboratory they had not the appearance of Napanee "Star," an investigation by the engineer in charge of the laboratory was made which proved the cement to be "White Star," a Belgian natural, and from fifty cents to a dollar cheaper per barrel than the brand specified, tests were made of the samples submitted of "White Star" showing a tensile strain at 7 days of 277 pounds, the standard as set by the department being 380 pounds at 7 days.

This cement was condemned and "Hercules" brand, a German cement was substituted, tests of which gave results ranging from 430 to 472 at 7 days. "Star" brand Napanee was then used, the tests of which for 7 days, ranged from 577 to 674 pounds.

"Citadel" brand was authorized for use at the extension of the dry dock at St. Joseph de Levis, the first samples were unsatisfactory and the consignment was refused, a further delivery was received and up to date filled all requirements.

This branch has been called upon by the Departments of Railways and Canals Marine and Fisheries, Militia and Defence also the Inland Revenue.

In the case of the Department of Railways and Canals, the Minister, Mr. Blair asked Mr. Tarte's permission in 1898 to have the Engineer in charge of the cement laboratory go over the Soulanges Canal and select samples of Thorold cement and make tests thereof, this request was granted, the samples were selected and tested in the laboratory, a thorough report was submitted to Mr. Blair of these tests.

From time to time information in regard to the different brands of cement has been supplied to Mr. Schreiber and Mr. Potinger also to Mr. Phillips for the Rideau Canal; Mr. Rogers of the Trent Canal, for the latter a number of check tests have been made principally of "Star" brand Portland.

The work done for the Inland Revenue was on a sample of "Sky" that was used in the room occupied by the condenser in the basement of the west block.

It will be seen by the foregoing the necestity of keeping this branch up to date by placing an amount in the estimates to fully equip the branch with the necessary requirements also to ensure a better grade of cement by having samples submitted, by the importers on the opening of navigation, and a series of samples sent or collected from the various manufacturers of Canada by a competent man.

The Departments would have the benefit of these tests from all sources and it might be so arrangsd that engineers and contractors would be able to familliarize themselves with the best brands of cement on the market.

It is necessary that tests be made every year, as the cement shipped to this country, say in the spring of 1901, will be the grind of the season of 1900, as there is a great difference in each seasons grind.

In the Canadian manufacture a constant series of tests would be necessary as the cement is available the year round.

An effort is made in this report to review all the income producing works such as wharfs, piers &c., which are immediately or indirectly under the control of this Department.

Beach protection works, opening of channels &c., are not included, excepting in the few cases in which the work was done during the fiscal year.

This review gives the total expenditure to 30 June and date of transfer of works to the control of other Departments.

In conclusion I take great pleasure in complimenting the officers under my control for the great zeal shown in managing the different works under their charge.

E. D. LAFLEUR

Acting Chief Engineer, Public Works of Canada.

PART V

Report on Government Telegraph Lines

FOR THE

FISCAL YEAR ENDED JUNE 30, 1900.

GOVERNMENT TELEGRAPH SERVICE.

OFFICE OF THE GENERAL SUPERINTENDENT,

OTTAWA, 14th December, 1900.

SIR,—I beg leave to submit herewith my report on the Government Telegraph Service for the twelve months ended 30th June 1900.

This report, similarly to that of the previous year, is prefaced by a list, to date, of the land lines and cables in operation; with data of lengths, year of construction, number of offices at present established and an estimate of the traffic obtaining.

The usual tabular statements giving lists of the offices, operating staff, &c., in the several districts are appended to the report, likewise the tariff sheets giving the rates charged for messages on the several lines.

A supplementary report conveying a resume of what has been presented in the annual reports connected with this branch of the department since 1882 when a historical sketch was submitted, is now in course of preparation.

I have the honour to be, Sir,

Your obedient, servant,

D. H. KEELEY,

General Superintendent.

J. R. ROY, Esq.,

Acting Secretary, Department Public Works.

GOVERNMENT TELEGRAPH SERVICE.

Location of Lines.	Points connected.	Year.	Length of Lines. Land Lines	Cables	*Total	Number of Offices.	Yearly Average of Messages Sent.
			Miles	K'ts.			
Newfoundland	Port au Basque—Cape Ray	1883	14	....	14	2	.....
Nova Scotia	North Sydney—Meat Cove (with loops)	1880-98	$147\frac{1}{4}$	....			
"	Across Bras d'Or Channel	1880	.....	$\frac{3}{4}$	$148\frac{1}{4}$	13	3,000
"	" St. Ann's Harbour	1887	.....	$\frac{1}{4}$			
"	" Ingonish Harbour	1887	.....	$\frac{1}{2}$			
"	Meat Cove—St. Paul's Island	1890	.....	20	23	2	50
"	On St. Paul's Island	1890	3	....			
"	Mabou—Cheticamp	1887	63	....	109	8	2,500
"	Cheticamp—Meat Cove	1900	46	....			
"	Barrington—Cape Sable	1883	16	....			
"	Across Bear Point Channel	1883	.....	$1\frac{1}{2}$	$17\frac{3}{4}$	Leased	.....
"	" Lt. House Channel	1883	.....	$\frac{1}{4}$			
New Brunswick	Chatham—Escuminac	1885	42	....	42	5	600
"	*Bay of Fundy System :*						
"	Eastport—Campobello	1880	.....	$1\frac{3}{4}$			
"	On mainland Eastport	1880	$\frac{1}{2}$	....			
"	On Campobello Island	1880	$7\frac{1}{2}$	....			
"	Campobello—Grand Manan	1880	.....	$7\frac{3}{4}$			
"	On Grand Manan Island	1880	$25\frac{1}{4}$	....	$44\frac{1}{4}$	8	2,500
"	Grand Manan—Cheney's Island	1890	.....	$\frac{1}{2}$			
"	On Cheney's Island	1890	$\frac{3}{4}$	....			
"	Cheney's Island—Whitehead Island	1890	.....	$\frac{3}{4}$			
"	Partridge Island — Fort Dufferin	1900	.....	3	3	.....	.....
Quebec	Bay St. Paul—Chicoutimi	1881	92	....	92	6	
"	Branch St. Alexis to L'Anse St. Jean	1898	40	....	40	1	
"	Murray Bay—Baie des Moutons	81-1900	$733\frac{1}{2}$	....			12,000
"	Across Saguenay River	1883	.....	$1\frac{1}{4}$	$772\frac{3}{4}$	42	
"	Bersimis to Manicouagan	1883	.....	12			
"	Manicouagan to Godbout	1883	.....	26			
"	*Quarantine System :*						
"	Quebec—L'Ange Gardien	1885	13	....			
"	L'Ange Gardien—Orleans Island	1885	.....	$\frac{3}{4}$			
"	On Orleans Island	1885	$29\frac{1}{4}$	....	$52\frac{3}{4}$	7	2,300
"	Orleans Island—Isle Réaux	1889	.....	2			
"	On Isle Réaux	1889	$2\frac{1}{2}$	....			
"	Isle Réaux—Grosse Isle	1889	.....	2			
"	On Grosse Isle (all told)	1885-94	$3\frac{1}{4}$	....			
"	*Anticosti System :*						
"	Gaspé—L'Anse à Fougère	1881	28	....			
"	L'Anse à Fougère—Anticosti	1881	.....	$44\frac{1}{2}$			
"	On Anticosti Island	1881-90	$223\frac{1}{4}$	....	$316\frac{1}{2}$	10	1,500
"	Anticosti—Long Point, Mingan	1890	.....	21			
	Carried forward	.....	1,530	143	1,673	104	24,450

* For convenience in totalling, the knots of cable are regarded as statute miles.

GOVERNMENT TELEGRAPH LINES—*Concluded.*

Location of Lines.	Points connected.	Year.	Length of Lines.			Number of Offices.	Yearly Average of Messages Sent.
			Land Lines	Cables.	*Total		
			Miles	Knts.			
	Brought forward	.....	1,530	143	1,673	104	24,450
Quebec	Meat Cove (C.B.) — Magdalen Islands	1880	.....	55	138½	9	2,000
"	On Magdalen Islands	1881	83	¾			
Ontario	*Pelee Island System :*						
"	Leamington—Point Pelee	1889	12	....	35	10	800
"	Point Pelee—Pelee Island	1889	.....	9½			
"	On Pelee Island	1889–98	13½	....			
		1900					
North-west	Qu'Appelle—Edmonton and St. Albert	1883–87	607½	....	607½	15	4,700
"	Moosejaw—Wood Mountain ...	1885	90½	....	90½	2	300
British Columbia	Ashcroft—Barkerville	1878–87	276½	....	276½	8	4,500
"	Victoria—Cape Beale	1891	118	....	175	7	150
"	Alberni—Cape Beale	1899	57	....			
"	Nanaimo—Comox and Alberni.	1893–95	110½	....	110½	8	7,000
"	Kamloops—Lower Nicola	1899	67	....	67	6	2,000
"	Ashcroft—Lillooet	1896	62	....	62	1	500
Yukon	Bennett—Dawson	1899	564	....	639	15	30,000
"	Tagish—Atlin	1899	75	....			
	Totals	.....	3666½	208	3874½	185	76,400

* For convenience in totalling, the knots of cable are regarded as statute miles.

REPORT ON THE GOVERNMENT TELEGRAPH SERVICE FOR 1899-1900.

The *tubular statement* prefacing this report shows the total mileage, &c., of telegraph lines constructed and operated by the Government; such others as have been subsidized, or constructed and transferred by the Government for operation by private companies, since the inception of the service, will be dealt with in a separate report.

The matter in the following pages has reference only to the lines that are operated by or for the Government, and in any case where a line mentioned in the list is in no wise particularly dealt with, the understanding intended to be conveyed is that it has been satisfactorily operated throughout the year without any change of conditions since last made mention of in the annual reports.

As usual, with few exceptions these land lines and cables were kept in good order throughout the year; such renewals and general repairs as were made are hereafter noted in detail.

The expenditure and revenue for each of the several lines will be found in a tabular statement following these notes of what was done in the course of the year.

NEWFOUNDLAND.

The line from *Port-au-Basque to Cape Ray* continues to be operated as heretofore under an arrangement with the Anglo-American Telegraph Co.

MARITIME PROVINCES.

Mabou-Cheticamp Line.—The office at *Grand Etang* closed in January 1899 on resignation of the agent, was reopened in January 1900 with A. Doucet as agent-operator.

Cheticamp-Meat Cove.—Pursuant to what was noted last year, the construction of a line between these points was begun in December 1899 and carried on by day labour under the foremanship of the Western Union Telegraph Co's lineman, Mr. J. F. McMillan, who had charge of the recent repoling of the Mabou-Margaree station. The poles used in the building of this line were of native spruce 23 feet long and 5 inches diameter at the top, supplied and distributed at distances of 55 yards apart (= 32 per mile) by residents along the route. The line material consisted of No. 8 galvanized iron wire, No. 9 tie wire. The porcelain insultators, oak screw brackets and 5 and 6 inch wire nail.

An office was opened on the 14th April 1900, with Mrs. D. Smith as agent-operator at *Pleasant Bay*, 27 miles from Cheticamp and the further construction was carried out in the course of the season.

(*This line was completed to Meat Cove on the 1st September 1900. Total length 46 miles, including a loop off the main line to Bay St. Lawrence Lighthouse a distance of two miles.*)

North Sydney-Meat Cove Line.—In consequence of some unsettling of the recently renewed pole line and the growth of branches here and there interfering with the proper working of the wire in this section, arrangements were made to have the whole given a general overhauling by a repair gang under the foremanship of the Western Union lineman, following on the completion of the work of construction between Cheticamp and Meat Cove. (*Note this general repair work was duly taken in hand in August and was completed in October 1900.*)

The office at *South Gut St. Ann's* was closed at the end of December 1899, on the resignation of the agent Miss E. Morrison.

In May 1900 a permit was granted to the *Inverness and Victoria Telephone Company* to string a wire on the Government Telegraph pole line, from Baddeck via Englishtown and New Campbellton to North Sydney; the condition being stipulated that the telephone rates must be at all times satisfactory to the Minister of Public Works. In the course of the summer the company strung a wire accordingly. For a distance of about 2 miles from Baddeck it is carried on cross arms, thence to North Sydney on brackets.

At *Baddeck* a number of new poles (in all 14) of larger dimensions than those used along the line were put in, and the wires within the town limits restrung, a portion of the material from the discontinued Port Bevis loop line being utilized for this purpose.

Barrington-Cape Sable Line.—(Leased to local Telephone Co.) The cable across Bear Point Channel 1 1/2 miles became interrupted on the 25th October 1899. The SS. "Newfield" happening to be in the vicinity was directed to make the repair there as well as in the Cape Sable section mentioned in last year's report, and communication was restored on the 6th November.

Bay of Fundy Lines.—The cable between Cheneys Island and Whitehead Island, 3/4 mile, became inoperative on the 30th August 1899. It was put in order again by the SS. "Newfield" on the 30th October. The entire line however of which it forms a part was found to be working unsatisfactorily, the instruments (telephones) having become greatly deteriorated. A new outfit for the three offices (Grand Harbour, Cheneys Island and Whitehead) was procured from the New Brunswick Telephone Co. of St. John New Brunswick and the whole made satisfactory in December.

Digby Cables.—The cable between Long Island and Digby Neck, 1/2 mile; one of the two laid by the Government in 1889 as a bonus to the Westport and Digby Telephone Co.; was broken in June 1899 and when the SS. "Newfield" chanced to be in the vicinity on other cable work, the repair of this short section was attended to and communication restored on the 26th October. The same cable was reported to have been broken again in the following month but was soon after repaired by the Company.

At *Seal Cove*, the office was resigned by Mr. P. Russell and was put in charge of Capt. J. Ingersoll on 22nd September 1899.

Chatham-Escuminac Line.—This line was, in October 1899, given such general repairs as were found to be needed.

A permit was granted the *Miramichi Telephone Co.*, in May 1900, to hang a wire on the telegraph pole line between Chatham and Black Brook.

Partridge Island Quarantine Station N. B.—A requirement having arisen for the establishing of telephonic connection with Partridge Island, an arrangement was made with the New Brunswick Telephone Co. for the requisite land line and instruments to connect with their exchange at St. John N. B. for an annual rental, to be met by the Department of Agriculture. To complete the connection a length of 4,500 feet of cable (deep sea g. p. gulf type) was shipped from Halifax and laid, in December, under the superintendence of Mr. D. C. Dawson, superintendent of telegraphs at St. John. The line was completed and put in operation in March 1900.

Cascapedia Line.—In July 1899 this telephone line, which was erected by the G. N. W. Telegraph Co. in 1886 for the use of the Governor General between New Richmond and the Lodge, was overhauled and put in order.

RIVER AND GULF ST. LAWRENCE.

Anticosti Island Lines.—The cable between S. W. Point and the mainland at Gaspé which was overhauled at the Anticosti landing and put in order in October 1898, again developed some intermittent trouble in September 1899. It was visited by the steamer "Newfield" on the 17th October, but was then steadier and the brief recurrences of the interruption afforded no chance for satisfactory readings indicating the whereabouts of the existing defect. An atttempt to clear it out was considered hopeless under the weather conditions obtaining so late in the season, and action was deferred. Thereafter however the trouble (disrupted circuit) became less frequent and it has since been thought advisable to leave the cable undisturbed until an actual total interruption requires its being taken in hand.

The services of *Electrician*, in the instance just recorded and subsequently in the same month in connection with the cables in the Bay of Fundy already mentioned, were performed by Mr. F. A. Hamilton electrical engineer of Halifax, N. S., who was temporarily engaged to accompany the ship.

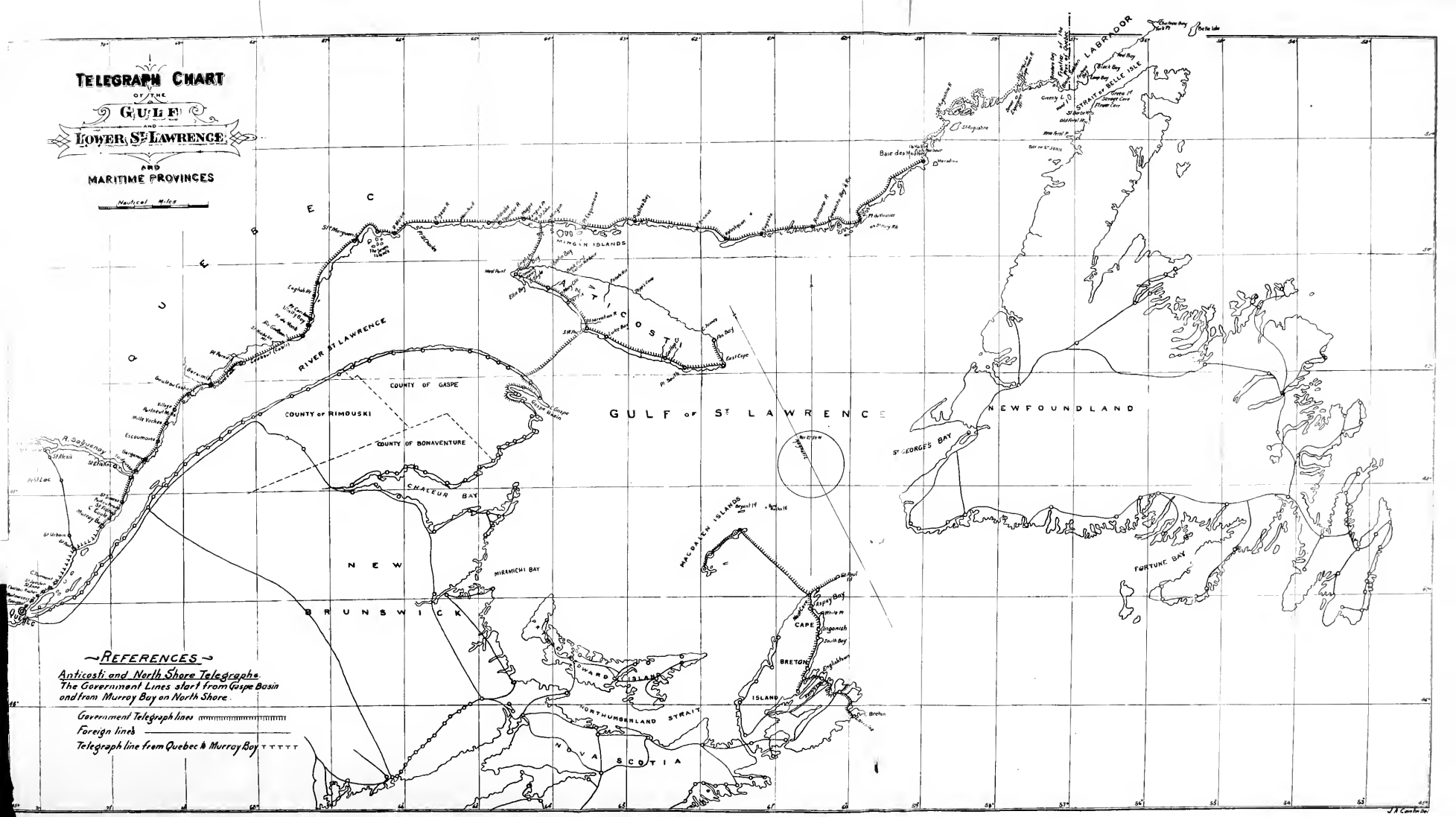
The cable between Long Point of Mingan and Mechastic Bay, Anticosti; ceased working on the 6th December 1899. Examinations as far as practicable were made at the landings without any damage being found, and further action was postponed for the winter. [The steamer "Newfield" visited the locality in July of the present year (1900), after having restored the Manicouagan-Godbout connection, and made the required repair. The cable was parted in deep water about 6 miles off Long Point and it repeatedly broke when being picked up by the ship. The sheathing wire, No. 8 galvanized iron was badly corroded in spots. The repair was completed and communication restored on the 3rd August. A leak was then found to exist near the Long Point end, but in consequence of there being an insufficient length of cable available on the ship to warrant cutting in again, the circuit was left in that condition. It has since been improved by a special connection with the sheathing for return and working satisfactorily so that it need not be disturbed again till another rupture calls for its being overhauled.]

Owing to some delay attending the procuring of the requisite material, the renewal of the line wire between Beescie River and English Bay, referred to in the last annual report, was not got in hand up to the end of the fiscal year. All arrangements were however completed to have the work done as early as practicable.

At *Fox Bay*, in consequence of there being no suitable house available for the agent-operator, the office was closed for the winter, from the 1st December, 1899, till the 1st April, 1900, when it was re-opened with the same agent, Geo. Cabot, in charge.

On the 28th November, 1899, the service was deprived of one of its most valuable officers, by the death of Mr. Herbert Pope, *District-Superintendent* at South West Point. The duties of the office were assumed and have been efficiently discharged by Miss G. Pope, in conjunction with those of her position as chief-operator, pending a definite appointment being made by the department.

NOTE—This arrangement was unchanged at the close of the fiscal year.


TELEGRAPH CHART
OF THE
GULF
AND
LOWER St LAWRENCE
AND
MARITIME PROVINCES
Nautical Miles
QUEBEC
NEW BRUNSWICK
NOVA SCOTIA
NEWFOUNDLAND
LABRADOR
GULF of St LAWRENCE
RIVER St LAWRENCE
COUNTY OF GASPE
COUNTY of RIMOUSKI
COUNTY OF BONAVENTURE
CHALEUR BAY
MIRAMICHI BAY
MINGAN ISLANDS
MAGDALEN ISLANDS
PRINCE EDWARD ISLAND
CAPE BRETON ISLAND
NORTHUMBERLAND STRAIT
ST GEORGES BAY
FORTUNE BAY
STRAIT of BELLE ISLE
REFERENCES
Anticosti and North Shore Telegraphs.
The Government Lines start from Gaspe Basin and from Murray Bay on North Shore.
Government Telegraph lines
Foreign lines
Telegraph line from Quebec to Murray Bay

Magdalen Islands Lines.—The cable between Old Harry and the mainland at Meat Cove continues in the condition mentioned in last year report. It has been satisfactorily operated and nothing was done to it since.

The section of land line along the sand bar, between Amherst and Etang du Nord, referred to in last year's report, was rebuilt early in the spring, the bar having made up again very considerably; and in view of former experience there was a reasonable expectation that this pole line might hold out, and it was thought advisable to defer steps towards putting down a cable as was contemplated. The pole line was however subject to frequent but brief interruptions in the course of the season. Another year will probably determine the question as to the advisableness of substituting a cable for the present means of connection.

House Harbour Office.—For the readier handling of messages exchanged with the office at House Harbour which has heretofore been on a branch line operated from the office at Grindstone West a move has been made to connect it by a loop from off the main line. The requisite length of cable ($\frac{1}{2}$ knot) and other material for this purpose is being provided, and the change is to be made as early as practicable. The single cable of the existing connection was broken by ice on the 5th May, but as soon as it could be got at, three days later, it was repaired and the communication restored.

Grand Entry.—For the convenience of those doing most of the business of the locality, the Grand Entry office was removed to the Point for the summer months, in charge of the Grand Entry agent.

Land Lines.—A heavy sleet storm, on the 9th April, did great damage to the land lines generally on the Magdalen Islands. At Grosse Isle nearly every pole was thrown down. Repairers, however, promptly got the work in hand, and by the 26th all was in working order again, with the exception of the Etang du Nord sand bar section which was soon afterwards restored.

St. Paul's Island Line.—The condition of the St. Paul's Island cable continues unchanged. Nothing was done to it, and it was operated as usual throughout the year.

North Shore Lines.—In the course of the summer and fall of 1899, the line between Bay St. Paul and Chicoutimi was overhauled by a repair gang and put in thorough good order.

At *Lacroche*, the office which had been closed since December 1898 was reopened on the 2nd December 1899, with Mr. Alphee Gauthier as agent-operator.

At *St. Alexis*, the agent-operator, Mr. O. Pelletier, resigned the office 1st November 1899, and was succeeded by Mrs. D. Simard.

Telephone Wires.—Under an agreement dated 20th May 1899, between the Department and Mr. H. Lemieux, of Murray Bay, proprietor of a local telephone system, a permit was granted for the stringing of a telephone wire on the Government telegraph pole line between Bay St. Paul and St. Urbain, and between Murray Bay and St. Siméon.

At *Bersimis*, Miss Alphonsine Lausier took the position of assistant operator on the decease, in December, of Mrs. Lausier who had been acting in that capacity. A little later on, in February, Miss Lausier was also carried away by

death ; and since that time the agent has engaged assistants temporarily pending some settled arrangement.

At *Rivière aux Canards*, N. Caron resigned the position of lineman at the end of June, and was succeeded by Elie Bouillianne from the 1st September 1899.

At *St. Etienne*, the office was closed on the 1st December 1899 for the winter. It was reopened in the summer of 1900. This office is operated for special accommodation without commission, but in connection therewith the operator at Rivière aux Canards is given an extra allowance for relaying the business of the branch line.

Manicouagan-Godbout.—The cable between Manicouagan and Godbout which was put in order on the 11th October 1899 as mentioned in last year's report, became again interrupted on the 27th April following. So far as local investigation could determine, the cable was parted beyond the shores, and as early as practicable, the services of the str. "Newfield" was secured and the requisite repair effected.

NOTE.—The "Newfield" arrived at Godbout on the 7th July (1900). The trouble was found about 11½ miles from the Godbout end, and was caused by complete attenuation of the conductor at a point exposed by abrasion of the core from broken and corroded sheathing wires. In the course of the repairs, which was completed on the 12th July, a total length of nearly 4 miles was overhauled ; and in relaying it, an aggregate of 1 mile of broken portions was replaced by cable in good condition.

Boat service pending cable repairs.—In consequence of the above cable being interrupted concurrently with the Long Point-Anticosti section, the North Shore line below Manicouagan was cut off, between the above dates (27th April till the 12th July), but in the meanwhile there were boat services established between Godbout and Manicouagan, and between Long Point and Anticosti, for the exchange of messages as expeditiously as possible, depending on the conditions of wind and weather.

General repairs.—As usual, in the course of the year, an examination and general overhauling of the line from Point des Monts to Point Esquimaux was made by a repair gang and any required painting of canoes and repairs to shelter huts, bridges, &c., were incidentally attended to. There was no special work of renewals called for, and the whole has been satisfactorily operated.

At *Pentecost*, in the course of the year some painting and minor repairs necessary to the preservation of the telegraph office building were arranged for and duly effected.

Construction.—Owing to the backwardness of the season, the transportation and delivery of the poles, arranged for as mentioned in last year's report, in time for the completion of extension to Chateau Bay as early as was counted on proved impracticable. The line has, however, been already built in several sections, with gaps intervening, the aggregate of which latter is estimated at 45 miles or so. Offices were opened as hereunder :

At *Point du Maurier*, about 48 miles below Romaine, on the 19th July 1900 ; and,

At *Baie des Moutons*, 57 miles farther down, on the 15th September 1900.

Cable for Belle Isle.—The submarine cable intended for the connection of Belle Isle with the mainland at Chateau Bay, was imported (23 knots deep sea and 2 knots locked armour shore end) in September. The Government cable ship "Newfield," however, when on the way from the Bay of Fundy to Halifax to

receive it, ran ashore at Digby Neck in a fog and became a total wreck. There was no other cable ship readily available, and the season was too far advanced to admit of another vessel being suitably fitted out for the work, which might otherwise have been practicable with the cable gear and machinery that was promptly recovered from the wrecked vessel; so the cable is being held over, in tank at Halifax, to be laid next year.

Grosse Isle, Quarantine Line.—In consequence of the frequent recurrence of trouble in the cables of this system; as noted in previous annual reports; and in view of the promising character of the special locked armour type of cable that was put in at the landings of the Isle Reaux and St. François section in 1895; a proposal was favourably considered in the department for the betterment of the whole by changing the landing places at Orleans Island and Grosse Isle and putting down a ¼ mile length of that special type of cable, as a shore section, in each instance. There was no provision made for the proposed outlay at the last session, however, and action was deferred.

St. Francois, Isle Reaux.—This cable section which was last repaired on the 27th April 1898 became interrupted again on the 23rd January 1900. It could not be got at till the river ice passed down in the spring. The trouble was then found about 800 feet out from the St. François shore and was removed by the local repairer, N. Roberge, on the 10th May.

Land Line.—In October 1899 the Land Line on Orleans Island was gone over, and received such general repairs as were found to be called for.

At *Grosse Isle*, Miss Philomène Langlois was succeeded by Miss Valarie Langlois as agent operator on the 1st March 1900.

Isle Coudres, Telephone System.—The cable between the Island and the mainland was supposed to be interrupted from the middle of September till the 27th October 1899 when on examination the trouble was found in the station instruments ashore.

Signal Service. For the purpose of expediting the transmission of vessel reports from the Gulf and River Flag Stations, which had hitherto been relayed at St. Flavie Junction because of the crush of traffic on the G. N. W. Telegraph system west of that point; an arrangement was made with the company for the stringing of an additional wire between Quebec and Ste. Flavie, a distance of 209 miles, making a direct connection through to Gaspé. The Government contributed the material (No. 6 Gale Iron line wire and white porcelain insulators), under an appropriation obtained last session, and the company performed the work of construction in the course of the present season (1900).

ONTARIO.

Pelee Island Line.—As mentioned in last year's report the cable between the mainland and the Dummy light ceased working on the 14th November 1899. It was got at and communication restored a week later; but it only worked intermittently until the 23rd December when it gave out again and had to remain unattended to until the spring. On the 6th June (1900) it was again put into working order; the District Superintendent Mr. J. McR. Selkirk (Leamington) with the aid of the steamer "Energy," removed the cable ends from the ruins of the Dummy Light, which had been destroyed by fire on the 17th April; and, after cutting out all the damaged portions of the landward section, connected the Island main section through to Point Pelee by means of a reel of cable, comprising the 1¼ knots left over after the general repair mentioned in the annual report for 1897-98, which was brought down from Amherstburg where it had been deposited

The proposed renewal of this cable, as mentioned in last years report, was provided for last session ; but the season was too far advanced to take action in the matter when the fund become available. The new cable will probably be imported in readiness to be put down in the summer of 1901,

In June 1900 the land line on Pelee Island was gone over from end to end, and cleared of all tree branches and growths that were found to be interfering or likely to interfere with the wire. The line was at the same time extended a further distance of one mile at the South End for the purpose of making connection with the Post Office, and on the 1st July the telephone agency was removed from Dr. F. B. McCormicks to the Post Office where Mr. T. W. Ferguson has since been in charge.

NORTH WEST.

Qu'Appelle-Edmonton Line.—In the autumn of 1899 there was considerable resetting of poles done all along this line, and where needed the growths of brush, wood, &c., likely, to interfere with the wire were cleaned out, and the whole put in good and reliable condition.

At *Edmonton*, in October 1899 the joint office (Government and C. P. R. Telegraph) which was located in a rented building, was removed to more suitable premises in a central locality.

Pitt. In pursuance of what was mentioned in last year's report, concerning the former office at Pitt, a decision was arrived at to abandon that site and continue the location of the lineman for that section at Onion Lake. Accordingly, in the course of the present season (1900) arrangements were made for the erection of a suitable building for the accommodation of the members of the staff at the latter place.

Staff changes.—In the course of the year the following transfers and appointments were ordered, and have since been made.

At *Moose*, J. T. Callahan, transferred to Onion Lake, was succeeded by J. W. Carroll, newly appointed as Agent-Lineman, 1st September 1900.

At *Onion Lake*, G. G. Mann resigned, was succeeded by H. McCleneghan (transferred from Bresaylor) as Agent-Operator, 1st October 1900. And J. T. Callahan (transferred from Moose) succeeded D. Noel (formerly at Pitt and now at Bresaylor) as Lineman, 1st September 1900. A building for office and dwelling is being put up at this place. See note under Pitt.

At *Bresaylor*, H. McCleneghan, transferred to Onion Lake, was succeeded by D. Noel (formerly at Pitt) as Agent-Lineman, 1st October 1900.

At *St. Paul de Metis*, the office, which was opened in October 1897, for special accommodation and only to be in operation occasionally, was established as a regular office on 1st December 1899 with M. Therien as Agent-Operator.

Industrial Shool, Saddle Lake.—In May 1900 the department furnished the requisite material and two sets of telephone apparatus for a connection between the telegraph office and the Industrial school ; $6\frac{1}{2}$ miles away but a short distance, however, off the line of telegraph. Incidentally, as the poles of the latter were too old and weak for the stringing of a second wire, a new lot of poles (tamarac, 153 in all) covering a distance of about $6\frac{1}{2}$ miles, paralled to the telegraph line, were erected and then the telegraph wire was transferred to them which practically amounts to a reconstruction of that length and renders the whole reliable and satisfactory.

Wood Mountain Line.—In the course of the summer of 1900, the Wood Mountain line was thoroughly overhauled and put in good order. 36 new cedar

poles, were put in, replacing some that had been destroyed by lightning and by fires; and a further quantity of 27 poles, the remainder of a carload procured from Rat Portage in May is being held in reserve at Moose Jaw for further requirements.

Banff Telephone System.—This system, of which mention was inadvertently omitted from last year's report, was inspected by the District-Superintendent (Qu'Apelle) in the autumn of 1898. The instruments were found to have become generally disarranged but were put in hands for repair and restored to working order, answering their purpose. It was found, however, that should the local requirements demand greater facilities or an extensions of the system in the Park, an entire new outfit of apparatus at each and all of the stations will have to be provided. The line itself was in good order. Nothing has since been done to it.

BRITISH COLUMBIA.

Barkerville Line.—In consequence of a finding that the contemplated through connection for the Yukon line rendered an additional wire desirable in the stretch from Quesnelle to Ashcroft, the required repoling of the Barkerville line, mentioned in last year's report, is being provided for by the erection of a complete new line between these points, a distance of 215 miles, on to the poles of which the wire at present in use is to be or is now being transferred. The renewal of the poles along the remaining length from Quesnelle to Barkerville, 61 miles is being attended to in conjunction with the other work of construction.

In the course of the year there were frequent interruptions due to the decayed condition of the old poles; but repairs were made promptly and the line was upon the whole operated in a satisfactory manner.

At *Barkerville*, in the autumn of 1899, the Telegraph Office building which had fallen into disrepair was satisfactorily restored at an outlay of $600.

At *Bridge Creek*, owing to the destruction by fire, of the building wherein the telegraph office was located (111 Mile House), the office was removed temporarily to the 108 Mile House and afterwards to 115 Mile House where the agent operator, Mr. R. M. Cornell, was succeeded by J. D. McIntosh, 1st January 1900.

Nanaimo-Comox Line.—The work of reconstructing a portion of this line between Quillicum and Union Bay, referred to in last year's report, was resumed in the spring and completed in the month of May.

Victoria Cape-Beale Line.—This line continued in uncertain operation until about the close of the fiscal year, since when it has been in fairly continuous operation, and the alternative route for messages opened up by the new line from Cape Beale to Alberni, mentioned in last year's report, has afforded satisfactory service with points reached along the coast.

At *Port San Juan*, J. W. Williams, Agent-Lineman, resigned 1st July 1900 and was succeeded by B. H. Kirkpatrick.

William's Head Quarantine telephone line.—A permit was granted to Messrs. Stuart & Crawley in September 1899 for a connection with this line, which runs part of the way from Victoria on the Cape Beale telegraph poles.

Kamloops-Lower Nicola Line.—This line, the completion of which was reported last year, has been in operation with several telephone connections, as shown on one of the appended tables.

Bennett-Dawson & Atlin Line (Yukon). A tabular statement of mileage, offices established, staff employed, &c., in connection with this line, to which reference was made in last year's report will be found in the appendix.

The southern section of this system, to extend from Atlin to Ashcroft, has been under construction during the past season and will likely be completed early in 1901.

TELEGRAPH SERVICE GENERALLY.

Cable Ship.—As mentioned in connection with the projected cable between the mainland of Labrador and Belle Isle, the Government cable ship "Newfield" was lost in the Bay of Fundy in September of this year (1900). As all of the cables of the service were in working order, there was no occasion for seeking a ship to replace her up to the close of navigation.

It may not be out of place to note here, that all of the Government cables in the Gulf and the River St. Lawrence and in the Bay of Fundy were laid by the wrecked vessel, whose services have all along been brought into requisition as occasion required for repair work. Of late years a good deal of this work has been taken in hand, and a great deal of credit is due to her commande , Captain J. H. Campbell, and to the Chief Engineer, Mr. C. E. Stewart, in their respective departments, for its skillful and painstaking performance.

REVENUE AND EXPENDITURE.

The revenue and expenditure for each of the lines in the several districts hereinbefore mentioned are given in the following table :—

1899–1900.	Expenditure.	Revenue.	Remarks.
Lower St. Lawrence and Maritime Provinces :—			
Anticosti Island lines	4,593 73	1,172.86	
Bay of Fundy "	1,891.54	915.80	
Cape Ray "	250.00	.....	
Cape Sable "	25.00	.....	
Cheticamp "	1,138.72	394.28	
Escuminac "	497.71	104.39	
Low Point Agency	50.00	.....	
Magdalen Island lines	2,571.12	705.17	
Meat Cove line (including St. Paul's Island)	2,090.19	621.09	
North Shore St. Lawrence (East of Bersimis)	6,054 25	1,266.13	
North Shore St. Lawrence (West of Bersimis)	4,493 45	1,023.54	
Quarantine line	933.92	587.28	
Cable ship *Newfield*, renewals of plant, etc.	1,566.23	.....	
Subsidies, stationery, line and office material and contingencies, chargeable to appropriation for Gulf lines	3,661.50	.....	
Ontario, Pelee Island line	1,501.21	144.68	
North-West telegraph lines	15,277.55	1,651.09	
British Columbia, Comox (including Alberni line)	4,244.64	2,152.74	
Alberni-Cape-Beale	1,165.65	7 61	
Kamloops—Nicola	.....	65 28	
† Barkerville line	3,629 36	.....	
† Victoria Cape Beale line	4,494.02	.....	
(Yukon) Bennett-Dawson & Atlin	15,639.43	33,716.88	
Telegraph service generally	1,196.24	.....	
Total	76,965.46	44 528 82	Signal Service messages, Meteorological Service messages and reports, and Fisheries bulletins are handled free of tolls.

† The C. P. R. operating these two lines, retains the revenue, and the government reimburses them the excess of expenditure over revenue.

DEPARTEMENTAL TELEPHONE SERVICE.

At the end of June 1900, the telephone connections with the central office of the Bell Telephone Co. at Ottawa, listed as chargeable to the special appropriation, numbered 160, the annual charge for which amounts to $5,926. These connections are distributed amongst the several departments as hereunder:

Department.	Offices.	Residences.	Annual charge.
Agriculture	3	3	$215 00
Auditor General	1	1	75 00
Customs	2	1	115 00
Finance	2	1	85 00
Govt. House	3	5	250 00
House of Commons	8	3	410 00
Inland Revenue	3	3	235 00
Interior	8	3	410 00
Geological Survey	2		75 00
Mounted Police	2	1	120 00
Indian Affairs	5	1	195 00
Justice	6	5	430 00
Dominion Police	6	1	298 00
Marine and Fisheries	2	2	145 00
Militia and Defence	9	4	445 00
Post Office	4	1	180 00
Parliament Library	1	2	105 00
Privy Council	3	5	299 00
Railways and Canals	4	2	240 00
Secretary of State	2	3	180 00
Public Works	14	19	899 00
Ottawa River Works	3		155 00
Stationery Department	3	2	175 00
The Senate	3		120 00
Trade and Commerce	1	1	70 00
	100	60	$5,926 00

APPENDED TABLES.

The usual tabular statements of the lines and offices, staff, &c., of the telegraph service, following hereupon, will be found to contain whatever additions or changes have been made up to the 30th June 1900.

D. H. KEELEY,

General Superintendent.

Ottawa, 14th December, 1900.

GOVERNMENT TELEGRAPH SERVICE.

NEWFOUNDLAND TELEGRAPH SYSTEM.

No.	Stations.	Intermediate Distance	Operator.	Salaries per Annum.	Date of Appointment.	Memo.
		Miles.		$ cts.		
1	Port au Basque	0		50 00 or com'n		N. B.—The commission is 25 per cent upon all business to and from the office; said commission guaranteed not to be less than at the rate of $50 per annum.
2	Cap Ray Lighthouse	14		50 00 "		
	Total	14		100 00 "		

N. B.—The above short line is constructed in connection with the Signal Service, and connects at Port au Basque with the land line system of the Anglo-American Telegraph Company.

GOVERNMENT TELEGRAPH SERVICE.—*Continued.*

ANTICOSTI TELEGRAPH SYSTEM.

No.	Stations.	Intermediate Distance	Agent, and Operators.	Salaries per Annum.	Date of Appointment.	Memo.
		Miles.		$ cts.		
1	*Fox Bay	0	Geo. Cabot	50 00 or com'n.	May 13, 1899.	The commission is 25 per cent on all business to and from the office in each instance; and commission guaranteed not to be less than at the rate of $50 per annum. *A special allowance for maintenance of office, $50 per annum, has been added to the commission for offices marked *, since September 1887.
2	Heath Point Lighthouse	23	T. Gagné	50 00 "	July, 20, 1881.	
3	South Point Lighthouse	32½	A. Nadeau	50 00 "	Oct. 1, 1888.	
4	*Shallop Creek	17½	B. Bradley	50 00 "	July, 7, 1881.	
5	Salt Lake	52½	{ Z. Beaudin, repairer { A. Beaudin, operator	365 00 " 50 00 "	May 6, 1896. " 12, 1896.	General repairer. Plus $1 per d. when absent on duty.
6	South-W. Pt. Lighthouse	15	{ Miss G. Pope " { do Actg. D. Supt.	420 00 " 200 00 "	Oct. 18, 1880.	Chief operator since August 1, 1882. Late D. Supt. Mrs. H. Pope, deceased 28th Nov. 1899. See note in body of report.
7	Jupiter River	7		50 00 "		
8	Otter River	17½		50 00 "		
9	*Beescie River	22		50 00 "		Temporarily closed since May 1899.
10	Cape Eagle (Ellis Bay)	10		50 00 "		
11	West Point Lighthouse	9	A. Malouin	50 00 "	Aug. 1, 1881.	
12	English Bay	3	F. Cabot	120 00 and com'n.	July 1, 1882.	
13	Mechastic Bay	14⅜				
	Totals	223¾		1,605 00		

South-west Point connects with l'Anse à Fougère, Gaspé, by cable 44½ knots; and from Mechastic Bay connection is made with Long Point of Mingan by cable 21 knots.

1	L'Anse à Fougère		N. Bernier	17 00 "		Special allowance for the cable terminus. A testing station only.
2	Gaspé Basin	28	J. J. Annett	420 00 "	Oct. 16, 1881.	Transfer office. Connection with G. N. W. telegraph system.
		28		437 00		

MAGDALEN ISLANDS SYSTEM.

MAGDALEN ISLANDS SECTION.

No.	Stations.	Intermediate Distance	Agents and Operators.	Salaries per Annum.	Date of Appointment.	Memo.
		Miles.		$ cts.		
1	Amherst	0	Miss J. Shea	50 00 or com'n	Oct. 1, 1882	The commission is 25 per cent on all business to and from the office in each instance; said commission guaranteed to be not less than at the rate of $50 per annum.
2	Amherst Lighthouse	9	Wm. Cormier	50 00 "	June 11, 1881	
3	Etang du Nord village	15	(P. Pelletier, lineman	400 00 "	Dec. 1, 1881	Plus $20 per annum for rent.
			(Mrs. A. Binet	50 00 "	" 1, 1881	
4	Etand du Nord lighthouse	1	N. Arsenault	50 00 "	Sept. 1, 1891	Two-wire loop line.
5	Grindstone Island	5	W. Leslie	Com'n 25 p. c.	May 20, 1897	
6	Grindstone West		(A. LeBourdais, D. Spt.	600 00	Aug. 17, 1880	Plus $1 per day when absent on duty.
			(M's. E. LeBourdais, op.	50 00	Sept. 15, 1893	
7	House Harbour (¼ knot cable)	3	P. L. Joncas	50 00 or com'n	June 1, 1888	
8	Wolfe Island	28½				
9	Grosse Isle	11	N. Clark	200 00 and com'n	June 1, 1888	
10	Grand Entry	11	Mrs. F. Atkins	50 00 or com'n	Feb. 18, 1882	
	Totals	83½		1,550 00		

GOVERNMENT TELEGRAPH SERVICE.—*Continued.*

MAGDALEN ISLAND SYSTEM.

CAPE BRETON SECTION.

No.	Stations.	Intermediate Distance	Agents and Operators.	Salaries per Annum.	Date of appointment.	Memo.
		Miles.		$ cts.		
1	Meat Cove (Cable station)	0	A. B. McDonald	500 00	Nov. 7, 1880	The commission is 25 per cent on all business to and from the office in each instance; said commission guaranteed to be not less than at the rate of $50 per annum.
2	Aspy Bay	10½	I. Y. Nichols	50 00 or com'n	July 1, 1894	
3	Dingwall (loop line)	3¾ / 2¾	Murdock McLeod	50 00 "	Aug. 31, 1898	The loop line formerly running to White Point, has been withdrawn.
4	Neil's Harb'r (½ way h'se / 1 loop line	14 / 1¾	M. McLeod	50 00 "	April 1, 1887	
5	Ingonish North Bay	9	J. M. Burke	50 00 "	" 1882	
6	Sonth Ingonish	10½	Geo. Brewer	50 00 "	May 7, 1899	
7	French River ¼ knot cable	23	John McDonald	50 00 "	April, 1, 1889	
8	Englishtown ¼ knot cable	11	W. Bingham	120 00 "	July 19, 1882	Switching point for Baddeck line.
9	South Gut, St. Ann's (on loop)	5		50 00 "		Closed 31 December 1899.
10	Baddeck (on loop)	13	A. Anderson	50 00 "	Dec. 2, 1898	
—	Englishtown (back on loop)	18				This loop to Baddeck starts from and returns to Englishtown.
11	Kelley's Cove (N. Campbellton	6	Miss M. Campbell	50 00 "	April 1, 1885	
12	Big Bras d'Or ½ knot cable	2½	Mrs E. Livingston	50 00 "	Janv. 1, 1889	
13	North Sydney	12½	W. U. Tel. Co.	Commission only.		The commission is 50 per cent on local business and 25 per cent on through messages; and covers supervision of line and office accommodation at North Sydney
	Repairers Section.					
	Meat Cove—Sugar Loaf		M. McAskill	80 00 "	April, 1 1898	
	Sugar Loaf—Ingonish		Charles Smith	80 00 "	" 1 1898	
	Ingonish—Englishtown		R. A. McDonald	80 00 "	" 1 1898	
	Englishtown—Baddeck		D. Morrison	60 00 "	" 1 1898	
	Englistown N'rth Sydney		J. Campbell	60 00 "	May 1 1899	
	Totals	143½		1,480,00		

Meat Cove station connect with the Magdalen Islands system by a cable to Old Harry Head, 55 knots, and with St. Paul's Island by a cable of 20 knots. The latter is operated with telephones.

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

NOVA SCOTIA TELEGRAPH SYSTEM.

CAPE SABLE SECTION.

No.	Stations.	Intermediate Distance.	Agents and Operators.	Salaries per Annum.	Date of Appointment.	Memo.
		Miles.		$ cts.		
1	Barrington	0				This line has been leased to the Barrington Telephone Company from August 12th 1897. The lease is terminable at any time.
2	Newellton (including 1½ knots cable)	11				
3	Cape Sable Island light-house (including 1¼ mile cable)	6¾				
	Totals	17¾				

EAST COAST SECTION.

N. B.—In connection with the Signal Service, a land line, 208 miles in length was erected in 1881, between Canso and Halifax, for a bonus of $16,000, and is maintained and operated by the Western Union Telegraph Company, without further cost to the Government.

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

MABOU-CHETICAMP, C.B., TELEGRAPH SYSTEM.

No.	Stations.	Intermediate Distances.	Agents and Operators.	Salaries per Annum.	Date of Appointment.	Memo.
		Miles.				
1	Mabou	0	Mrs. M. McDonald	$120 per annum	April 1, 1887	The commission is 25 p.c. of the Government line tolls, and is guaranteed to amount to not less than $50 per annum. Where 50 p.c. commission is paid there is no guarantee as to amount.
2	Broad Cove	20	Mrs. Annie McLelland	$50 or commission	March 1, 1892	
3	S.W. Margaree	12	J. D. McFarlane	$50 "	Feb. 1, 1898*	
4	Margaree Harbour	5	H. K. McLean	$50 "	Oct. 20, 1896	
5	N.E. Margaree (loop line wire)	10	Mrs. J. D. Ross	$50 "	Feb. 1, 1898	
6	Grand Etang	8	A. Doucet	$50 "	Jan. 1, 1900	This office was closed for a year from January, 1899.
7	Cheticamp	8	Mrs. M. Fiset	$100 "	Jan. 1, 1887	*At S.W. Margaree the commission was 50 per cent till 1st September, 1899.
			D. C. Dawson, D. Supt.	$150	Jan. 1, 1887	
	Totals	63		$570 per annum.		

CHATHAM-ESCUMINAC, N.B., TELEGRAPH SYSTEM.

1	Chatham	0	Great North-western Telegraph Co.	$185		This amount is paid for supervision of the line and office accommodation at Chatham.
2	Black Brook	5½		$50 or commission		The commission is 25 p.c. of the Government line tariff receipts in each instance, and is guaranteed to amount to not less than $50 per annum.
3	Baie du Vin	15	Miss M. Williston	50 "	March 1, 1885	
4	Lower Hardwicke	6	Mrs. M. Brunner	50 "	Aug. 1, 1891	
5	Escuminac	3½	D. Lewis	50 "	Sept. 1, 1885	
6	Point Escuminac light house	12	K. R. McLennan	50 "	Nov. 1, 1893	$12 per annum allowed for care of main battery at Point Escuminac
	Totals	42		$435		

GOVERNMENT TELEGRAPH SERVICE.—*Continued.*

GROSSE ILE QUARANTINE TELEGRAPH SYSTEM.

No.	Stations.	Intermediate Distance	Agents and Operators.	Salaries per Annum.	Date of Appointment.	Memo.
		Miles.		$ cts.		
1	Quebec	0	Great North-west'rn Telegraph Co.	185 00		This amount is paid for supervision of the line, and covers rent of pole line from Quebec to L'Ange Gardien, for which $35 per annum is charged.
	L'Ange Gardien	13				
	Orleans Island landing (cable)	$\frac{3}{4}$				
	St. Pierre	$3\frac{1}{4}$	C. Turcott	50 00 or commission	March 1, 1885.	This commission is 25 per cent of the Government line tariff in each instance, and guaranteed to amount to not less than $50 per annum.
3	Ste. Pétronille	$4\frac{1}{2}$	M. Plante	50 00 "	April 7, 1896.	
4	St. Laurent	$6\frac{1}{2}$	M. Gobeil	120 00 and 25 p. c. commission	Sept. 15, 1888.	
5	St. Jean	7	P. Ponliot	120 00 and 25 p. c. commission	July 1, 1888.	
6	St. François	$6\frac{1}{4}$	H. Lemelin	50 00 or commission	Nov. 1, 1897.	
7	Isle Réaux (including 2 knots cable)	$3\frac{3}{4}$				
	Isle Réaux (land line)	$2\frac{1}{2}$				
8	Grosse Isle quarant. office (includ. 2 knots cable).	$3\frac{1}{2}$	(P. Langlois, operator (M. Langlois, agent	50 00 "	March 1, 1900. Sept 1, 1885.	$12 per annum allowed for care of main battery at Grosse Isle.
	Quarantine telephone system 2-wire line	$1\frac{3}{4}$	.....	.....	.....	NOTE.—The telephone system on Grosse Isle since May 1893, has comprised $1\frac{3}{4}$ mile of 2-wire line, with 11 connections or stations.
		$52\frac{3}{4}$	.....	625 00		

BAY OF FUNDY, N.B., TELEGRAPH SYSTEM.

GRAND MANAN SECTION.

No.	Stations.	Intermediate Distance	Agents and Operators.	Salaries per Annum.	Date of Appointment.	Memo
	Long Eddy Cable Hut, to	Miles.		$ cts.		
1	Flagg's Cove	3	Mrs. C. C. Seely (D. Supt.)	540 00 *	Nov. 18, 1880	*The commission is 25 p c , upon all business to and from the office in each instance ; said commission guaranteed not to be less than at the rate of $50 per annum. When 50 p. c commission is paid there is no guarantee as to amount.
	"	.....	Miss M. E. Burnham	50 00 or com'n	Oct. 1, 1898	
	"	.....	A. Gilmour, repairer	60 00	Dec. 1, 1894	
2	Castalia	2½	G. E. Dalzell	Com'n. 25 per cent.	June 1, 1898	
3	Woodward's Cove	3½	W. A. Fraser	" 50 "	Feb. 28, 1893	
4	Grand Harbour	2	J. L. Newton	75 00 or com'n	Apr. 1, 1887	$25 per annum is included for repeating Whitehead br.
5	Seal Cove	4½	J. Ingersoll	50 00 "	Sept. 22, 1899	
6	South'rn Head Lighthouse	5½	O. McLaughlin	Com'n. 25 per cent.	Apr. 24, 1897	Southern Head office is now operated by telephone from Seal Cove.
	Branch Line.					
	Grand Harbour	0				
7	Cheney's Island (½ knot cable)	1¾	W. Cheney	Com'n. 25 per cent.	Feb. 1, 1891	
8	Whitehead Island (¾ knot cable)	1½	I. D. Harvey	50 00 or com'n	June 1, 1898	
	Totals	27¼		825 00		

CAMPOBELLO SECTION.

	Liberty Cove Cable Hut, to					
1	Welchpool	7¼	Miss E. G. Vennell	210 00 and com'n	Sept. 1, 1895	
2	Eastport, Maine, U.S.A.	½	J. Cushing	200 00	Dec. 26, 1881	
	Totals	8		410 00		

A cable of 1¾ knots connects Welchpool with the landing ½ mile from Eastport ; and a cable of 7¼ knots is laid from Long Eddy, Grand Manan, to Liberty Cove, Campobello.

GOVERNMENT TELEGRAPH SERVICE.—*Continued.*

CHICOUTIMI AND NORTH SHORE OF ST. LAWRENCE TELEGRAPH SYSTEM.

CHICOUTIMI SECTION.

No.	Stations.	Intermediate Distance	Agents and Operators.	Salaries per Annum.	Date of Appointment.	Memo.
		Miles.		$ cts.		
1	Bay St. Paul	0	F. Boivin	180 00 per annum + 25 p. c. commission	Previous to April 1, 1885.	*The commission upon business is 25 per cent of the Government tolls of the line; the amount guaranteed to be not less than $50 per annum.
2	St. Urbain	9	A. Boivin	50 00 or commission*	"	
3	La Cruche	37	Alphée Gauthier	50 00 "	Dec. 2, 1899.	
			A. Gauthier (repairer)	210 00	May 15, 1887.	
4	St. Alexis	31½	Mrs. D. Simard	50 00 or commission	Nov. 1, 1899.	
5	St. Alphonse de Bagotville	3	A. Simard	50 00 "	April 1885.	
6	Chicoutimi	11½	G. N. W. Tel. Co.	25 p. c. commission	Nov. 1893.	Plus $12 per annum for care of main battery.
			J. Fortin (repairer)	420 00 per annum	June 1, 1897.	J. Fortin's division includes the branch line to L'Anse St. Jean.
Br. Line	St. Alexis	0				
	L'Anse St. Jean.	40	Mrs. R. Martel	50 00 or commission	Aug. 1 1897.	Plus $12 per annum for care of main battery.
	Totals	132		1,060 00		

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

CHICOUTIMI AND NORTH OF ST. LAWRENCE TELEGRAPH SYSTEM—*Continued.*

NORTH SHORE (West of Bersimis).

No.	Stations.	Intermediate Distance	Agents and Operators.	Salaries per annum	Date of Appointment.	Memo.
		Miles.		$ cts		
1	Murray Bay	0	Mrs. F. Vincent	50 00 or comm'n.	Previous to April 1, 1885	
2	Cap à L'Aigle	4	N. Duchesne	50 00 "	June 1, 1888	
3	St. Fidèle	6	A. N. Parent	50 00 "	April 1, 1890	
4	Port au Persil	7	A. Brassard A. Brassard (repairer)	50 00 " 210 00 "	May 1, 1889 June 1, 1897	
5	St. Siméon	4	D. Gaudin	50 00 "	Dec. 1, 1887	
6	Baie des Rochers	12	G. Savard	50 00 "	June 1887	
7	Riv. aux Can. Branch L.	17	G. Bouillenne	100 00 "	Nov. 1886	Mr. Bouillenne at River Canard has acted
8	St. Etienne Branch L.		E. Bouillianne (repairer)	210 00	Sept 1, 1899	as repeating operator for the St. Etienne
9	Tadousac (1¼ knot cable)	13	J. E. Caron	50 00 or comm'n	Nov 1, 1888	branch since August, 1889.
10	Bergeronnes	15	M. Savard	50 00 "	April —, 1885	
11	Escoumains	12	J. H. Topping	50 00 "	" —, 1885	
12	Baie de Bacons	8	P. Bouchard		May 6, 1892	Commission, at 25 per cent, without guarantee at Baie des Bacons.
13	Mille Vaches	8	J. A. Puise	50 00 or comm'n	April —, 1885	
14	Portneuf Mills	11½				Closed November, 1895.
15	Portneuf light	6	S. Bouchard E. Courbron (repairer)	50 00 or comm'n 420 00	July 1, 1890 April 1, 1888	
16	Sault au Cochon	7		50 00 or comm'n		Sault au Cochon closed September 30, 1896.
17	Bersimis	31	A. Lausier (agt. and op.) E. Pope, dist. supt	500 00 180 00 600 00	Sept. —, 1896 April —, 1885	Formerly located at Manicouagan; Bersimis is now the repeating office. Late assistant operator, Mrs. Lausier, deceased in December 1899
	*Totals	161½		2,820 00		

*NOTE.—In the estimates the maintenance of the Chicoutimi and North Shore lines is provided under head of North Shore Line. They are operated conjointly.

GOVERNMENT TELEGRAPH SERVICE.—*Continued.*

CHICOUTIMI AND NORTH OF ST. LAWRENCE TELEGRAPH SYSTEM.—*Continued*

North Shore (East of Bersimsis).

No.	Stations.	Intermediate Distance.	Agents and Operators.	Salaries per Annum.	Date of Appointment.	Memo.
1	P'te aux Outardes (cable)	12	H. Tremblay	50 00 or comm'n*	Dec 1, 1896	
2	P'te Paradis, Manicouagan	18	.....	.....	.....	The repeating office formerly at Manicougan was removed to Bersimis in September, 1896.
3	River Godbout (cable)	26	N. A. Comeau	50 00 or comm'n	Oct. 15, 1883	
4	Pointe des Monts	18½	L. E. Faffard	50 00 do	Dec. 28, 1883	
5	Trinity Bay West	5½	Z. Poulin	50 00 or comm'n	May 16, 1881	
6	Trinity Bay East	2½	A. Bilodeau	Commission only	do 1, 1889	
7	Caribou Islands	7	I. Comeau	do	Sept 1, 1889	
8	Pointe aux Anglais	10½	Paul Côté	Accommo. office	Jan. 10, 1895	No commission is paid at this office.
9	Pentecost River	6½	E. H. Têtu, D. Supt	1,080 00 per annum	Nov. 1, 1891	
10	Ste. Marguerite	17½	A. Therriault	180 00 do	July 1, 1888	
11	Seven Islands	22½ †	P. E. Vignault, opr	180 00	Jany. 2, 1881	
			F. Galienne, lineman	540 00	April 22, 1890	Plus 50 cents per day when absent on duty.
12	River Moisie	15½	J. Poirier	50 00	June 1, 1896	
13	Sheldrake	72	A. LeBerge	50 00 or comm'n	Oct. 1, 1897	
14	Thunder River	6½	Mrs. H. Cody	50 00 do	Feb. 1, 1890	
15	Magpie	14	Geo. Molloy	50 00 do	Oct. 1, 1889	
16	St. John's River	9	B. Chambers	50 00 do	do 1, 1889	
17	Long Point	10	A. Maloney	360 00	Sept. 21, 1896	Long Point is the repeating office for the Anticosti cable in operation since Sept 1, 1891
18	Mingan	7	M. J. Maloney	50 00 or comm'n	Oct. 1, 1889	
19	Pointe aux Esquimaux	24	D. C. Hould	Commission only	May 21, 1893	The commission at Point aux Esquimaux is 50 per cent, without guarantee as to amount.
20	Piastre Bay	43	S. Tanguay	50 00 or comm'n	Sept. 1, 1897	
21	Aguanus	36¾	L. Cummings	100 00 do	Oct. 2, 1897	
22	Natashquan	16	E. Vignault	50 00	Sept. 16, 1898	
23	Kagaska	33	A. Cormier	120 00 per annum	Jany. 1, 1899	
24	Big Romaine	43	Miss R. A. Blais	50 00 or comm'n	Sept. 21, 1898	
25	Pointe du Maurier	48	.....	50 00 do	July 19, 1900	
26	Baie des Montons	57	.....	50 00 do	Sept. 15, 1900	
		611¼		3,310 00		

Notes.—*The commission, except where otherwise stated, is 25 per cent of the Government line tolls on business handled. † This line is being further extended towards Belle Isle.

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

ONTARIO PELEE ISLAND TELEGRAPH SERVICE.

No.	Stations.	Intermediate Distances.	Agents.	Salaries per Annum.	Date of Appointment.	Memo.
		Miles.				
1	Leamington	.....	J. McR. Selkirk, D. Supt.	$50 00	Nov. 1, 1888.	
2	Leamingaon Dock	2	F. Deslauriers	Accommodation office	Nov. 1, 1895.	
3	Club House	3	C. Harrison	Commission 25 p.c	April 1, 1889.	The commission is on the tolls for the Government line.
4	Point Pelee	3	W. A. Grubb	" "	Nov. 1, 1888.	
5	Dummy Light (cable)	2	.....	.....	.....	Closed. Destroyed by fire in April, 1900.
6	Lizard Point Landing (cable)	7½	.....	.....	.....	
7	North Point Lighthouse	1	J. R. Ledwell	" "	June 1, 1899.	
8	North Dock	2	C. B. Quick	" "	Nov. 1, 1888.	
9	McIntyre's Corners	2½	Mrs. A. McIntyre	" "	" 1, 1896.	
10	West Dock	2½	A. M. McCormick	" "	" 9, 1888.	
11	South Dock	5½	T. W. Ferguson	" "	July 1, 1900.	
	Totals	35	.....	$100 00		

NOTE.—This line is operated with telephones.

No.	Stations.	Intermediate Distance	Agents.	Salaries per Annum.	Date of Appointment.	Memo.
	Qu'Appelle-Edmonton Section.	Miles		$ cts.		
1	Qu'Appelle	0	J. S. Macdonald, D. Supt.	1,200 00	Jan. 1, 1898.	
			C. P. R. Tel. Co	420 00	Dec. 1, 1896.	The Agent-Oper. at Qu'Appelle is joint with the C.P.R.
			H. J. Macdonald, linem'n	360 00	Dec. 1, 1899.	
2	Fort Qu'Appelle	17	Miss E. Johnston	600 00	Marsh 1, 1885.	
3	Touchwood	46	A. Von Lindeburgh	600 00	Nov. 1, 1883.	
4	Humboldt	78				Humboldt office was closed August 20, 1895.
5	Saskatoon (14 mil's loop)	69	C. P. R. Tel. Co	300 00	Jan. 1, 1892.	The Agent-Oper. at Saskatoon is joint with the C.P.R.
			J. Harrington, repairer	600 00	" 1, 1888.	
6	Henrietta "	52	W. Salsbury	720 00	Oct. 1, 1886.	
7	Battleford	47	L. P. O. Noel	720 00	April 15, 1890	
8	Bresaylor	27	H. McClenehan	480 00	Sept. 19, 1895	
9	Pitt	62				Closed since October 1898. Lineman thereafter stationed at Onion Lake.
10	Onion Lake	13	D. Noel (agt. lineman)*	600 00	Oct. 1, 1898.	Former agent, G. G. Mann, of the N.W.M.P. resigned February 1, 1900.
11	Moose	32½	J. T. Callahan	600 00	Oct. 1, 1898.	
12	St. Paul de Metis	32	M. Therien	360 00	Dec. 1, 1899.	
13	Saddle Lake	13	L. Picard	600 00	July 1, 1891.	A telephone line extends from the office, at Saddle Lake, to the Industrial School, 6½ miles.
14	Victoria	37	J. C. Gordon	600 00	April 1, 1899	
15	Fort Saskatchewan	49	A. W. M. Campbell	600 00	Oct. 1, 1898.	
	"		J. A. Macdonald	120 00	May 1, 1899.	Special connection for Mounted Police.
16	Edmonton	24	S. B. McNamara	360 00	June 1, 1899.	The office at Edmonton has been operated jointly with the C.P.R. Tel. Co. since January 1, 1892.
			W. McKay, repairer	720 00	May 1, 1886.	
	Branch Line—					
	Edmonton	0				The St. Albert branch line is operated with telephones. It was leased to the Edmonton District Telephone Co., from October 24, 1895.
	St. Albert	9				
	Wood Mountain Section.					
1	Moosejaw	0	A. Wilcox, agent	240 00	Dec. 1, 1891.	Moosejaw office is operated jointly with the Canadian Pacific Telegraph Co.
			H. Sikes, repairer	600 00	" 1, 1893.	
2	Wood Mountain	90½	J. H. Thompson, agent	300 00	" 1, 1890.	The allowance at Wood Mountain was but $180 per annum up to Marsh 1, 1900.
	Total	698		11,700 00		

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

GOVERNMENT TELEGRAPH SERVICE IN BRITISH COLUMBIA.

No.	Stations.	Intermediate Distances.	Agents.	Salaries per Annum.	Date of Appointment.	Memo.
	Ashcroft—Barkerville †	Miles.		$ cts.		
			Jas. Wilson (Kamloops), joint Dist. Supt. Govt. and C. P. lines	180 00		Proportion of salary pertaining to this line.
1	Ashcroft Station	0	C. A. Sherr	240 00	July 4, 1898.	Proportion of salary pertaining to this line; the Ashcroft office is operated jointly with the C.P.R. Telegraph.
2	Clinton	30	A. LeBourdais, agt. & rep.	600 00	Feb. 16, 1883.	
3	Bridge Creek (115-Mile House)	53	J. D. McIntosh	720 00	Jan. 1, 1900.	
4	150-Mile House*	40	S. T. Hall, agt. & oper.	456 00	Nov. 1, 1896.	*The testing office formerly at 134-Mile House was discontinued in May, 1900.
5	Soda Creek	38	G. H. Smith, agt. & rep.	900 00	March 1, 1896.	
6	Quesnelle	54½	J. E. Bowron, " "	564 00	Prior to 1891.	
7	Stanley	48	Accommodat'n com. office			
8	Barkerville	13	J. Stone, agt. & repairer.	1,000 00	Feb. 17, 1873.	
	Total	276½		4,660 00		
	Ashcroft—Lillooet. †		Jas. Wilson (Kamloops), joint Dist. Supt. Govt. and C. P. lines	120 00		Proportion of salary pertaining to this line.
	Ashcroft Station	0	C. A. Sherr	240 00	July 4, 1898.	Proportion of salary pertaining to this line; the Ashcroft office is operated jointly with the C.P.R. Telegraph.
1	Pavillion	40	Accommodat'n com. office		Dec. 1, 1896.	
2	Lillooet	22	S. A. Macfarlane, ag. & op.	720 00	Jan. 3, 1896.	
	Total	62		1,080 00		

GOVERNMENT TELEGRAPH SERVICE.—*Continued.*

GOVERNMENT TELEGRAPH SERVICE IN BRITISH COLUMBIA.—*Continued.*

No.	Stations.	Inter-mediate Distance	Agents.	Salaries per Annum.	Date of Appointment.	Memo
	Victoria—Cape Beale †		Jas. Wilson (Kamloops), joint Dist Supt Govt. and C P lines	120 00	.....	Proportion of salary pertaining to this line.
1	Victoria	0	E. Houghton, operator	240 00	Nov. 1, 1891.	Proportion of salary.
2	Sooke	18	M. Milne, com. office	.....	April 21, 1896.	
3	Otter Point	8	E. Gordon, agt. & oper.	720 00	Dec. 1, 1891.	
4	Jordan River	10	J. Goudie, " "	540 00	May 1, 1897.	
5	Port San Juan	30	B.H. Kirkpatrick," "	720 00	July 1, 1900.	
6	Carmanah Lighthouse, (Cloose 2 miles west)	24	W. P. Daykin, " "	240 00	Nov. 1, 1891	
			D. Logan, repairer	540 00	April 1, 1898.	†These three lines are operated by the Canadian Pacific Railway Co. for the Government, the arrangement being terminable at any time.
			J. Vanslyke, " "	540 00	June 1, 1899.	
7	Cape Beale	28	M. Patterson, agt. & oper	120 00	Sept. 1, 1899.	
	Total	118		$1,780 00		

GOVERNMENT TELEGRAPH SERVICE IN BRITISH COLUMBIA – *Continued*

No.	Office.	Intermediate Distance	Agents, etc.	Positions.	Salaries per Annum.	Date of Appointment	Memo.
	Nanaimo-Comox.	Miles.			$ cts.		
1	Nanaimo	0	W. F. Archibald Joint with C. P. R.	Agent and operator	186 00	March 1, 1896	This payment—$15.50 per month comprise $10 for agency, $3 for messenger service, and $2.50 for care of main battery.
2	Wellington	5	E. & N. Ry. Co.	"	Commission	April 1, 1883	
3	Parksville	23	Mrs. R. Williams	"	240 00	Dec. 1, 1897	
			Geo. Williams	Repairer	570 00	" 1, 1897	
4	Fanny Bay	23	Thos. Hudson	"	780 00	Nov. 17, 1898	
5	Union Bay	9½	E. McDonald	Agent and operator	360 00	June 3, 1898	
6	Union Mines		J. Dunsmuir	Accommodat'n office			See mention of this in body of report (1897-98).
7	Cumberland	10	Albert Peacy	Agent and operator	120 00 & comm. 25 p. c.	April 28, 1898	
8	Courtney	7					Courtney and Fanny Bay are communicated with by telephone at pre-arranged intervals.
9	Comox	3½	M. McDonald	Agent and operator	360 00 & comm. 25 p. c.	Nov. 1, 1895	
	Total	81			2,616 00		
	Parksville-Cape Beale.						
	Parksville	0	(See above)				
1	Alberni	29½	C. T. Haslam	Agent and operator	720 00	June 27, 1895	*NOTE.—The repairing of this Alberni-Cape Beale line necessitates the use of a steamboat, and has been contracted for with Mr. G. A. Huff at $75 per month covering all charges.
			P. A. Haslam	Assistant and operator	120 00	Oct 1, 1899	
	Alberni		G. A. Huff	Con. Repairer*	900 00	May 1, 1900	
2	Cape Beal	57	M. Patterson	Agent and operator	240 00	May 1, 1900	Proportion of salary pertaining to this line.
	Total	86½			1,980 00		

The above lines are operated by the Government through the office of the Resident Engineer at Victoria.

GOVERNMENT TELEGRAPH SERVICE.

BRITISH COLUMBIA.—*Continued.*

No.	Offices.	Intermediate Distance	Agents, &c.	Positions	Salaries per Annum.	Date of Appointment.	Memo.
	Kamloops-Lower Nicola.	Miles.			$ cts.		
1	Kamloops	0	A. J. Venn (C. P. Tel.)	Agent	180 00	April 18, 1900. Connected.	NOTE.—This line is operated with telephones. The lessees pay a monthly rent for the connections, and are allowed 25 per cent commission on local tolls for messages and conversations of non subscribers.
2	Quilchena		E. O. Rourke	Lessee	25 p. c. Com.	May 1, 1900.	
3	Nicola Lake	54	A. R. Carrington	"	"	"	
4	"		A. E. House	"	"	"	
5	Lower Nicola	13	Geo. Armstrong	"	"	"	
	Total	67					

This line is operated under the superintendence of the Resident Engineer at Victoria.

GOVERNMENT TELEGRAPH SERVICE.

BENNETT—DAWSON—ATLIN LINE.

No.	Stations.	Intermediate Distance	Agents.	Salaries per Annum.	Date of Appointment.	Memo.
1	Bennett	0	M. W. Crean, Dist. Supt.	166 66 per month	April 1899	
			F. W. Dowling, operator	125 00 " "	April, 1, 1900	
			N. Bellefeuil, head l'man.	150 00 " "	Sept. 29, 1899	
			H. Gagné, lineman	3 00 " day	Oct. 1, 1899	
2	Caribou Crossing	28	E. M. Stikley, operator	100 00 " month	Sept. 28, 1899	
3	Tagish	18	R. M. Grimes, operator		Sept. 28, 1899	
			E. S. Chambers, lineman	3 00 " day	Oct. 1, 1899	
			Ignace Hébert, lineman	3 00 " "	Nov. 1, 1899	
4	Miles Canyon	60				Summer office closed Nov. 13th 1899.
5	White Horse	5	G. S. Flemming, operator	125 00 " month	Sept. 28, 1899	
			F. Dixon, lineman	3 00 " day	Oct. 1, 1899	
6	Lower Lebarge	59	T. Phalen, operator	100 00 " month	Sept. 28, 1899	
			J. H. Brown, lineman	3 00 " day	Oct. 1, 1899	
7	Hootalinqua	30	F. R. Walker, operator	100 00 " month	Sept. 28, 1899	
8	Big Salmon	34	G. A. McLachlan, oper.	100 00 " "	Sept. 28, 1899	
			J. C. Kirk, lineman	3 00 " day	Oct. 1, 1899	
9	Five Fingers	96	W. R. Holden, operator	100 00 " month	Sept. 28, 1899	
			H. Savageau, lineman	3 00 " day		
10	Fort Selkirk	58	G. Hutchinson, operator	110 00 " month	Sept. 28, 1899	
			H. D. Card, lineman	3 00 " day	Oct. 1, 1899	
11	Selwyn	30	J. Brownlow, operator	100 00 " month	Oct. 1, 1899	
			R. C. McDonald, lineman	3 00 " day	Oct. 1, 1899	
12	Stewart River	75	W. A. Moore, operator	100 00 " month	Dec. 18, 1899	
			E. E. Millar, lineman	3 00 per day	Feby. 19, 1900	

GOVERNMENT TELEGRAPH SERVICE.—*Continued.*

BENNETT—DAWSON—ATLIN LINE.—*Continued.*

No	Stations.	Intermediate Distance	Agents.	Salaries per Annum.	Date of Appointment.	Memo.
13	Ogilvie	23	J. W. Wilkinson, operator	100 00 per month	Sept. 28, 1899	
			Archie Johnson, lineman,	3 00 " day	Dec. 7, 1899	
14	Dawson	48	A. B. Clegg, manager	125 00 " month	Sept. 10, 1899	
			D. S. McKenzie, operator	125 00 " "	Sept. 18, 1899	
			Percy Overton, mess., etc.	90 00 " "	Nov. 17, 1899	
			C. A. Couture, head l'man	150 00 " "	Sept. 28, 1899	
			W. A. McNamara, lineman	100 00 " "	Oct. 1, 1899	
		564				
	Branch.					
15	Tagish	75	A. H. Mansfired, operator	125 00 " "	Oct. 1, 1899	
	Atlin		J. Huston, lineman	3 50 " day	Oct. 1, 1899	
			F. Mulligan	3 50 " day	Oct. 1, 1899	
		639		42 400 00		

GOVERNMENT TELEGRAPH LINES.

SPECIAL TARIFF.

Cable messages.—Rates for cable messages and for press reports, passing over the Yukon line will be found in connection with other British Columbia lines in the following pages.

Elsewhere, the rate for transatlantic messages passing over the government lines is the same as for ordinary through messages, excepting where the ordinary tariff is more than 25 cents; in such cases the government line rate is 4 cents per word, with a minimum charge of 25 cents. For example:—

For a messege of six words or less the charge is 25 cents for government line.

For a message of seven words the charge is (7 x 4c.) 28 cents for government line.

For a message of twelve words the charge is (12 x 4c) 48 cents for government lines.

In every case the counting of words includes the address and signature in the same way as for transatlantic cable toll.

Press despatches.—The rate for press despatches on the government lines (excepting the Yukon line), formerly a quarter cent per word, has been changed to 20 cent pas 100 words; no single message less than 20 cents.

REGULAR TARIFF—NOVA SCOTIA.

*Line from North Sydney to Meat Cove and Mabou—Local rate 25-1 * (13 offices).*

Big Bras d'Or	Through rate 15-1 from North Sydney, W. U. office.		
New Campbellton (Kelly's Cove)	"	"	"
Port Bevis	"	"	"
Englishtown	"	"	"
Baddeck	"	"	"
St. Anne, South Gut	"	"	"
French River	"	"	"
South Ingonish	"	"	"
Ingonish	"	"	"
Neil's Harbour	"	"	"
White Point	"	"	"
Aspy Bay	"	"	"
Meat Cove	"	"	"
Pleasant Bay	"	"	"
Cheticamp	"	"	"
Grand Etang	"	"	"
North East Margaree	"	"	"
Margaree Harbour	"	"	"
South West Margaree	"	"	"
Broad Cove	"	"	"
Mabou	"	"	"

Line from Barrington to Cape Sable—Local rate 12-1 (2 offices).

Newellton	Through rate 12-1 from Barrington, W. U. office.		
Cape Sable lighthouse	"	"	"

* N.B.—When the tariff rate is entered as 25-1 or 50-2, etc., the meaning is that the rate is 25 cents or 50 cents for ten words and 1 cent or 2 cents for each additional word.

NEW BRUNSWICK.

Line from Chatham to Point Escuminac—Local rate 25-1 (4 offices).

Bay du Vin	Through rate 15-1	from Chatham, G. N. W. office.	
Lower Hardwicke	"	"	"
Escuminac	"	"	"
Pt. Escuminac Lt. House	"	"	"

Line from Eastport, Me., to Campobello, Grand Manan, and Whitehead Islands (9 offices)—Local rates between offices on Grand Manan, and Whitehead Islands 15-1; Grand Manan and Campobello Island 25-2; The Islands and Eastport, Me. 25-2. W. U. O.

Welchpool, Campobello	Through rate 25-2	from Eastport, Me., W.U. office.	
Flaggs Cove, Grand Manan	"	"	"
Castallia	"	"	"
Woodward's Cove	"	"	"
Grand Harbour	"	"	"
Seal Cove	"	"	"
Southern Head	"	"	"
Cheney's Island	"	"	"
Whitehead Islands	"	"	"

QUEBEC.

Line from Gaspé to Anticosti Island, Q. (9 offices)—Local rates between offices on the Island 25-1; Gaspé and the Island offices 50-2.

South West Point	Through rate 50-2	from Gaspé G. N. W. office.	
Salt Lake	"	"	"
Shallop Creek	"	"	"
South Point	"	"	"
Heath Point	"	"	"
Fox Bay	"	"	"
Becscie River	"	"	"
West Point	"	"	"
English Bay	"	"	"

Line from Meat Cove, C. B., N. S., to Magdalen Islands, Q. (8 offices) Local rates between offices on the Islands 25-1; Meat Cove and the Islands 50-2; offices on the Meat Cove line and the Islands 50-2.

Amherst Island	Through rate 50-2	from N. S., W. U. office.	
Amherst Lt. House	"	"	"
Etang du Nord Village	"	"	"
Etang du Nord Lt. House	"	"	"
Cap aux Meules (Grindstone)	"	"	"
House Harbour	"	"	"
Grosse Isle	"	"	"
Grand Entry	"	"	"

Line from Meat Cove C.B., N. S., to St. Paul's Island.—Local rate between offices on Meat Cove line and St. Paul's 50-2 (1 office).

St. Paul's Island Lt. House 50-2 from North Sydney, N.S., W. U. office.

SESSIONAL PAPER No. 19

Line from Quebec to Grosse Isle Quarantine Station (7 offices)—Local rates between offices on Orleans Island and Isle Réaux 15-1 ; on Orleans Island, Isle Réaux and Quebec 15-1 ; on Orleans Island and Grosse Isle 25-1 ; on Isle Réaux and Grosse Isle 15-1.

St. Pierre, Orleans Island	Through rate 15-1	from Quebec, G. N. W. Office.	
Ste. Pétronille	"	"	"
St. Laurent	"	"	"
St. Jean	"	"	"
St. François	"	"	"
Isle Réaux	"	"	"
Grosse Isle	" 25-1	"	"

Line from Baie St. Paul to Chicoutimi (6 offices).

For business with offices west of Baie St. Paul, and terminating at Quebec, add 15c. and 1c. to the Government line tariff.

For business with offices west of Baie St. Paul, beyond Quebec, add the full rate of the Great North-Western Telegraph Company to the Government line tariff.

Line from Murray Bay to Baie des Moutons (43 offices) with branch to Anticosti.

For business with offices west of Murray Bay and terminating at Quebec, add 15c. and 1c. to the Government line tariff.

For business with offices west of Murray Bay beyond Quebec, add the full rate of the Great North-Western Telegraph Company to the Government line tariff.

Local rates between offices not more than 100 miles apart 15-1, more than 100 miles apart 25-1 ; on mainland and Anticosti 50-2.

St. Urbain	15-1	from Baie St. Paul (Ck. Que.)	G. N. W. office.
Lacruche	"	"	"
St. Alexis	"	"	"
L'Anse St. Jean	"	"	"
St. Alphonse de Bagotville	"	"	"
Chicoutimi	"	"	"
Cap à l'Aigle	15-1	from Murray Bay (Ck. Que.)	G. N. W. office.
Ste. Fidèle	"	"	"
Port au Persil	"	"	"
St. Siméon	"	"	"
Baie des Rochers	"	"	"
Rivière aux Canards	"	"	"
St. Etienne	"	"	"
Tadousac	"	"	"
Bergeronnes	"	"	"
Escoumains	"	"	"
Baie des Bacons	"	"	"
Mille Vaches	25-1	"	"
Portneuf Mills	"	"	"
Portneuf Light	"	"	"
Sault au Cochon	"	"	"
Betsiamis (Bersimis)	"	"	"
Manicouagan (Pt. Outardes)	"	"	"
River Godbout	"	"	"
Pointe des Monts	"	"	"

Trinity Bay, West	25-1	from Murray Bay (Ch. Que.)	G.N.W. Office.
Trinity Bay, East	"	"	"
Caribou Islands	"	"	"
English Point	"	"	"
Pentecost	"	"	"
Ste. Marguerite	"	"	"
Seven Islands	"	"	"
River Moisie	"	"	"
Sheldrake	"	"	"
Thunder River	"	"	"
Magpie	"	"	"
St. John River	"	"	"
Long Point	"	"	"
Mingan	"	"	"
Point Esquimaux	"	"	"
Piastre Bay	"	"	"
Aguanus	"	"	"
Natashquan	"	"	"
Big Romaine	"	"	"
Pointe du Maurier	"	"	"
Baie des Moutons	"	"	"
Anticosti Id. via Long Point	50-2	"	"

ONTARIO.

Line from Leamington to Pelee Island (Telephone Circuit) — Local rates between Leamington and Point Pelee 15-1 ; mainland and Island Offices 25-1 ; Offices on the Island 15-1 (8 offices).

Gun Club House, mainland	15-1	(thro' business) from	Leamington, G. N. W.
Pointe Pelee, mainland	"	"	"
Leamington Dock	"	"	"
North Pt. Lt. H'se Pelee Island	"	"	"
North Dock, Pelee Island	"	"	"
McIntyre's Corners	"	"	"
West Dock, Pelee Island	"	"	"
South Dock	"	"	"

NORTH-WEST TERRITORY.

Line from Qu'Appelle (C. P. R. Sta), to Edmonton, Alberta — Local rates, 15-1, 25-2 and 50-3 for distances 10 to 600 miles, (13 offices).

Fort Qu'Appelle	25-2	Qu'Appelle or Saskatoon.		
Touchwood	"	"		
Saskatoon (Ts. office C.P.R. Tel.)	"	"		
Henrietta	"	"		
Battleford	"	"		
Bressaylor	25-2	Saskatoon ;	50-3	Qu'Appelle or Edmonton.
Onion Lake	"	"		
Moose	"	"		
St. Paul de Métis	50-3	Saskatoon,		Qu'Appelle or Edmonton.
Saddle Lake	"	"		
Victoria	25-2	Edmonton ;	50-3	Qu'Appelle or Saskatoon.
Fort Saskatchewan	"	"		
Edmonton (Ts. office C P R Tel)	"	"		

Line from Moosejaw (C.P.R. Stn.) to Wood Mountain—Local rates 25-2 (1 office)

Wood Mountain.....25.2 from Moosejaw.

BRITISH COLUMBIA.

Line from Ashcroft (C.P.R. Stn.) to Barkerville—Local rates 25, 50, 75 (9 offices)

Clinton	25-2	from Ashcroft	C. P. R. Tel. office.
Bridge Creek		"	"
150-Mile House	50-3	"	"
Soda Creek		"	"
Quesnelle		"	"
Stanley	75-5	"	"
Barkerville	75-5	"	"
Lillooet (branch)	50-3	"	"
Pavillion (on Lillooet branch)		"	"

Line from Victoria to Cape Beale—Local rate 50-3 (6 offices)

Sooke	50-3	from Victoria	C. P. R. Tel. office.
Otter Point		"	"
Jordan River		"	"
Port San Juan		"	"
Carmanah Lt. House		"	"
Cape Beale		"	"

Line from Nanaimo to Comox—Local rate 25-2 (9 offices)

Wellington (C.P.R. & E. & N. Ry.)	25-2	from	Nanaimo.
Parksville		"	or Wellington.
Fanny Bay		"	"
Cumberland		"	"
Union Bay		"	"
Union Mines		"	"
Courtney		"	"
Comox		"	"
Alberni (branch)		"	"

Line from Alberni to Cape Beale—Local rate 50-3.

Between offices on the Victoria-Cape Beale line and the Nanaimo-Comox line, via Alberni, 50-3.

Line from Bennett to Dawson and branch Tagish to Atlin (12 offices)

This line connects at Bennett with the White Pass Railway Telegraph which terminates at Skagway; the system being isolated is reached by transports from Vancouver or Victoria. The tariff rates are as hereunder :

Cable messages (transatlantic).—33c. per word from or to Victoria, of this 8c. is for the White Pass Company's line and 25c. for the Government line, charges defrayed from the latter for carriage of messages between Victoria and Skagway.

Press rate.—4c, per word from Victoria ; of this 1c. is for the White Pass Company's line, and 3c. for the Government line, charges defrayed from the latter for carriage of despatches between Victoria and Skagway. Minimum charge for despatch, $2.50 ; of this 75c. is for the White Pass Company's line, and $1.75 for

the Government line, the latter including carriage charges as above. This press rate, while local, applies to press despatches handled as such at special rates by connecting lines and cables.

Ordinary message rates—75c., and 5c. for White Pass Company line, and 50c and 5c. to $3.00 and 15c, according to distance, for Government line : the charge being approximately 50c for 10 words for each 100 miles.

Cariboo Crossing	50 and	5	from Bennett.
Tagish	60 and	5	"
Miles Canyon	75 and	5	"
White Horse	75 and	5	"
Lower Laberge	100 and	10	"
Hootalinquia	125 and	10	"
Five Fingers	200 and	15	"
Fort Selkirk	250 and	15	"
Stewart River	275 and	15	"
Dawson	300 and	15	"
Atlin (branch)	75 and	5	"

Offices on Government lines as listed	168
Offices at transfer points with connecting lines	17
Total number embraced by the service	185

PART VI

Report of the Collector of Revenue

DEPARTMENT OF PUBLIC WORKS

1899–1900.

COLLECTION OF REVENUE.

DEPARTMENT OF PUBLIC WORKS,

OTTAWA, 30th November 1900.

JOS. R. ROY, Esq.,

Acting Secretary Department of Public Works.

SIR,—I have the honor of submitting my report for the year ended 30th, June 1900.

I have examined the books and accounts of all the officers under my control, (excepting those of the Dock Master at Esquimalt) and it is my pleasing duty to state that, in all cases, the rules laid down for their guidance by the department have been carefully complied with by these officers ; who have faithfully accounted for all the revenue collected by them.

Again, this year, I very much regret having to report that the revenue shows a falling off compared with that of the preceding fiscal year. Being only $79,081.47 in 1899-1900 or $13,283.56 less than in 1898-1899 when it was $92,365.03.

With regard to this shortage it is but fair to note that the revenue from dry docks was $10,117.85 less than in 1898-1899. As the income from this source is dependent on accidental injury to vessels and is consequently of a very precarious nature, it follows that this decrease is in no way attributable to the department or any of its officers.

The revenue from slides and booms also shows a deficiency of $3,236.24 compared with the previous year.

Here, again, it is but just to state that the revenue from the Ottawa district exceeded that of 1898-99, by $1,437.90 but that from the St. Maurice district was less by $4,674.14 which loss is attributable largely to the disaster that befell the works on the 27th and 28th September 1899, whereby an immense number of saw-logs escaped into the St. Lawrence, the tolls on which were consequently lost.

The revenue from locks shews a net increase of $70.53 notwithstanding the fact that the Yamaska lock yielded less by $52.55 than in 1898-99.

Having dealt in a general way with the Revenue, I beg to submit the particulars in detail relating to the various services under their respective heads.

SLIDES AND BOOMS.

OTTAWA DISTRICT.

The tolls charged up during the fiscal year amounted to $40,256.88, being $1,437.90 more than for 1898-99.

The number of saw-logs which passed through the works was 3,086,879 pieces or 136,318 ps. more than during the previous year.

Of square timber there were only 9,809 pieces or 15,976 pieces less than the preceding year.

All the revenue derived from this district for 1899-1900, was collected during the financial year.

Of the dues accrued since 1st July 1889, there remains uncollected $7,507.98 full particulars of which appear in statement No. 2 herewith.

Of dues accrued prior to 1st July 1889, $56,805.65, are uncollected and should be written off. See statement Nos. 1 and 3 for particulars.

The account for the Ottawa district stand thus :—

Dues accrued during the year 1899-1900.....$ 40,256 88

All collected during the year.

The amount outstanding uncollected remains the same as on 30th June 1899, thus :—

Dues accrued prior to the collection being transferred to this department 1st July, 1889.....	$ 56,805 65	
Dues of 1889-90.....	$ 6,903 05	
" " 1890-91.....	28 42	
" " 1892-93.....	379 80	
" " 1896-97.....	196 71	7,507 98

I beg leave to emphasize the fact that since this department assumed contol of the collection of these dues, 1st July 1889. Of the revenue accrued say $626,074.48 exclusive of $6,903.05, Chaudiere boomage which should not have been charged up, only $28.42 of absolutely established charges is uncollected.

The remainder ought to be written off, excepting perhaps the last item, that of 1896-97, which probably should meet with the same treatment.

Herewith are statements in detail :—

No. 1.—Statement of amounts outstanding prior to 1st July 1889, uncollected 30th September 1900.

No. 2.—Statement of amounts accrued at Ottawa since 1st July 1889, uncollected 30th September 1900.

No. 3,—Statement of amounts accrued at Quebec prior to 1st July 1889, uncollected 30th September 1900.

No. 4. Statement of the number of pieces of square timber, saw-logs &c., which passed through the Ottawa works during the year ended 30th June 1900.

No. 5.—Statement of dues accrued from each of the slides and works in the Ottawa district during the year ended 30th June 1900.

Reference to statement No. 5 shews a decrease again in the income from the Madawaska River which formerly was one of our best revenue producing rivers.

Last year I drew attention to the fact that the dues received from this source were only $5,792.92 or $4,232 65 less than in 1897-98, and this year the revenue was only $3,399.25 or $6,626.32 less than in 1897-98 and $2,393.67 less than 1898-99.

As stated in my report of last year this river is practically worked out as to the pine timber, excepting part of the territory held by Mr. J. R. Booth and the St. Anthony Lumber Company, the latter having a saw-mill above our works and Mr. Booth conveying the timber by rail directly from the limits to his mill at Ottawa none of their logs pay us any toll, where formerly all the timber made on this river paid us more or less dues.

Hence the only revenue we can expect in future from the Madawaska will be that on Cedars, R. R. Ties, Pulp Wood, etc., which being of small value the rates are correspondingly low in comparison with those on pine timber and saw-logs.

I am glad to say that the revenue from the river Petewawe, which last year shewed a falling off of $13,809.17 compared with 1897-98 : this year is better by $2,333.31 than in 1898-99.

The steady decline in the production of square timber is a considerable factor in the reduction of the revenue from the Ottawa district and for the current year (1900-01), the income from this source is practically Nil. However, from the reports I have, I anticipate a considerable revenue from this trade next year.

For the first time since the tariff now in force was adopted, has the average annual revenue fallen below the estimate on which it was based.

The average yearly revenue expected was $49,000.00, owing to reduced income of 1898-99 and 1899-1900, the average has dropped to $48,822.29 or $177.71 less than the estimate

There is however every indication that the revenue for the current year will approach more nearly to the estimate and I hope, with the increase in the square timber business, that the revenue will, next year, again touch the estimated figure.

In conclusion I would respectfully point out the desirability of bringing the question of the uncollected arrears, not only those of the Ottawa district but also those of the other districts, before the Public Accounts Committee so as to have the authority of Parliament to write them off.

ST. MAURICE DISTRICT.

The revenue from this district was only $16,712.45 being $4.674.14 less than for the year 1898-99.

All the dues of 1899-1900, were collected during the fiscal year.

There is no change to note in regard to the amount outstanding on the 1st July 1899, namely, $14,481.49, all of which had accrued before I took charge in 1892, and which should all be written off for reasons ascribed in Statement No. 6 herewith.

The decrease in revenue from this district is mainly due to the accident which occurred to the works caused by the flood on the 27th and 28th September 1899, whereby almost all the booms on the river from Shawenigan to the mouth of the St. Maurice were either broken or torn away from their moorings.

The large boom near the railway bridge at Three Rivers contained about 160,000 logs of which a considerable portion was caught at the safety boom at the mouth, and from the best information obtainable I am of opinion that from 25,000 to 35,000 logs were totally lost to the lumbermen, the remainder being either caught in the safety boom or picked up along the St. Lawrence, some as far down as Quebec.

The prospects for a large increase in the revenue during the coming year are very bright ; as the new pulp mill of the Franco-Belgian Company now being erected at Shawenigan will require at least 350,000 logs annually and while, this year, the Laurentide Pulp Company, notwithstanding the fact that an important part of their plant was destroyed by fire early in the spring, have used over 700,000 logs, I am informed that to keep their mills, now restored, running to their full capacity it will require over 1,000,000 logs yearly. These with the other operators getting out a much larger number of logs than last year should bring the revenue up to at least a satisfactory figure in 1901-02.

There is every indication that in the near future, in consequence of the developement of the vast water powers of the St. Maurice and the demand for spruce pulp, the returns from it will amply compensate the government for the large outlay incurred just now to provide safe accommodation for the timber to be brought down.

NEWCASTLE DISTRICT.

The accompanying statement No. 7 contains the particulars of the dues uncollected amounting to $6,058.34 of which $3,521.19 should be written off in accordance with a decision of the Exchequer Court.

I would again urge the desirability of a settlement being arrived at of the dispute involving the remainder of the amount uncollected, namely, $2,537.15 so

that accounts of the past seven years might be adjusted and such dues as may be found to be owing collected.

GRAVING DOCKS.

ESQUIMALT GRAVING DOCK.

The revenue from this source, shewn in detail in statement No. 8 herewith, was $6,659.94 being $3,655.69 less than in 1898-99.

The dock was occupied for 107 days or 27 days less than during the previous year.

Of the 107 days the dock was occupied, it was used by vessels of war 90 days, Canadian Government vessels 8 days and private vessels 9 days.

Inasmuch as it was found that the reduction of the charges in May 1899 did not attract vessels to the dock but only had the effect of cheapening the dues on such vessels as were obliged to use the dock, the old tariff was reverted to by Order in Council of 5th June 1900.

LEVIS GRAVING DOCK.

The revenue has again fallen off $3,069 41 compared with that of 1898-99, being only $10,716.68. See statement No. 9 herewith.

The dock was occupied but 84 days, exclusive of winter months,—during 1898-99, it was in use for 104 days.

During the winter of 1899-1900, the dock was occupied by the Government Steamer Eureka; but as no other request for the dock had been received, no charge was made against this vessel.

KINGSTON GRAVING DOCK.

The income from this dock was only $4,114.13 being $3,392.75 less than for 1898-99. See statement No. 10.

It was occupied for 72½ days during the last year, while in 1898-99 it was in use for 93 days of the season of navigation.

From 1st January to 17th April 1900 it was idle, but it was occupied for 61 days of the preceding winter.

By Order in Council of 20th February 1900 the regulations were revised and amended, mainly in regard to permitting a half day charge, which it is expected will bring in some revenue that would otherwise be lost, of course there is no charge for less than one full day,—the half day rate applying only to vessels which have been already at least one full day in the dock.

The most important amendment is that defining when the winter rates begin and end,—formerly these began on the 1st December and ended on 15th April,—these dates have been changed to 31st December and 1st April. This amendment was provided in order to prevent the abuse which prevailed of getting the dock at winter rates, $10.00 per day, and using it for only a part of the month of December and in the same way the dock has been engaged at winter rates from 1st to 15th April and as many as nine (9) different vessels docked and repaired in it, which under the new regulations would pay full summer rates.

LOCKS.

RIVIERE DU LIEVRE

The tolls collected amounted to $296.80 being $123.08 more than in 1898-99.

RIVIERE YAMASKA.

The Revenue from this work was $52.55 less than that of the previous year, being only $324.59.

Thus the total collections which passed through my hands during the year ended 30th June 1900 may be summarized as follows :

From slides and booms	$56,969 33	
" graving docks	21,490 75	
" locks	621 39	
		79,081 47

The following comparative statement of Public Works Revenue collected 1898-99 and 1899-1900, shows at a glance where the decreases have occurred :—

	Year 1899-1900.	Year 1898-1899.	Increase 1899-1900.	Decrease 1899-1900.
Slides and Booms.				
Ottawa District	40,256 88	38,818 98	1,437 90	
St. Maurice District	16,712 45	21,386 59		4,674 14
	56,969 33	60,205 57	1,437 90	4,674 14
Net decrease				3,236 24
Graving Docks.				
Esquimalt	6,659 94	10,315 63		3,655 69
Levis	10,716 68	13,786 09		3,069 41
Kingston	4,114 13	7,506 88		3,392 75
	21,490 75	31,608 60		10,117 85
Locks.				
Rivière du Lièvre	296 80	173 72	123 08	
Rivière Yamaska	324 59	377 14		52 55
	621 39	550 86	123 08	52 55
Net Increase				70 53

Total Decrease Year ended 30th June 1900, $13,283.56

In conclusion I have to acknowledge the uniform courtesy and cheerful assistance accorded me, at all times by the officers with whom I have been brought in contact during the year.

I have the honour to be, respectfully, sir,
Your very obedient servant,

EDWARD T. SMITH,
Collector of Public Works Revenue.

No. 1.—Statement of Slidage and Boomage from the Ottawa Slides and Works, accrued prior to 1st July 1889, Outstanding 30th June 1900, and remaining uncollected on 30th September 1900.

By Whom Due.	Bad and Doubtful Debts.	Chaudière Boomage in Suspence.	Other Slide and Boom Dues Disputed.	Total Outstanding on Sept. 30, 1900.	Year to which Dues belong.	Remarks.
	$ cts.	$ cts.	$ cts.	$ cts.		
John and Wm. McLean	53 14	*		53 14	1873	Insolvent.
John Rowan	342 50			342 50	1872-1873	"
Lemieux & Charette	21 30			21 30	1873	"
Taillon & Lapierre	148 10			148 10	1873-1874	"
Mosgrove & McHarry	261 42			261 42	1873-1874	"
W. C. Wells	600 90			600 90	1873-1874	"
Dufresne & McGarity	528 80			528 80	1874-1875	"
Walton Smith	171 46			171 46	1874-1875	"
A. H. Baldwin	3,507 92			3,507 92	1871 to 1874	"
Hon. James Skead	9,807 65			9,807 65	1861, 1863, 1864, 1869, 1875 to 1878	"
Batson & Currier	5,558 70			5,558 70	1875 to 1877	"
A. F. A. Knight	546 30			546 30	1878	"
James Walker	11 25			11 25	1877	"
R. Campbell & Son	1,558 50			1,558 50	1879 to 1881	"
James G. Bryson	73 50			73 50	1886	"
Costello Bros	90 62			90 62	1882	"
N. E. Cormier	428 34			428 34	1888	"
James Yuill	9 29			9 29	1876	Overcharge.
J. & B. Grier	76 84			76 84	1883	"
R. & W. Conroy	95 42			95 42	1882-1883	" Reported in return S—38 for March, 1886.
A. & P. White	101 00			101 00	1881	"
B. Caldwell & Son	4 33			4 33	1887	"
J. R. Booth		9,871 93	398 88	10,270 81	1881 to 1888	*$398.88 counter claim for damages by the breaking of Coulonge Boom
Perley & Pattee		8,889 85		8,889 85	1881 to 1888	
The Bronsons & Weston Lumb. Co.		8,180 79		8,180 79	1881 to 1888	

Pierce & Co.	.....	462 18	.....	462 18	1888	*Chaudière Boomage—These parties claim that they have maintained these works wholly at their own expense since 1881.
G. A. Grier & Co.	.....	1,060 59	.....	1,060 59	1886-1887	
Estate late Levi Young	.....	1,461 20	.....	1,461 20	1881 to 1885	
Wm. Mason	.....	413 85	.....	413 85	1881 to 1888	
Gilmour & Co	.....	406 27	.....	406 27	1884	
John Rochester	.....	258 88	.....	258 88	1881 to 1883	
J. & G. Bryson	.....	.....	252 20	252 20	1886	Counter claim for damages by breaking of Coulonge works.
	23,977 28	31,005 54	651 08	55,653 90		

EDWARD T. SMITH,
Collector of Slide and Boom Dues.

Department of Public Works,
Ottawa, 30 September, 1900.

No. 2. — STATEMENT of Slide and Boom Dues accrued from the Ottawa River Works since 1st July, 1889, outstanding on 30th September, 1900.

Name.	Year to which dues belong.	Chaudière Boomage in suspense.	Ordinary Dues.	Total Outstanding	Remarks.
		$ cts.	$ cts.	$ cts.	
J. R. Booth	1889-90	2,561 69	.....	2,561 69	
The Bronsons & Weston L. Co.	"	2,056 96	.....	2,056 96	
Perley & Pattee	"	1,203 26	.....	1,203 26	Chaudière Boomage reported to Council, and referred to the Treasury Board, should be written off.
Wm. Mason & Sons	"	167 66	.....	167 66	
Pierce & Co.	"	913 48	.....	913 48	
Alex. Fraser, act. Thos. Stephens	1890-91	.....	28 42	28 42	Legal action taken to recover this.
J. R. Booth	1892-93	.....	379 80	379 80	Retained by Mr. Booth in settlement of an account due him, which the Auditor General refuses to pay, as Mr. Booth appeared to be in arrears in this and Statement No. 1.
Bryson & Fraser	1896	.....	196 71	196 71	Have counter claim for work done on slide to this amount.
		86,903 05	604 93	7,507 98	

EDWARD T. SMITH,

Collector of Slide and Boom Dues.

DEPARTMENT OF PUBLIC WORKS,

OTTAWA, 30th September, 1900.

No. 3.—STATEMENT of Outstanding Slide Dues, Ottawa District, Bonds for which were sent to Quebec for collection.

Name.	From 1860.	From 1861.	Total.
	$ cts.	$ cts.	$ cts.
Hon. James Skead	245 00	210 00	455 00
James Mair	.....	696 75	696 75
	245 00	906 75	1,151 75

These amounts were uncollected, as the parties claimed damages for loss caused by the Madawaska Boom breaking away in 1860.

A decision on their claims was not arrived at till 2nd August 1869. On the 5th idem, Messrs. Skead and Mair were notified that the Department could not recognize their claim.

To the best of my knowledge, this decision was never communicated to the Collector of Slide Dues, consequently these accounts remained in abeyance.

Since then both parties died, and I believe both were insolvent at the time of their death.

EDWARD T. SMITH,
Collector of Slide and Boom Dues.

DEPARTMENT OF PUBLIC WORKS,
Ottawa, 30th September 1900.

No. 4.—STATEMENT of the number of pieces of Square Timber, Sawlogs, &c., that passed through the Government Slides and Works on the River Ottawa and its tributaries during the Fiscal Year ended 30th June 1900.

	Pieces.
Square Timber	9,809
Saw-logs	3,086,879
Boom and Dimension Timber	36,244
Round and Flat Timber	6,539
Cedars	38,471
Rail Road Ties	401,278
Fence Posts	139,772
	3,718,992

Also 13,863, 43/128 cords pulp wood.

The revenue accrued on the above was $40,256.88.

EDWARD T. SMITH,
Collector of Slide and Boom Dues.

DEPARTMENT OF PUBLIC WORKS,
Ottawa, 30th September 1900.

No. 5.—STATEMENT showing the dues accrued on the undermentioned works on the River Ottawa and its tributaries during the Fiscal Year ended 30th June 1900.

River or other Improvement.	Amount.
	$ cts.
Main Ottawa	4,051 02
Chenaux Boom	6,258 43
River Petewawe	8,804 18
" Madawaska	3,399 25
" Coulonge	6,140 30
" Dumoine	409 97
Black River	2,906 79
Gatineau	8,286 94
	$40,256 88

Amounting to $40,256.88.

EDWARD T. SMITH,

Collector of Slide and Boom Dues.

DEPARTMENT OF PUBLIC WORKS,

Ottawa, 30th September 1900.

No. 6.—STATEMENT of Slide and Boom Dues from the St. Maurice Slides and Works, outstanding on 30th June, 1892, and remaining uncollected on the September 30, 1900.

Name.	Year to which Dues belong.	Amount.	Total.	Remarks.
		$ cts.	$ cts.	
Geo. Baptist, Son & Co.	1878	469 95	.....	
"	1879	2,110 62	.....	
"	1880	1,696 18	.....	Have counter claims for damages to logs caused by the booms not being stretched early enough in the spring of 1878 to prevent the logs going over the Chutes.
"	1881	293 69	.....	
"	1882	165 80	.....	
"	1884	118 50	.....	
"	1888	4 28	.....	
			4,859 02	These claims were submitted to Special Commissioner, Mr. McDougall, afterwards Judge, who, after hearing the evidence on both sides, recommended that the claims of the parties should be allowed.
Ross, Ritchie & Co....	1878	3,072 84	.....	
"	1883	2,173 68	.....	
"	1884	28 96	.....	
"	1886	1 62	.....	
"	1887	4 38	.....	
			5,281 48	
Alex. Baptist.....	1879	.....	2,116 96	
Wm. Ritchie & Co....	1888	779 24	.....	
"	1889	332 11	.....	
			1,111 35	Of this amount $754.20 is claimed to be an overcharge. Insolvent.
Ritchie Bros.....	1886	413 43	.....	
"	1887	634 71	.....	
			1,048 14	This amount is composed of overcharges in 1886 and 1887 of $842.76, and overpayment in 1884 of $205.38
G. B. Hall.....	1890	.....	49 34	Insolvent.
T. E. Normand	1890	.....	14 28	Claims that this balance is an overcharge.
Treffle Biron.....	1891	.....	0 92	Would cost more to collect than it is worth.
			14,481 49	

To make this balance agree with the Public Accounts, there should be deducted $7.93 overcredited to Alex. Baptist, and $217.17 added thereto, being $190.40 paid 23rd July, 1884, and $26.77 overcharged in error to Wm. Little, not in any of the Collector's returns, which will give balance due 30th September, 1894, of $14,690.73.

EDWARD T. SMITH,
Collector of Slide and Boom Dues.

DEPARTMENT OF PUBLIC WORKS,
OTTAWA, 30th September, 1900.

No. 7.—STATEMENT of Slide and Boom Dues accrued from the Newcastle and Trent River Works, outstanding on the 30th June 1900 and remaining uncollected on the 30th September, 1900.

Name.	Year to which Dues belong.	Amount.	Total.	Remarks.
		$ cts	$ cts.	
Irwin & Boyd	1881	59 79		Insolvent.
Thomson & McArthur	1880	52 78		"
Jabez Thurston	1882	12 50		"
McDougall & Ludgate	1879	65 07		"
Bigelow & Trounce	1882 to 1885,	216 21		"
R. & G. Strickland	1882, 1883, 1885, 1886 & 1887.	215 08		"
Estate late Geo. Hilliard.	1877 to 1883 & 1886	354 15		Dead and estate distributed.
T. G. Hazlett	1881, 1882, 1884 to 1889	885 25		According to judgment in Exchequer Court *re* Boyd *vs* Smith these cannot be collected.
J. M. Irwin	1882, 1883, 1885 to 1888	698 45		
D. Ullyott	1881 to 1887	547 68		
Green & Ellis	1881 to 1883, 1885, 1888 & 1889.	157 01		
A. W. Parkin	1884, 1885, 1888, 1890 & 1891.	65 92		
The Dixon Estate	1883	137 50		
Alfred McDonald	1888	40 80		
John Parkin	1889	13 00		
Gilmour & Co.	1893	690 58		
The Rathbun Company.	1893	1,846 57		
			6,058 34	

EDWARD T. SMITH,

Collector of Slide and Boom Dues.

DEPARTMENT OF PUBLIC WORKS,

OTTAWA, 30th September, 1900.

THE DRY DOCK AT ESQUIMALT, B.C.

No. 8.—STATEMENT of dues and other charges collected during the year ended 30th June 1900.

NAME OF VESSEL DOCKED.	Tonnage.	PERIOD OF DOCKAGE. From		To		Dockage Charges.	Other Charges.	Total.
		1899		1899		$ cts.	$ cts.	$ cts.
H.M.S. Sparrowhawk	265	June	26	July	17	775 79	.....	775 79
Str. Port Albert	3,514	July	26	"	27	400 00	.....	400 00
Str. Bristol	1,983	"	31	Aug.	1	250 00	.....	250 00
H.M.S. Virago	265	Aug.	23	"	26	297 03	.....	297 03
Goverment Str. Earl	54	April	10	April	15	17 50	.....	17 50
" Princess	50	Sep't.	6	Sep't	9	250 00	10 26	260 26
Str. Charmer	600	Oct.	28	Oct.	30	200 00	7 20	207 20
H.M.S. Phaeton	*4,300	"	30	Nov.	2	190 84	.....	190 84
H.M.S. Icarus	970	Nov.	6	Dec.	1	934 02	.....	934 02
H.M.S. Pheasant	755	"	6	"	1			
H.M.S. Leander	4,300	Dec.	4	"	13	381 88	.....	381 88
		1900		1900				
H.M.S. Virago	265	Jan'y	8	Jan'y	13	403 87	.....	403 87
H.M.S. Sparrowhawk	265	"	8	"	13			
Str. Robert Adamson	2,992	Feb.	19	Feb.	20	400 00	1 00	401 00
Governm't Str. Quadra and Pile Driver	573	March	5	March	10	350 00	2 40	352 40
H.M.S. Egeria	940	"	12	"	22	423 29	.....	423 29
S.S. Garonne	3,876	May	14	May	16	477 52	7 80	485 32
H.M.S. Hero	3,718	"	19	"	21	474 36	.....	474 36
H.M.S. Leander	4,300	June	4	June	7	185 94	.....	185 94
Str. Bristol	1,983	"	8	"	9	200 00	19 20	219 20
						6,612 04	47 86	6,659 90

EDWARD T. SMITH,

Collector of Public Works Revenue.

DEPARTMENT OF PUBLIC WORKS,

Ottawa, 30th September 1900.

THE DRY DOCK AT LEVIS.

No. 9.—STATEMENT of Dues and other charges collected during the Year ending 30th June, 1900.

NAME OF VESSEL DOCKED.	Tonnage.	PERIOD OF DOCKAGE. From	To	Dockage Charges.	Other charges.	Total.
		1899.	1899.	$ cts.	$ cts.	$ cts.
SS. Canadia	4,314 15	July.	Entry Fee	200 00	.....	200 00
"	16	"	27 July.	1,562 80	.....	1,562 80
SS Merrimac	4,177 20	Aug.	Entry Fee	200 00	.....	200 00
"	20	"	10 Oct.	7,050 54	25 00	7,075 54
SS. Frames	1,498 3	Nov.	Entry Fee	200 00	.....	200 00
"	4	"	11 Nov.	621 87	.....	621 87
		1900.	1900.			
Dredges Nos. 8 and 11	300 30	April.	11 May.	442 50	.....	442 50
SS. Activ	1,377 6	June.	7 June.	411 97	2 00	413 97
				10,689 68	27 00	10,716 68

EDWARD T. SMITH,
Collector of Public Works Revenue.

DEPARTMENT OF PUBLIC WORKS,
OTTAWA, 30th September, 1900.

THE DRY DOCK AT KINGSTON.

No. 10.—STATEMENT of Dues and other Charges collected during the Year ending 30th June 1900.

NAME OF VESSELS DOCKED.	Tonnage	PERIOD OF DOCKAGE. From	To	Dockage Charges.	Other Charges.	Total.
		1899.	1899.	$ cts.	$ cts.	$ cts.
Str. New Island Wanderer	123 6	July. 7	July.	44 60		44 60
Barge Cornwall	586 12	" 14	"	149 62		149 62
Barge Waubaushene	478 17	" 18	"	95 60		95 60
Tug Jessie Hall	56 24	" 25	"	20 00		20 00
Str. Islander	119 2	Aug 3	Aug.	23 80		23 80
Str. Glengarry	732 9	" 11	"	174 44		174 44
Str. Capt. Visger under	100 25	" 26	"	20 00		20 00
Str. Rival	125 1	Sept. 3	Sept	45 00		45 00
Tug Petrel	346 4	" 17	"	370 34		370 34
Str. D. D. Calvin	750 2	Oct. 3	Oct.	135 50		135 50
Tug Active	302 3	" 6	"	112 68		112 68
Barge Cornwall	586 25	" 26	"	108 60		108 60
Barge Hector	539 4	Nov. 4	Nov.	103 90		103 90
Barge Selkirk	719 20	" 22	"	172 23		172 23
Tug St. Paul 45 Dredge Nipissing 105 Dredge Queen 85 and two Scows 50	285 23	" 2	Dec.	238 00		238 00
Str. Elfinmere	1,054 16	Dec. 31	"	1,188 32	22 00	1,210 32
		1900.	1900.			
Str. Tecumseh	840 17	April 18	April	192 80	5 00	197 80
Str. New Island Wanderer	123 19	" 21	"	44 60		44 60
Str. Glengarry	732 21	" 22	"	148 82	5 00	153 82
Barge Muskoka	481 25	" 28	"	180 38		180 38
Str. W. Johnson	95 9	May 10	May	20 00		20 00
Str. L'Loyd S. Porter	536 31	" 31	"	103 60	5 00	108 60
Barge Melrose	768 4	June 4	June.	126 80		126 80
Str. D. D. Calvin	750 15	" 16	"	135 50		135 50
Barge Regina	441 25	" 26	"	88 20		88 20
Str. Islander	119 27	" 28	"	33 80		33 80
				$4,077 13	$37 00	$4,114 13

EDWARD T. SMITH,
Collector of Public Works Revenue.

DEPARTMENT OF PUBLIC WORKS,
Ottawa, 30th September 1900.

PART VII

Miscellaneous.

CONTAINS ACTS OF PARLIAMENT AND ORDERS IN COUNCIL TRANSFERRING PROPERTIES FROM CONTROL OF PUBLIC WORKS TO OTHER DEPARTMENTS.

ACTS OF PARLIAMENT, PASSED AT SESSION OF 1900, HAVING REFERENCE TO THIS DEPARTMENT.

CONTRACTS LET BY THE DEPARTMENT.

PROPERTY PURCHASED OR SOLD.

PROPERTY LEASED TO OR BY THE DEPARTMENT.

CURATOR'S REPORT, NATIONAL ART GALLERY.

NAMES OF CHIEF OFFICERS OF THE DEPARTMENT.

NAMES OF OFFICIALS EMPLOYED ON SLIDES AND BOOMS.

NAMES OF PERSONS EMPLOYED ON GRAVING DOCKS

NAMES OF ENGINEERS, FIREMEN AND CARETAKERS OF PUBLIC BUILDINGS.

TABULAR STATEMENT SHOWING OPENING AND CLOSING OF NAVIGATION.

AND THE OFFICIAL CORRESPONDENCE OF THE DEPARTMENT

FOR THE

FISCAL YEAR ENDED JUNE 30, 1900.

TRANSFERRING CONTROL OF PENITENTIARIES, ETC.

OTTAWA, 11th December 1900.

By 58-59 Vic. Chap. 42, Sec. 2, Section 10 of the Penitentiary Act, which reads as follows :—"The construction and repairs of buildings and other works "in the Penitentiaries shall be under the control of the Minister of Public "Works," is repealed and the following substituted therefore :—"The construc- "tion and repairs of buildings and other works in the Penitentiaries shall be "under the control of the Minister of Public Works, except in cases where, in "the opinion of the Minister of Justice, such works can be performed by con- "vict labour."

CHAPTER XVII.

AN ACT RESPECTING FORTIFICATIONS AND MILITARY BUILDINGS AND THEIR MAINTENANCE AND REPAIR.

ASSENTED TO 19TH APRIL 1884.

Her Majesty, by and with the advice and consent of the Senate and House of Commons of Canada, enacts as follows :—

1. Notwithstanding anything contained in the Act passed in the thirty-first year of Her Majesty's reign, chaptered twelve, and intituled "An Act respecting the Public Works of Canada," or in any other Act, the Department of Militia and Defence may, on, from or after the first day of July, in the year of Our Lord one thousand eight hundred and eighty-four, be charged with and have the control, management, maintenance and repair of all military buildings, forts and fortifications in Canada, under an order of the Governor in Council in that behalf, to be made before the day last mentioned.

TRANSFER OF WHARFS, PIERS, &c.

EXTRACT FROM CHAPTER 84.

AN ACT RESPECTING THE GOVERNMENT HARBOURS, PIERS AND BREAKWATERS.

Her Majesty, by and with the advice and consent of the Senate and House of Commons of Canada, enacts as follows :—

1. All harbours, wharves, piers and breakwaters constructed or completed at the expense of Canada, or otherwise the property of Canada, except only such as are on or connected with canals, shall be under the control and management of the Minister of Marine and Fisheries respecting the use, maintenance and ordinary repairs thereof, the making and enforcing of regulations concerning such use, maintenance and ordinary repairs, and the collection of tolls and dues of such use.

2. The construction and repairs, and the works connected therewith, other than maintenance and ordinary repairs, shall be under the control and direction of the Minister of Public Works, 40 Vic. ch. 17, s. 1.

2. The Governor in Council may appoint or direct such officers or persons as he thinks proper, who shall have, under the direction of the Minister of Marine and Fisheries, the charge of the work hereby placed under the management and control of the said minister, and who shall collect the tolls and dues thereon and the Governor in Council may determine the remuneration to be allowed them respectively for such services. 40 Vic., ch. 17, s. 2.

3. The Governor in Council may, from time to time, on the recommendation of the Minister of Marine and Fisheries, make rules and regulations for the use and management of such harbours, wharves, piers and breakwaters, and a tariff or tariffs of the tolls and dues to be paid for the use of the same, and levied on persons or vessels using them, and on goods, wares or merchandise landed or shipped on or from off them.

7. Nothing in this Act shall be construed to impair or affect any of the powers or duties of the Minister of Public Works under the "Act respecting the Public Works of Canada," respecting the construction, improvement, repair or maintenance of the works hereinbefore mentioned, or the power of the Governor in Council to make regulations for the proper use of the said works, concerning their safety and protection from injury, and the prevention of, or liability for damages done to them, or to avoid or impair the effect of any Order in Council made under the said Act imposing or providing for the collection of tolls or dues for the use of such works, until such order is revoked, or other provisions made for the same purpose under this Act. 40 Vic., ch. 17, s. 7.

8. Nothing in this Act shall apply to the harbour of Quebec, Montreal, Toronto, St. John, N. B., Halifax, or Pictou, or any harbour under the management of commissioners appointed under any Act of the Parliament of Canada. 40 Vic. ch. 17, s. 8.

APPLICATION FOR FORESHORE RIGHTS, TO CONSTRUCT WORKS IN NAVIGABLE WATERS.

Chapter 92, Section 5, of the Revised Statutes of Canada are as follows :—

" 5. The local authority, company or person proposing to construct any work " in navigable waters for which no sufficient sanction otherwise exists, may " deposit the plans thereof and a description of the proposed site with the Min- " ister of Public Works, and a duplicate of each in the office of the registrar " of deeds for the district, county or province in which such work is proposed to " be constructed, and may apply to the Governor in Council for approval thereof, " and shall give one month's notice of the said deposit of plans and application, " by advertisement in the *Canada Gazette*, and in two newspapers published in or " near the locality where such work is to be constructed. 49 V., c. 35, s. 2."

In order to better explain the bearing and requirements of said section I have the honour to append an extract from an opinion given by the Honourable the Minister of Justice with respect to certain previous applications under the act.

The Minister makes the following amongst other observations upon the papers filed :—

" (1) So far as the papers show the applicants have not complied with the " requirements of the Statute that a description of the proposed site should be " deposited with the Minister of Public Works, and a duplicate thereof in the " office of the registrar of deeds. A plan of the site is filed, but the statute—R. " S. C. Cap. 92, sec. 5—evidently contemplates more than this. There should, " the Minister thinks, be a description by metes and bounds."

" (2) Before the plans and description are approved, the applicants should " be required to give clear proof that they own the land and land covered with " water on which they propose to erect the work. The Statute has reference to " the erection of structures on lands owned by the applicants and is designed to " provide for due protection to navigation. It cannot be used as a means of " acquiring title to land on which the structure is to be erected. If the intention " of the applicants is to obtain title to the soil and the soil in vested is the " Government, application should be made for that purpose under section 33 of " Cap. 13 of the Acts of 1889."

These remarks of the Minister will serve to make clear the view which will be acted upon by his Department as to the meaning and intention of the Act upon the points dealt with in them, and applicants must, in all cases, govern themselves accordingly, for, upon an application being recommended by the Chief Engineer of this Department, it is referred to the Department of Justice in order that that Department may say whether the requirements of the law have been complied with.

I may further observe that a mere statement that the provisions of the law have been complied with is not sufficient, but that satisfactory evidence must be given that duplicates of the plan or plans and of the description by metes and bounds have been deposited in the office of the registrar of deeds, as required by the Act ; also, that the notices of such deposit and application, required by the Act, have been duly published ; statutory declarations made in virtue of Cap. 141 R. S. C., " An Act respecting extra judical oaths," will be accepted in proof

of these facts. The fact of publication of notices may be proved also (if the applicant prefers that method) by the production of the numbers of the papers themselves and of the *Canada Gazette*, containing said notices (pencil marked).

Since the Privy Council of Great Britain has decided that the beds of streams and navigable waters are vested in the Provincial Government, it becomes necessary for applicants for foreshore rights to obtain a deed or quit claim from the Provincial Government interested, excepting in cases when the application is made for foreshore in harbours, which still remain under the control of the Federal Government. Therefore riparian owners or lessees for a term of years, shall obtain deed or quit claim from the Provincial Government having control and from the Department of Interior for the land covered by water where they are not the owners by prior right.

Letters Patent may issue immediately for works constructed previous to 1st March 1899, on which the Department of Fisheries and Public Works report favourably.

SYNOPSIS.

A plan and description by metes and bounds to be deposited with the Registrar of deeds.

A copy of above, certified by the Registrar as a true copy of original on file in his office ; to be sent to this department.

The proposed work, fully described, to be advertised in the *Canada Gazette* and two local newspapers for five weeks, such advertisements to be filed in this department.

Evidence that the applicant is owner in fee simple or by long lease of foreshore and of land covered by water as above described ; to be also filed with this Department.

OTTAWA, 1st December 1900.

SIR,—I have the honour to transmit to you herewith the following statements concerning the transactions of the Department during the last fiscal year with respect to contracts and property, and which are required for insertion in the annual report 1899-1900, namely :—

No. 1. Statement of contracts let by this Department during the fiscal year ended June 30 last.

No. 2. Statement of property purchased and sold by this Department during the same period.

No. 3. Statement of property leased to and by the said Department of Public Works during the same period and,

No. 4. A list of the Public Acts of the Parliament of Canada passed at the last Session and Orders of the Governor General in Council, having reference to this Department.

I have the honour to be,
Sir.
Your obedient servant,
J. A. CHASSÉ.
Law Clerk.

JOS. R. ROY, Esq.,
Acting Secretary,
Department of Public Works.

LIST OF

Some of the Acts of Parliament

PASSED AT THE SESSION OF 1900

HAVING

REFERENCE TO THE DEPARTMENT OF PUBLIC WORKS
OR WORKS UNDER ITS CHARGE.

LIST of some of the Public Acts of the Parliament of Canada, passed at the Fifth Session of the Eighth Parliament, closed by Prorogation on the 18th day of July 1900, and orders of the Governor General in Council having reference to the Public Works Department or works under its charge (63-64 Victoria).

Subject.	Full Title of the Statute.	Chapter.	Page in Statute Book.
Sums granted to Her Majesty for the financial year ending 30th June, 1900, and the purposes for which they are granted.	An Act for granting to Her Majesty certain sums of money required for defraying certain expenses of the public service for the financial year ending the 30th June, 1900, and for other purposes relating to the public service.	1	3
Sums granted to Her Majesty for the financial year ending 30th June, 1900, and the purposes for which they are granted.	An Act for granting to Her Majesty certain sums of money required for defraying certain expenses of the public service for the financial year ending the 30th June, 1900.	3	7
Sums granted to Her Majesty for the financial years ending 30th June, 1900, and 30th June, 1901.	An Act for granting to Her Majesty certain sums of money required for defraying certain expenses of the public service for the financial years ending respectively the 30th June, 1900, and the 30th June, 1901, and for other purposes relating to the public service.	5	11
Amendments to the Civil Service Act, *re* "junior second, class clerks."	An Act to amend the Civil Service Act.	14	159
Interest to be paid in case of an expropriation made by the crown.	An Act to amend the Expropriation Act.	22	177
Prevention and settlement of trade disputes.	An Act to aid in the prevention and settlement of trade disputes, and to provide for the publication of statistical industrial information.	24	183

N. B.—By an Order in Council passed on the 31st January 1900, and in virtue of the provisions of the Act 62-63 Victoria, chapter 30, regulations were made and established for the preservation of health among persons employed in the construction of Public Works. *Vide*, page LII of the Statutes of Canada, 1900.

By Proclamation dated 5th May 1900, under the provisions of the Revised Statutes of Canada, chapter one hundred and fifty one and intituled "An Act respecting the preservation of peace in the vicinity of Public Works," all the provisions of the said Act, except sections numbers three to twelve, both inclusive, were brought into force upon and after the 15th of May 1900, in the north western part of the Province of Ontario.

J. A. CHASSÉ,
Law Clerk.

DEPARTMENT OF PUBLIC WORKS,
OTTAWA, 1st December, 1900.

STATEMENTS

SHOWING

1st.—CONTRACTS LET BY THE DEPARTMENT OF PUBLIC WORKS OF CANADA, FROM JUNE 30 1899 TO JUNE 30 1900.

2nd.—PROPERTY PURCHASED OR SOLD BY THE DEPARTMENT OF PUBLIC WORKS DURING THE FISCAL YEAR ENDED JUNE 30, 1900.

3rd.—PROPERTY LEASED TO AND BY THE DEPARTMENT OF PUBLIC WORKS, DURING THE FISCAL YEAR ENDED JUNE 30, 1900.

No. 1.—CONTRACTS let by the Department of Public Works of Canada from the 30th June, 1899, to the 30th June, 1900.

Works.	Names of Contractors.	Date of Contract.	Amount.
			$ cts.
PUBLIC BUILDINGS.			
Government House, Parliament and Departmental Buildings.			
Parliament and Departmental Buildings—Supply of coal	John Heney & Son	June 10, 1899	19,344 00
Experimental Farm—Construction of a Root House	Holtby & Shearer	Sept. 7, 1899	3,115 00
Military Store Building	Bourque & Lemoine	April 11, 1900	50,745 00
Government House—Addition to	McCullough & Cameron	Sept. 8, 1899	7,567 00
Nova Scotia.			
Amherst, Post Office. Supply of Coal	Acadia Coal Co., Ltd.	Aug. 28, 1899	193 90
Annapolis " "	James Kenna	" 28, 1899	161 72
Antigonish " "	Acadia Coal Co., Ltd.	" 28, 1899	75 04
Arichat " "	Isidore LeBlanc & Co.	Sept. 7, 1899	70 00
" Savings Bank "	"	" 7, 1899	35 00
" Custom House "	"	" 7, 1899	35 00
Baddeck, Post Office "	Burchell Bros.	" 9, 1899	99 00
Dartmouth " "	Wm. Roche	" 2, 1899	48 60
Halifax, Dominion Building "	"	" 2, 1899	454 84
" Asst. Rec. Genl. office "	"	" 2, 1899	82 50
" Immigration Building "	"	" 2, 1899	241 30
" Exam'ng Warehouse "	"	" 2, 1899	133 35
Kentville, constn't. of a Post Office Building	James Reid	Aug. 28, 1899	10,872 00
" Post Office Bldg.—Construction of heating apparatus	T. P. Calkin & Co.	June 29, 1900	875 00
Liverpool, Post Office Bldg.—Construction of heating apparatus	Frank Powers	Jan'y 29, 1900	815 00
Lunenburg, Post Office. Supply of Coal	Benjamin Anderson	Aug. 26, 1899	165 00
New Glasgow " "	Acadia Coal Co., Ltd.	" 28, 1899	129 42
North Sydney " "	Burchell Bros.	Sept. 27, 1899	128 00
Pictou " "	Acadia Coal Co., Ltd.	Aug. 28, 1899	78 62
" Custom House "	"	" 28, 1899	110 07
Sydney, Post Office. "	C. F. Routledge	Sept. 2, 1899	121 00
Truro " "	Acadia Coal Co., Ltd.	Aug. 28, 1899	134 50
Windsor " "	"	" 28, 1899	59 98
" " "	Fred. W. Dimock	" 25, 1899	124 38
Yarmouth " "	Killam Bros.	" 26, 1899	264 15
Prince Edward Island.			
Charlottetown, Dominion Building.—Supply of Coal	Acadia Coal Co., Ltd.	Aug. 28, 1899	337 80
Montague, Post Office. Supply of Coal	George Wightman	" 25, 1899	52 95
Summerside " "	James Kenna	" 28, 1899	311 65
New Brunswick.			
Bathurst, Post Office. Supply of Coal	Robert Seely	Sept. 1, 1899	294 37
Chatham " "	Acadia Coal Co., Ltd.	Aug. 28, 1899	69 26
" " "	R. R. Call	" 25, 1899	239 12
Dalhousie " "	Robert Seely	Sept. 1, 1899	146 93
Fredericton " "	"	" 1, 1899	36 95

SESSIONAL PAPER No. 19

No. 1.—CONTRACTS let by the Department of Public Works of Canada from the 30th June, 1889, to the 30th June, 1900.

Works.		Names of Contractors.	Date of Contract.	Amount.
				$ cts.
PUBLIC BUILDINGS—*Continued.*				
New Brunswick.				
Fredericton post office.	Supply of Coal....	Patrick Farrell.....	Sept. 4, 1899	235 06
Moncton "	"	Acadia Coal Co., Ltd..	Aug. 28, 1899	179 48
New Castle "	"	"	" 28, 1899	76 93
" "	"	R. R. Call.....	" 25, 1899	222 85
Partridge Island, Quar. Station, construction of three buildings.....		John Duffy	Nov. 7, 1899	18,500 00
St. John (North) post office.	Supply of Coal..	Vroom & Arnold.....	Sept. 1, 1899	24 74
" (West) "	" ..	Robert Seely.....	" 1, 1899	
" (City) custom house	" ..	Vroom & Arnold.....	" 1, 1899	25 53
" (") post office	" ..	R. P. & W. F. Starr...	" 6, 1899	480 22
" savings bank	" ..	"	" 6, 1899	212 16
" custom house	" ..	"	" 6, 1899	1,381 37
St. Stephen post office	" ..	A. I. Teed Co'y. Ltd...	Aug. 26, 1899	82 80
Sussex "	" .	Robert Seely.....	Sept. 1, 1899	225 66
Tracadie-Lazaretto	" ..	R. R. Call	Aug. 25, 1899	791 78
Woodstock post office	" ..	A. I. Teed Co'y. Ltd...	" 26, 1899	183 89
Quebec.				
Aylmer post office.	Supply of Coal....	J. W. McCullough.....	Aug. 25, 1899	112 50
Coaticook "	"	W. C. Webster & Son..	" 26, 1899	142 30
Farnham "	"	G. C. Poulin.....	Sept. 5, 1899	42 00
Fraserville "	"	Nap. Dion.....	Aug. 23, 1899	219 77
Hull—Construction of a post office building..		Jos. Bourque & Chs. Lemoine	June 8, 1900	18,500 00
Joliette post office	Supply of Coal....	M. A. Leprohon & Co..	Aug. 31, 1899	121 02
Lachine "	"	Bell Bros. & Co.....	Sept. 3, 1899	86 03
Laprairie "	"	Ludger Beauvais.....	Aug. 25, 1899	115 61
Montreal "	" ...	T. F. Moore & Co.....	" 26, 1899	765 45
" custom house	"	"	" 26, 1899	550 00
" examining warehouse	"	"	" 26, 1899	
" northern receiv. house	"	"	" 26, 1899	1,814 73
" revenue building	"	"	" 26, 1899	
Quebec immigration office	"	Jos. Gingras	" 25, 1899	192 50
" culler's office	"	Archer & Co.....	Sept. 1, 1899	14 04
" custom house	"	"	" 1, 1899	125 51
" marine agency	"	"	" 1, 1899	394 59
" examining warehouse	"	"	" 1, 1899	242 38
" post office	"	"	" 1, 1899	329 30
" (St. Roch)	"	"	" 1, 1899	481 88
Richmond "	"	J. D. Smith.....	Aug. 25, 1899	50 35
St. Henri "	"	T. F. Moore & Co.....	" 26, 1899	215 13
St. Hyacinthe "	"	C. Rouleau & Fils	Sept. 1, 1899	143 00
St. Jérôme "	"	Chs. Godmer.....	" 11, 1899	234 49
Sherbrooke "	"	J. D. Smith.....	Aug. 25, 1899	158 96
Sorel "	"	Alexis Martin.....	Sept. 6, 1899	280 38
Three Rivers "	"	J. C. Malone & Co....	" 7, 1899	307 50
" custom house	"	"	" 7, 1899	137 50
Valleyfield post office	"	Eusèbe Dion	" 21, 1899	299 75
Victoriaville—Construction of a public bld'g.		P. Paquet & T. Godbout	Jan'y 16, 1900	44 74
				8,000 00

No. 1.—CONTRACTS let by the Department of Public Works, &c.—*Continued.*

Works.	Names of Contractors.	Date of Contract.	Amount.
			$ cts.
PUBLIC BUILDINGS—*Continued.*			
Ontario.			
Almonte, Post Office. Supply of Coal	Wm. McArthur	Sept. 14, 1899	149 50
Amherstburg " "	John Mann & Sons	" 5, 1899	119 42
Arnprior " "	J. S. Moir	Aug. 24, 1899	178 48
Barrie " "	Johnston & Serjeant	" 24, 1899	250 00
Belleville " "	The Rathbun Co	Sept. 11, 1899	461 70
Berlin " "	A. A. Pipe	" 11, 1899	8 62
" " "	Kloepfer & Co	" 5, 1899	117 76
Brampton " "	R. J. McCallum	Aug. 24, 1899	129 90
Brantford " "	Thos. Elliott	" 28, 1899	298 88
Brockville " "	Geo. E. Shields	Sept. 1, 1899	298 50
" construction of a Drill Hall	David S. Booth	June 29, 1900	42,290 00
Carleton Place, Post Office. Sup. of Coal	F.W. Singleton & Co.	Aug. 25, 1899	113 00
Chatham " "	A. R. Crow	" 28, 1899	168 43
Cobourg " "	Geo. Thompson	" 26, 1899	168 00
Cornwall " "	A. F. Mulhern	" 26, 1899	238 00
Dundas " "	Chs. Sturrock	Sept. 11, 1899	16 75
Galt " "	John Brownlee	Aug. 30, 1899	160 00
Gananoque " "	The Rathbun Co	Sept. 11, 1899	86 47
" Custom House "	" "	" 11, 1899	108 60
Goderich, Post Office "	F. Barlow Holmes	Aug. 26, 1899	160 64
Guelph " "	Kloepfer & Co.	" 28, 1899	26 67
Hamilton " "	The Rogers Coal Co	" 26, 1899	768 62
" " "	Thos. Myles & Sons	" 26, 1899	
" Public Bldg.—Supply of current for lighting Post Office	The Hamilton Electric Light and Cataract Power Co., Ltd.	March 27, 1900	790 00
Ingersoll, Post Office.—Construction of heating apparatus	Purdy, Mansell & Co.	Jan'y. 23, 1900	1,323 00
Kingston, Drill Hall.—Construction of heating apparatus	McKelvey & Birch	March 27, 1900	2,695 00
Kingston, Post Office. Supply of Coal	James Sowards	Aug. 25, 1899	191 25
" Custom House "	" "	" 25, 1899	212 50
Lindsay, Post Office "	McLennan & Co.	" 25, 1899	135 31
London " "	Bowman & Co	Sept. 1, 1899	66 72
" Custom House "	" "	" 1, 1899	15 26
" " "	Campbell & Chantler	Aug. 31, 1899	235 40
" Post Office "	" "	" 31, 1899	
Napanee " "	The Rathbun Co	Sept. 11, 1899	195 50
Niagara Falls " "	John Mann & Sons	" 5, 1899	60 00
Orangeville " "	" "	" 5, 1899	10 00
Orillia " "	" "	" 5, 1899	116 23
Pembroke " "	James Stewart	Aug. 25, 1899	180 03
Peterborough " "	The Rathbun Co	Sept. 11, 1899	163 85
" Custom House "	" "	" 11, 1899	144 87
Petrolia, Post Office "	John Mann & Sons	" 5, 1899	139 18
Port Arthur " "	Western Coal Co., Ltd.	Aug. 28, 1899	130 00
Port Hope " "	Brown & Henning	" 25, 1899	172 17
Prescott " "	James Buckly	" 25, 1899	157 15
" Custom House "	" "	" 25, 1899	89 80
Rat Portage, Post Office, construction of heating apparatus	Purdy, Mansell & Co.	Oct. 7, 1899	1,423 00
St. Catharines, Post Office. Sup. of Coal	H. M. Rogers	Aug. 25, 1899	147 27
St. Thomas " "	Ellison & Lewis	" 26, 1899	254 50
Smith's Falls " "	A. Foster	" 26, 1899	128 80
Stratford " "	C. F. Neild	" 25, 1899	315 76

SESSIONAL PAPER No. 19

No. 1.—CONTRACTS let by the Department of Public Works, &c.—*Continued.*

Works.		Names of Contractors.	Date of Contract.	Amount.
PUBLIC BUILDINGS—*Continued.*				$ cts.
Ontario—Continued.				
Strathroy post office.	Supply of Coal....	Alexander Reed.....	Aug. 25, 1899	167 85
Toronto "	"	The Ellias Rogers Co..	" 31, 1899	817 48
" custom house	"	" ..	" 31, 1899	369 72
" examinining warehouse	"	" ..	" 31, 1899	878 18
" revenue office	"	" ..	" 31, 1899	263 38
" inland revenue building—Supply of current for lighting		The Toronto Electric Light Co.....	April 25, 1900	Per 1,000 watts 20
Trenton post office.	Supply of Coal....	Chs. Crowe.....	Aug. 29, 1899	153 60
Walkerton "	"	S. W. Vogan.....	" 25, 1899	156 25
Windsor "	"	Robt. J. Cleminson....	" 26, 1899	394 64
Woodstock—Construction of a public building		J. A. DesRivières.....	Oct. 9, 1899	31,790 00
Manitoba.				
Brandon post office.	Supply of Coal....	McIlvride & Lane.....	Sept. 2, 1899	17 50
" "	"	John Hanbury	" 2, 1899	605 50
" experimental farm	"	McIlvride & Lane	" 2, 1899	35 28
" "	"	John Hanbury	" 2, 1899	121 86
Portage LaPrairie public bld'g	"	Western Coal Co., Ltd.	Aug. 28, 1899	375 22
Winnipeg post office	"	Alberta Ry. & Coal Co.	Nov. 3, 1899	2,225 60
" custom house	"	Taylor & Sons	Aug. 28, 1899	665 49
" immig. office & sheds	"	"	" 28, 1899	285 00
" indian office	"	"	" 28, 1899	190 00
" examining warehouse	"	"	" 28, 1899	256 50
North-west Territories.				
Indian Head experimental farm.	Sup. of Coal.	Geo. Thompson.....	Aug. 31, 1899	250 00
Medicine Hat—Construction of a court house.		Chs. Purmal.....	" 2, 1899	6,403 30
" Const. of heating apparatus..		Williamson & McIntyre	March 19, 1900	715 00
Moose Jaw court-house.	Supply of Coal....	Robert Beard	Aug. 31, 1899	80 00
Regina—Construction of lands office.....		Willoughby & Mollard.	" 14, 1899	17,940 00
" court-house	Supply of Coal....	Rembler Paul.....	" 31, 1899	782 50
" raising and under building a barrack building.....		Donald McDougall....	March 20, 1900	4,500 00
" post office.	Supply of Coal....	Rembler Paul.....	Aug. 31, 1899	250 00
" land title's office	"	"	" 31, 1899	100 00
" Dominion lands	"	"	" 31, 1899	180 00
British Columbia.				
New Westminster—Construction of a post office &c , buildings.....		Jos. Bourque & J. A. DesRivières.....	Feb. 13, 1900	50,500 00
Vancouver—Courtruction of a drill hall.....		Viau & Lachance	July 17, 1899	65,658 00
Victoria public building—Construction of freight elevator.....		Leitch & Turnbull.....	Jan. 22, 1900	1,945 00
HARBOURS & RIVERS.				
Nova Scotia.				
Englishtown—Construction of a public wharf.		Hugh McDonald	Aug. 14, 1899	6,197 00
New Harbour—Construction of a breakwater.		J. B. McManus.....	May 19, 1900	17,070 00
North Bay—Ingonish—Construction of a breakwater.....		John Heney & Henry Smith	Dec. 6, 1899	27,250 00

No. 1.—CONTRACTS let by the Department of Public Works, &c.—*Continued.*

Works.	Names of Contractors.	Date of Contract.	Amount.
			$ cts.
HARBOURS AND RIVERS—*Continued*			
Nova Scotia—Continued.			
Parker's Cove, Annapolis.—Extension to breakwater	W. H. Anderson	March 8, 1900	2,949 00
Port Hillford—Construction of a breakwater.	Reid & Archibald	Sept. 15, 1899	6,763 00
Wolfville—Construction of a pile wharf	John E. Bigelow	May 12, 1900	5,907 00
Prince Edward Island.			
Summerside, Indian Head—Construction of a stone breakwater	McDonald & Moffatt	May 25, 1900	55,900 00
West Point—Extension to wharf	Alex. McDonald	June 5, 1900	5,500 00
New Brunswick.			
[*] Burnt Church—Construction of a public wharf	J. B. McManus	Oct 31, 1899	13,000 00
Lameque—Construction of a public wharf	Arcade Landry	April 25, 1899	12,000 00
Quebec.			
Cacouna—Construction of wharf	Geo. St. Pierre & Co.	Dec. 19, 1899	5,525 00
Coteau Landing—Dredging a channel	C. Cohen & Son	Oct. 10, 1899	per cub. yd., 14c
Levis—Extension to Dry Dock	Thos. Powers	" 23, 1899	94,976 00
Percé Harbour—Construction of a landing pier	John Heney & Henry Smith	April 17, 1899	25,792 00
Portage du Fort—Construction of two piers and abutments for proposed bridge	Quinlan, Phippen and Robertson	Feb'y. 9, 1900	6,725 00
Ontario.			
Bruce Mines, Algoma County—Construction of landing pier	Chs. Lemoine & F. E. Fortin	April 10, 1900	12,550 00
Burlington Channel—To renew the superstructure of south pier in Hamilton Bay.	F.W. Wilson	June 4, 1900	26,500 00
Collingwood Harbour—Dredging	C. S. Boone	May 26, 1900	Per c. yd. in situ,2.25
Hawkestone—Construction of a wharf	Wm. J. Bryce	April 9, 1900	2,475 00
Meaford—Construction of close piling, etc., and dredging	M. A. Pigott	June 15, 1900	62,570 00
Ottawa, Maria Street Bridge.—Construction of two abutments and canal piers	John Burns	April 9, 1900	28,520 00
Ottawa, Maria Street Bridge, for 24 post piers	"	" 9, 1900	1,324 00
" " for pile work	"	" 9, 1900	Per lin. ft., 37c
Port Elgin—Extension of breakwater	"	Jany. 7, 1900	5,240 00
Port Findlay, Algoma District—Construction of wharf	Murdock McLennan	March 20, 1900	5,730 00
Rondeau Harbour—Dredging works	The Chatham Dredging & General Contracting Co., Ltd.	Sept. 19, 1899	Per cub. yd., 15c
Toronto Harbour—Lengthening and repairing the pier west side of east'n entrance.	J. P. Magann & W. E. Phin	Feb'y 10, 1900	61,171 00

[*] This contract has been assigned to J. W. & J. Anderson on the 9th August, 1900.

No. 1—CONTRACTS let by the Department of Public Works, &c.—*Concluded.*

Works.	Names of Contractors.	Date of Contract	Amount.
HARBOURS AND RIVERS—*Continued*			
Manitoba.			$ cts.
Gimli, Lake Winnipeg. — Construction of a landing pier	John J. Vopni	Sept. 11, 1899	9,600 00
VESSELS, DREDGES AND PLANT.			
Construction of a marine return tubular boiler	Carrier, Lainé & Co.	Jan'y 11, 1900	3,922 00
Construction of two triple expansion engines and one Scotch marine boiler	John Inglis & Sons	Feb'y 20, 1900	20,350 00
TELEGRAPH SIGNAL SERVICE.			
Big Romaine to Chateau Bay, Strait of Belle Isle — Construction of a telegraph line, 315 miles more or less	Xavier Gendreau	Aug. 11, 1899	Per mile— 125 00
Kamloops to Lower Nicola Lake, B.C —Construction of a telegraph line	J. H. Latrémouille	July 26, 1899	3,447 00
River St. Lawrence, North Shore—Transportation of telegraph poles, etc	F. A. C. Bickerdike	Aug. 19, 1899	10,700 00
River St Lawrence, North Shore—Transportation of telegraph poles and braces	L. P. de Courval	April 19, 1900	Per pole— 1 00

J. A. CHASSÉ,

Law Clerk.

DEPARTMENT OF PUBLIC WORKS,

Ottawa, 1st December, 1900.

No. 2.—STATEMENT of properties purchased or sold by the Department of Public Works during the Fiscal Year ended 30th June, 1900.

Date of Conveyance.	Vendors.	Purchasers.	Description of Property.	For what purpose.	Area.	Price.
1899.						
July 17....	Eliza Ann Lister & al..	Her Majesty	Town lots Nos. 1, 2, 3 and 4, east side of Front St., Sarnia, Ont., with premises.....	For public building..	8,000 square ft.	5,000 00
Oct. 5....	James H. Olive.....	"	Sale of ship "Cricket".....	Government purposes	.....	1,500 00
" 13....	T. H. Cook & *ux*.....	"	Town lots Nos. 5, 6 and part of lot 7, east side of Front St., and lot No. 17, south side of Francis St., Sarnia, Ont., with buildings thereon erected	For public building..	.....	4,000 00
" 28....	James Black	"	Part of lot No. 202, Iberville, P. Q.....	Government purposes	2,420 square ft.	200 00
Nov. 13....	P. H. Guay.....	"	Part of lot No. 329, Victoriaville, P. Q.....	For public building..	.....	2,000 00
Dec. 23....	F. Morriset	"	Part of lots Nos. 135 and 136, with wharf and sheds, Cap Santé, P. Q.....	For Govt purposes ..	16,054 ft. dry land & 28,670 ft. beach land	2,000 00
" 29....	D. McLeod.....	"	Plot of land between public road and shore, North River, St. Anns, N. S.....	For appr. to wharf ..	6,892 sq. feet.	50 00
1900.						
Jan. 22....	Wm. Bolton & *ux*....	"	Part of lot No. 26, 8th concession, Horton Township, Renfrew Co., Ont.....	For appr. to bridge..	.....	200 00
" 27....	D. Sproul et al.....	"	Lot of land, western side of Water St., Digby, N.S.	Government purposes	5,798 sq. feet..	3,000 00
" 29....	Adelia Gould Maitland et al	"	Part of lot No. 25, 8th concession, Horton Township, Renfrew Co., Ont.....	For appr. to bridge..	4/10 of an acre.	10 00
Feb. 7....	Revd. A. Brunet	"	Part of lot No. 2, Island of Portage du Fort, P. Q.	"	$1\frac{48}{100}$ of an acre	25 00
" 16....	A. M. Nanton.....	"	Sale of N. W. Quarter of Sect. 35, Township 42, Range 3, Saskatchewan, N. W. T.....	Government purposes	in superficies	1 00
Mch. 15....	W. A. Galliher.....	"	Lot No. 1, and west half of lot No. 2, Block 1, Townsite of Nelson, being lot 95 in Group 1, Kootenay District, B. C.....	For public building..	.....	11,000 00

1900.						$ cts.
April	13....	M. L. Kitchen & Husband	Her Majesty	Two lots of land at River John, N. S., with buildings thereon erected	Government purposes	16,236 sup. ft.	400 00
"	26....	Wm. Burrill et al	"	Sale of wharf at Salmon River, Digby, N. S.	"	.....	2,000 00
"	26....	F. A. Corbett et al	"	Lot of land known as "City Market property" Halifax, N. S.	"	.....	24,000 00
"	27....	Bruno Lachaine	"	Lot No. 98, Iles aux Grues, P. Q.	For wharf	2 acres and $\frac{70}{100}$ of an acre...	200 00
May	22....	Wm. Ferguson	"	Sale of isolated block at the Head of the Government wharf at Tracadie, N. B.	"	.....	300 00
June	6....	N. R. H. Bullen	"	Lots Nos. 11 and 12, Block 41, Rossland, B. C.	Public building	.....	12,000 00
"	13....	C. A. Desjardins	"	Land and wharf at St. André de Kamouraska, P. Q., south shore of St. Lawrence River	For wharf	525,000 sq. feet	10,000 00
"	15....	Wm. MacKenzie et al	"	Lots 11 and 12, Block 1, at Dauphin, Man	Government purposes	.....	10 00
"	16...	Corp. of Bucking., P Q	"	Part of lot No. 404, Buckingham, P. Q.	For public building	.....	Free Grant.

No. 3.—STATEMENT of properties leased to and by the Department of Public Works during the fiscal year ended 30th June 1900.

Date of Lease.	Lessors.	Lessees.	Property leased.	For what purpose	Duration of Lease	Annual Rental.
1899						
Aug. 28..	Her Majesty.....	The Pontiac Pac. Junc. Ry. Co ,& Ottawa & Gat. Ry Co.	Ottawa Rideau Canal, lands along the line of.....	Ry. purposes	21 years ...	$100.00 per annum.
Dec. 7..	" "	Chs. L. Gass.....				
Dec. 20..	" "	The Gowrie & Block House Collieries, Ltd., of New-Castle-on-Tyne, Eng. ...	Water lot at Bayfield, N.S..	Private enterprise.	During pleasure.	5.00 "
1900						
June 1..	The Grand Grunk Ry Co.	Her Majesty.....	" at Port Morien, N.S.	" "	21 years	1.00 "
" 16..	S. F. McKinnon	" "	Additional space for addition to "Annex" Union Station, Toronto, Ont....	For storing Her Majesty's mail.	5 "	150.00 per month.
			Rooms Nos. 107 and 110 McKinnon Building, Toronto, Ont.	Govern. purposes.	5 "	150.00 per annum.

J. A. CHASSÉ,
Late Clerk.

DEPARTMENT OF PUBLIC WORKS,
OTTAWA, 1st December 1900.

NATIONAL ART GALLERY.

CURATOR'S REPORT

FOR THE FISCAL YEAR ENDED JUNE 30, 1900.

NATIONAL GALLERY.

CHIEF ARCHITECT'S OFFICE,
OTTAWA, Dec. 12th 1900.

SIR,—I have the honour to report that the following additions have been made to the Gallery during the fiscal year ending June 30th 1900.

Oil paintings.—Portrait of the late D. Kingsford presented by the artist Chas. E. Moss, Esq.

"Young Canada," by Robert Harris, Esq., presented by Mrs. Caroline Hill.

Burial of the late Sir John Thompson—scene on the deck of H. M. S. Blenheim—by F. M. Bell Smith, presented by Mrs. Sandford.

Sculpture.—Bronze bust of the late Sir John Thompson, by L. P. Hébert.

Fourteen thousand two hundred and fifty-six visitors registered during the year, being a decrease of some seven hundred from preceding year.

This decrease may be accounted for by the fact that the Gallery was twice closed to the public during the year, once when the Royal Canadian Academy were holding their Exhibition, and again when the pictures and frames were being restored, cleaned, etc

I beg to call your attention to the crowded condition of the Gallery, and the method of heating.

It is impossible to hang the pictures with any degree of satisfaction on account of the lack of space. An extension at the rear or at the side of the present building could be built which would prove most acceptable and be by no means extravagant.

The building is heated by stoves, a hot water apparatus would be a great improvement in cleanliness, convenience, and appearance.

I have the honour to be, Sir,

Your obedient servant,

L. FENNINGS TAYLOR,

Curator.

Jos. R. Roy, Esq.,
Acting Secretary, Department of Public Works.

NAMES

OF THE

Chief Officers of the Department of Public Works

WITH

DATES OF APPOINTMENT, &c., FROM 1841 TO 1900.

NAMES OF THE CHIEF OFFICERS.

The names with the dates of the appointment, &c., of the principal Officials of the Department of Public Works, from 1841 to 1900.

Names.	Capacity or Office.	Date of Appointment	Served. From	To
Under Statute 4-5 Vic., Cap. 38.				
CORPORATION BOARD OF WORKS.				
Killaly, Hon. H. H	Chairman			
Daly, Hon. D.				
Harrison, S. B.	Members	Dec. 29, 1841	Oct. 3, 1844,	
Sullivan, R. B.				
Davidson, J., Esq.				
Begly, Thomas A.	Secretary	Aug. 17, 1841		
Keefer, Samuel	Chief Engineer	" 17, 1841		
Rubidge, F. B.	Architect and Assistant Chief Engineer	Dec. 15, 1841		
NEW BOARD OF WORKS.				
Killaly, Hon. H. H.	Chairman			
Daly, Hon. D.				
Draper, Hon. W. H.	Members	Oct. 4, 1844	June 8, 1846	
Morris, Hon. W.				
Papineau, Hon. D. B.				
Under Statute 9th Vic., Cap. 37, &c.				
Robinson, Hon. W. B.	Chief Commissioner	June 22, 1846	March 10, 1848	
Taché, Hon. E. P.	"	March 11, 1848	Nov. 26, 1849	
Chabot, Hon. J.	"	Dec. 13, 1849	March 31, 1850	
Merritt, Hon. W. H.	"	April 8, 1850	Feb. 11, 1851	
Bourret, Hon. J.	"	Feb 12, 1851	Oct. 27, 1851	
Young, Hon. John	"	Oct. 28, 1851	Sept. 22, 1852	
Chabot, Hon. J.	"	Sept. 23, 1852	Jan. 26, 1855	
Lemieux, Hon. F.	"	Jan. 27, 1855	Nov. 25, 1857	
Alleyn, Hon. C.	"	Nov. 26, 1857	Aug. 1, 1858	
Holton, Hon. L. H.	"	Aug. 2, 1858	" 6, 1858	
Sicotte, Hon. L. V.	"	" 7, 1858	Jan. 10, 1859	
Rose, Hon. John	"	Jan 11, 1859	June 12, 1861	
Cauchon, Hon. Jos.	Commissioner	June 13, 1861	May 23, 1862	
Tessier, Hon. U. J	"	May 24, 1862	" 27, 1863	
Drummond, Hon. L. T.	"	" 28, 1863	July 23, 1863	
Laframboise, Hon. M.	"	July 24, 1863	March 29, 1864	
Chapais, J. C.	"	March 30, 1864	June 30, 1867	
Casgrain, Hon. Chas. Eus.	Second Commissioner	July 9, 1846	Feb. 29, 1848	
Cameron, Hon. M.	Assistant Commissioner	March 11, 1848	" 1, 1850	
Westenhall, John S., Esq.	"	Feb. 2, 1850	April 16, 1850	
Bourret, Hon. Jos.	"	April 17, 1850	Feb 11, 1851	
Killaly, Hon. H. H.	"	Feb. 12, 1851	May 6, 1859	
Keefer, Samuel	Deputy Commissioner	May 6, 1859	March 7, 1864	
Trudeau, Toussaint	"	March 8, 1864	May 29, 1868	
Begley, Thos. A.	Secretary	Feb. 10, 1841	Oct. 31, 1858	
Trudeau, Toussaint	"	Dec. 13, 1859	March 7, 1864	
Braun, Frederick	"	March 8, 1864	July 1, 1867	
Page, John	Chief Engineer	Oct. 31, 1853	Oct. 1, 1879	

The names with the dates of the appointment, &c., of the principal Officials of the Department of Public Works, from 1841 to 1900.—*Continued.*

Names.	Capacity or Office.	Date of Appointment Served. From	To
Under Statute 31 Vic., Chap. 12.			
McDougall, Hon. Wm	Minister	July 1, 1867	Dec. 7, 1869
Langevin, C.B., Hon. Hector L.	"	Dec. 8, 1869	Nov. 6, 1873
Mackenzie, Hon Alexander	"	Nov. 7, 1873	Oct. 16, 1878
Tupper, C.B., K.C.M.G., Sir Charles	"	Oct. 17, 1878	May 19, 1879
Langevin, C.B., K C M G., Sir Hec. L.	"	May 20, 1879	Aug. 11, 1891
Smith, Hon. Frank	Acting Minister	Aug. 14, 1891	Jan. 10, 1892
Ouimet, Hon. Joseph Aldéric	Minister	Jan. 11, 1892	April 30, 1896
Desjardins, Hon Alphonse	"	May 1, 1896	July 12, 1896
Tarte, Hon J. Israel	"	July 13, 1896	
Trudeau, Toussaint	Deputy Minister	May 29, 1868	Oct. 1, 1879
Baillargé, G. F	"	Oct. 4, 1879	Dec. 31, 1890
Gobeil, A	"	Jan 1, 1891	
Braun, Frederick	Secretary	July 1, 1867	Sept. 30, 1879
Chapleau, S	"	Oct. 1, 1879	Nov. 4, 1880
Ennis, F. H	"	Nov. 5, 1880	Jan. 13, 1885
Gobeil, A	"	Jan. 23, 1885	Dec. 31, 1890
Roy, E. F. E	"	Jan. 1, 1891	" 31, 1900
Roy, J. R	Acting Secretary	Jan. 1, 1900	
McPherson, D. A	Assistant Secretary	" 18, 1891	April 11, 1893
Desrochers, Rudolphe Charles	"	" 8, 1896	
Page, John	Chief Engineer	July 1, 1868	Oct. 1, 1879
Perley, H. F	"	Nov. 25, 1880	July 10, 1891
Baillargé, G. F	Assistant Chief Engineer.	July 5, 1871	" 4, 1879
Coste, Louis	Chief Engineer	" 26, 1892	March 18, 1899
Lafleur, E. D	Acting Chief Engineer	March 18, 1899	
Scott, Thos. S	Chief Architect	May 26, 1871	Oct. 30, 1881
Fuller, Thomas	"	Oct. 31, 1881	June 30, 1897
Ewart, David	"	Nov. 2, 1897	

NAMES

OF THE

Officials employed on the Slides and Booms of Canada

ON JUNE 30th, 1900

WITH

DATES OF APPOINTMENT, SALARIES, &c.

OFFICIALS EMPLOYED ON THE SLIDES AND BOOMS.

STATEMENT showing the Names, Dates of Appointment, Salaries, etc., of persons employed on the various Slides and Booms, on June 30th, 1900.

Name.	Date of Birth.	Position.	Where employed.	Date of Appointment.	Salary.	Remarks.
Collector of Slide and Boom Dues.					$ cts.	
E. T. Smith	Nov. 26, 1846	Collector	Ottawa	July 1, 1889	1,800 00 a year	Date of first appointment to Crown timber office, Ottawa, 23rd June, 1864. Clerk, Dept. of Inland Rev., July 1, 1870, to June 30, 1889. Transferred to civil list with rank of first class clerk, January 5, 1892.
F. X. Gagné	Sept. 23, 1859	Clerk	"	Dec. 16, 1897	912 50 a year	Entered the service August 13, 1889.
James Steen	June 17, 1830	Boatman	"	July 12, 1889	60 00 a month.	Employed during the season of navigation, for 8 months each year. Date of first appointment, May 26, 1861. Timber counter, Ottawa, for Dept. of Inland Revenue, Jan. 7, 1884, to June 30, 1889.
John Redmond	August 2, 1823	Boatman	"	July 12, 1889	60 00 a month.	Employed during the season of navigation, for 8 months each year. Date of first appointment, May 1, 1872. Assistant timber counter, Ottawa, for Dept. of Inland Reven, Jan. 7, 1884, to June 30, 1889.
Saguenay District						Saguenay district slides abandoned by authority of O.C., dated Feb. 5, 1896 (No. 168,740).
St. Maurice District.						
L. P. Dallaire		Paymaster	Three Rivers	May 1, 1898	50 00 a month.	
Cyriac Lymburner	1833	Boom master	Grand'Mère	April 25, 1881	55 00 "	
Jos. Pagé	July 7, 1845	Slide "	M'th of St. Maurice	Dec. 10, 1879	60 00 "	
Jos. Dick		Asst. "	Cap aux Corneilles.	May 19, 1898	60 00 "	
Gédéon Rousseau		" "	Shawenigan & Grès	April 7, 1896	54 16 "	
Moïse Masson		Boom keeper	Grandes Piles	May 19, 1898	55 00 "	

Richelieu District								
Cyrille Choquette		Boom master	Beheil Station	July 26, 1897	100 00	a year		
Ottawa District.								
G. P. Brophy	Febv. 24, 1816	Superintendent	Ottawa	July 6, 1873	2,500 00	a year		*Ottawa River Works.*—In addition to the above officers, etc., there are employed during the running season, one foreman on slide at $1.50 and one assistant foreman at $1.25 a day; also 25 to 30 labourers at from $1 to $1.40 a working day.
D. Scott	" 15, 1830	Accountant	"	Oct. 1, 1854	1,500 00	"		
J. C. Scott	June 27, 1865	Measurer	"	April 1, 1889	3 50	a day		
J. Kent	Jan'y 28, 1864	Clerk	"	Aug. 1, 1886	3 25	"		
Wm. Cain	April 22, 1860	Messenger	"	Jan'y 1, 1892	1 35	"		
Pierre St. Pierre		Dep'y slide master	Carillon	June 1, 1897	1 40	"		Actively employed about 7 mos. Oversees repairs in winter.
D. Noonan	June 17, 1840	Boom master	Gatineau	March 21, 1878	500 00	a year		" "
J. Soulière	Nov. 8, 1829	Dep'y slide master	Chaudière	1878	2 50	a day		" "
P. D. Chene		"	Hull	June 14, 1899	1 50	"		Employed about 6 months.
W. A. Sheriff		"	Chats	April 26, 1898	1 50	"		" Oversees repairs in winter.
John Harvey	May 22, 1831	Slide master	Arnprior	July 12, 1882	2 50	"		Actively employed about 7 months.
Joseph McCrea	March 26, 1869	Boom master	Springtown	May 15, 1880	300 00	a year		Employed about 3 months during season of navigation.
Patrick Barry	" 27, 1858	Slide master	High Falls	March 10, 1888	1 50	a day		Employed 5 mos. during season of navigation. Oversees repairs in winter.
Duncan McLaren	Jan'y 7, 1860	Dep'y slide master	Portage du Fort	Sept. 7, 1881	456 25	a year		" " "
D. Rochon		"	Black River		480 00	"		" " "
Wm. Selkirk		"	Lower Petewawa		2 00	a day		" " "
P. O'Connor		"	Upper Petewawa	March 18, 1898	2 00	"		
Wm. Thomson	May 3, 1843	"	Mountain	Oct. 10, 1879	1 25	"		" 6 mos. " "
G. H. Brabazon		"	Calumet	April 1, 1894	30 00	a month		" 6 to 7 mos. " "
John Mullin		"	Coulonge	" 10, 1899	360 00	a year		" 4 mos. " "
H. R. Downey	May 16, 1846	"	Des Joachims	July 1, 1889	300 00	"		" " "
J. F. McGuire		"	Dumoine	May 1, 1897	300 00	"		Employ. 3 mos. during season of navigation. Will inspect works when required.
J. J. French		"	Crooked Chute		2 00	"		" " "
J. W. Carmichel		"	Rocher Capitaine	Dec. 24, 1896	2 00	"		
A. H. Johnson	Nov. 28, 1839	"	Chenaux	1865	2 50	"		Paid during season of navig'n, 7 mos. Attends to repairs in winter.
G. T. Johnson	Sept. 10, 1841	"	"	1872	1 75	"		" "

STATEMENT showing the Names, etc., of persons employed on the various Slides and Booms, etc.—*Concluded.*

Name.	Date of Birth.	Position.	Where employed.	Date of Appointment.	Salary.	Remarks.
					$ cts.	
Newcastle District.						
R. B. Rogers	Jan'y 17, 1857	Superintendent	Peterboro'	July 1, 1884	800 00 a year	Receives $800 a year from Department of Railways and Canals.
G. H. Giroux		Clerk, Supt's office.	Peterboro'	" 1, 1880	400 00 "	" $400 " "
R. A. Wagar		Slide master	Chisholm Rapids	June 15, 1898	200 00 "	
W. T. Junkin		"	Fenelon Falls	Nov. 15, 1896	100 00 "	$250 a year as lock master " R.& C.
R. T. Hill		"	Buckhorn	July 1, 1891	100 00 "	Receives $150 a year from Department of Railways and Canals.
Hamilton Johnston		"	Heeley's Falls	" 15, 1893	200 00 "	
John Dinwoodie		"	Lakefield	June 20, 1893	150 00 "	
Richelieu District.						
C. Choquette		Boom master	Belœil Station	July 26, 1897	100 00 "	
Burlington Channel, Swing Bridge.						
Wm. Omand		Bridge attendant	Burlington	Sept. 19, 1896	600 00 a year	
R. Fletcher				July 1, 1899		
A. McDonald		Bridge assistant	Burlington	April 1, 1896	1 25 a day	Employed 9 months.
C. Rasberry		"	"	Sept. 19, 1896	1 25 "	"
Jos. Eustice		"	"	" 19, 1896	1 25 "	"
Yamaska District.						
H. Lambert		Lock keeper	Yamaska	July 1, 1897	40 00 a month.	
O. Minean		"	"	Sept. 1, 1885	40 00 "	
Rivière du Lièvre.						
Hugh Gorman		Lock master	Rivière du Lièvre	April 15, 1897	40 00 "	
James Brazeau		Labourer	"	" 15, 1897	35 00 "	

JOS. VINCENT.

NAMES

OF

Persons employed on the various Graving Docks

ON JUNE 30th, 1900

WITH

DATES OF APPOINTMENT, SALARIES, &c.

GRAVING DOCK EMPLOYEES.

STATEMENT showing the Names, Dates of Appointment, Salaries, &c, of persons employed on the various Graving Docks, June 30, 1900.

Name.	Date of Birth.	Position.	Where employed.	Date of Appointment.	Salary.	Remarks.
Esquimalt Graving Dock British Columbia.						
John Devereux		Dockmaster	Esquimalt	Sept. 17, 1887.	$166 66 a month.	
A. C. Muir		Engineer	"	April 1, 1887.	100 00 "	
J. W. Muir		Asst. engineer	"	Jan. 11, 1892.	80 00 "	
A. D. Greeves		Carpenter	"	Dec. 1, 1887.	80 00 "	
F. M. Jones		Stoker	"	July 1, 1890.	60 00 "	
G. Springer		"	"		60 00 "	
John Stock		Watchman	"	July 1, 1894.	50 00 "	
Lévis Graving Dock.						
Alf. Samson		Dockmaster	Lévis	Feb. 15, 1900.	1,000 00 a year	
Wm. Macdougall		Mechanical engineer	"	June 1, 1888.	75 00 a month.	
T. Guilbault		Asst mechanical eng.	"	Sept. 1, 1897.	45 00 "	
Narcisse Lemelin		Fireman	"	June 1, 1888.	32 00 "	
			"			
Kingston Graving Dock						
F. S. Rees		Dockmaster	Kingston	April 1, 1897.	1,000 00 a year	
Robert McLeod		1st engineer	"	July 1, 1892.	75 00 a month.	
Wm. Geaghean		Fireman	"	" 1, 1892.	45 00 "	
C Staley		Watchman	"	" 1, 1892.	45 00 "	

JOS. VINCENT.

LIST OF

Engineers, Enginemen, Firemen and Caretakers

EMPLOYED

IN THE PUBLIC BUILDINGS THROUGHOUT THE DOMINION ON JUNE 30th, 1900

GIVING

DATES OF APPOINTMENT, SALARIES, &c.

ENGINEERS AND CARETAKERS, PUBLIC BUILDINGS.

STATEMENT showing the Names, &c., of the Engineers, Enginemen, Firemen, Caretakers, Hoist Attendants and Watchmen employed at Dominion Public Buildings on June 30, 1900.

Place.		Building.	Name.	Date of Birth.	Position.	Date of Appointment.	Monthly Salary.	Time employed each year.	Yearly Salary.
							$ cts.		$ cts.
Amherst	N S	Post office	James Morrison	May 2, 1824	Caretaker	Nov. 2, 1886	33 33	12 months	400 00
Antigonish	"	Public building	Angus McDonald	March —, 1820	"	Feb. 5, 1891	33 33	12 "	400 00
Annapolis	"	Post office and C house	John McKay	Oct. 26, 1847	"	April 1, 1894	33 33	12 "	400 00
Baddeck	"	Public building	D. F. McKenzie	May 20, 1848	"	Jan. 21, 1898	16 67	12 "	200 00
Dartmouth	"	"	I. C Henley	Dec. 11, 1846	"	May 22, 1894	20 83	12 "	250 00
Halifax	"	Dominion building	Richard Power	Aug. 15, 1834	Engineer	Oct. 1, 1871	62 50	12 "	750 00
"	"	"	John Powell	" 21, 1836	Firemen	" 1, 1871	50 00	8 "	400 00
"	"	"	J. F. Sullivan	April 16, 1866	Caretaker	July 1, 1892	33 33	12 "	400 00
"	"	"	W. H. Gray	Nov. 26, 1848	Watchman	Sept. 10, 1891	39 00	12 "	468 00
"	"	Drill hall	R. Harmon	Dec. 23, 1868	Fireman	Dec. 3, 1898	50 00	12 "	600 00
"	"	Examining warehouse	M. O'Neil	" 30, 1856	Caretaker	Oct 1, 1897	33 33	12 "	400 00
"	"	Immigrant building	John Oxley	April 17, 1856	Fireman	Feb. 2, 1897	50 00	12 "	600 00
Lunenburg	"	Public building	J. E Hebb	Nov. 3, 1833	Caretaker	June 7, 1895	25 00	12 "	300 00
New Glasgow	"	Post office	Daniel McDonald	Dec. 17, 1832	"	Oct. 1, 1889	25 00	12 "	300 00
North Sydney	"	Public building	Alex. Green	July 10, 1825	"	Nov. 1, 1897	29 16	12 "	350 00
Pictou	"	Post office and C. house	Jas. Arbuckle	Feb. 18, 1836	"	Dec 20, 1897	29 16	12 "	350 00
Sydney South	"	" "	L. Keefe	May 5, 1846	"	Nov. 1, 1897	29 16	12 "	350 00
Truro	"	" "	Alex. Smith	" 17, 1837	"	April 1, 1897	25 00	12 "	300 00
Windsor	"	"	J. A. Mosher		"	Sept 22, 1892	33 33	12 "	400 00
Yarmouth	"	Public building	W. H. Whallen	Nov. 16, 1841	"	March 1, 1900	33 33	12 "	400 00
Charlottetown	P.E.I.	Dominion building	Wm. J Fraser	Jan. 1, 1836	" & firem	April 3, 1894	33 33	12 "	400 00
"	"	"	Geo. Walker	Aug. 28, 1826	Messenger	Jan. 19, 1875	37 00	12 "	444 00
"	"	"	M. A. Allan	Jan. 8, 1855	"	" 24, 1898	37 50	12 "	450 00
"	"	"	Angus McKenzie	March 12, 1856	Watchman	Nov. 1, 1896	33 33	12 "	400 00
Montague	"	Public building	W. Gillis	Oct. —, 1831	Caretaker	May 9, 1898	13 33	12 "	160 00
Summerside	"	Dominion building	A. MacSween	Sept. 25, 1835	"	Sept. 1, 1897	33 33	12 "	400 00
Bathurst	N.B.	Post office	J. A Melançon	Jan. 20, 1825	"	April 13, 1887	33 33	12 "	400 00
Chatham	"	"	C Johnston	May 18, 1856	"	March 27, 1895	25 00	12 "	300 00
Carleton, St. John	"	"	James R. Reid	Aug. 15, 1823	"	Oct. 1, 1889	8 33	12 "	100 00
Dalhousie	"	"	Wm. Gould	Jan. 1, 1853	"	Nov. 26, 1890	33 33	12 "	400 00

Fredericton	N.B.	Post office	James Perkins	Oct.	5,	1847	Caretaker	May	31,	1881	33	33	12 months	400 00
Moncton	"	"	E. B. Hicks	Jan.	11,	1832	"	Jan.	11,	1886	33	33	12 "	400 00
Newcastle	"	"	Patrick Keating	March	13,	1840	"	Oct.	23,	1886	33	33	12 "	400 00
St. Stephen	"	"	Samuel Topping	April	2,	1839	"	May	25,	1887	33	33	12 "	400 00
Sussex	"	"	Shepherd Dryden	May	18,	1839	"	Jan.	15,	1897	16	66	12 "	200 00
St. John	"	Custom house	Neil J. Morrison	July	25,	1858	Eng. & caretak'r	April	27,	1894	60	00	12 "	720 00
"	"	"	Christopher White	Nov.	20,	1844	Fireman	Nov.	9,	1885	50	00	12 "	600 00
"	"	"	James A. Paul	Aug.	1,	1837	Caretaker	Oct.	13,	1891	41	67	12 "	500 00
"	"	Post office	James Wolfe	March	10,	1850	Engineer	Dec.	1,	1893	55	00	12 "	660 00
"	"	"	Edward Haney	Feb.	22,	1849	Hoist attendant	Nov.	27,	1882	50	00	12 "	600 00
Woodstock	"	"	Charles Trafton	Jan.	20,	1839	Caretaker	May	1,	1897	33	33	12 "	400 00
Aylmer	P.Q.	"	Miss M. G. Woods	May	16,	1860	"	April	29,	1895	5	00	12 "	60 00
Berthierville	"	"	J. Ralston	.....	.....	.....	"	Nov.	15,	1899	.....	.....	.....	.....
Coaticook	"	Public bulding	Israel Baldwin	Nov.	16,	1839	"	June	27,	1889	33	33	12 months	400 00
Fraserville	"	Post office	Z. Raymond	"	—,	1831	"	Nov.	2,	1897	25	00	12 "	300 00
Hull	"	" &c	J. I. Madore	March	8,	1900	"	.....	.....	.....	12	50	12 "	150 00
Joliette	"	"	A. Ratel	Dec.	29,	1845	"	Sept.	1,	1897	33	33	12 "	400 00
Lachine	"	"	P. O. Robert	Sept.	7,	1846	"	Jan.	26,	1899	8	33	12 "	100 00
Laprairie	"	"	A. Thomas	Aug.	8,	1848	"	Nov.	13,	1894	4	16	12 "	50 00
Montmagny	"	"	J. Lespérance	.....	.....	.....	"	June	25,	1898	.....	.....	12 "	.....
Montréal	"	Dominion buildings	Thomas Ryan	June	18,	1836	Foreman engin'r	March	4,	1882	100	00	12 "	1,200 00
"	"	"	Ed Lanctot	April	14,	1837	Caretaker	Dec.	3,	1898	41	67	12 "	500 00
"	"	Examining warehouse	M. Boyer	Feb.	18,	1848	Fireman	March	4,	1882	50	00	12 "	600 00
"	"	"	N. Loiselle	Dec.	12,	1866	"	Dec.	4,	1898	45	00	8 "	360 00
"	"	Post office	F. Green	Oct.	4,	1837	Engineer	Jan	1,	1885	60	00	12 "	720 00
"	"	"	L. D. Thibault	Jan.	28,	1861	Electrician	June	1,	1885	60	00	12 "	720 00
"	"	"	G. S. Gingras	Dec.	13,	1867	" &c	Jan.	7,	1895	60	00	12 "	720 00
"	"	"	Oscar Renaud	.....	.....	.....	Elevator man	Sept	10,	1898	50	00	12 "	600 00
"	"	"	Art. Forget	July	25,	1867	"	Dec.	15,	1893	50	00	12 "	600 00
"	"	"	S. N. Nickle	Dec.	25,	1871	"	March	1,	1894	55	00	12 "	660 00
"	"	"	C. Vadeboncœur	May	17,	1842	Caretaker w. c.	Feb.	6,	1894	1.25 p.d.		12 "	456 25
"	"	Inland revenue	Louis St. Jean	Sept.	17,	1840	Fireman	Dec.	1,	1892	50	00	12 "	600 00
"	"	Custom house	H. Marchand	"	6,	1840	"	"	2,	1882	45	00	12 "	540 00
"	"	"	C. Daudelin	June	18,	1843	"	July	16,	1892	29	16	12 "	350 00
"	"	Cust. h. and ex -ware'h.	B. Lajeunesse	Nov.	20,	1861	"	Nov.	23,	1896	50	00	12 "	600 00
"	"	Drill hall and armour's	Wm. McDonald	Sept	17,	1832	Engineman	Feb.	21,	1888	45	00	12 "	540 00
Québec	"	Examining warehouse	D. P. Kennedy	Feb.	9,	1865	Engineer	April	1,	1897	75	00	12 "	900 00
"	"	"	T. P. McLaughlin	Aug.	25,	1871	Fireman	Aug.	26,	1892	53	33	12 "	640 00
"	"	Culler's office	James O'Neil	"	15,	1861	"	"	1,	1894	45	00	12 "	540 00
"	"	Custom house	John R. Mountain	Nov.	1,	1848	"	Nov.	10,	1888	45	00	12 months	540 00
"	"	Post office	J. Roy	Feb.	25,	1836	Caretaker	Sept.	1,	1897	58	33	12 "	700 00
Rimouski	"	"	Mrs. C. Garon	March	23,	1852	"	April	1,	1900	12	50	12 "	150 00
Richmond	"	"	H. Demarais	July	14,	1869	"	May	1,	1898	12	50	12 "	150 00
Sherbrooke	"	"	O. Deseve	Aug.	8,	1848	"	April	2,	1898	33	33	12 "	400 00
Sorel	"	"	C. Robitaille	Jan.	22,	1848	"	Sept.	1,	1897	33	33	12 "	400 00

STATEMENT showing the names, &c., of the Engineers, Enginemen, Firemen, Caretakers, Hoist Attendants and Watchmen employed at the Dominion Public Buildings, &c.—*Continued.*

Place.	Building.	Name.	Date of Birth.	Position.	Date of Appointment.	Monthly Salary.	Time employed each Year.	Yearly Salary.
						$ cts.		$ cts.
St. Henri..... P.Q.	Post office.....	A. C. A. Bissonnette.....	.....	Caretaker	March 4, 1895	.....	.....	.....
St. Hyacinthe .. "	Public building.....	F. X. Tétrault	Nov. 8, 1846	Fireman.....	Aug. 5, 1893	33 33	12 months.	100 00
St. Johns ..... "	Post office.....	L. Forrant.....	Jan. 21, 1849	Caretaker	April 14, 1897	29 16	12 "	350 00
St. Jérôme ..... "	Public building.....	J. Savard.....	Oct. 24, 1859	"	Sept. 1, 1900	29 16	12 "	350 00
Three Rivers ... "	Custom house	Ph. Gravelle.....	" 3, 1828	"	Feb. 1, 1891	25 00	12 "	300 00
" ..... "	Post office.....	A. Gauthier	July 2, 1850	"	", 1, 1898	33 33	12 "	400 00
Amherstburg ... Ont.	"	R. Elliott.....	Aug. 22, 1835	"	May 7, 1897	33 33	12 "	400 00
Almonte..... "	"	Wm. Moulton	March 23, 1839	"	Jan. 29, 1891	33 33	12 "	400 00
Arnprior ..... "	Public building.....	R. B. McCreary	Jan. 11, 1862	"	March 15, 1899	33 33	12 "	400 00
Brockville ..... "	Post office.....	W. H. Moore	" 1, 1846	"	Jan. 8, 1896	33 33	12 "	400 00
Brantford ..... "	"	John Squire	April 24, 1842	"	Oct. 27, 1880	50 00	12 "	600 00
Barrie..... "	"	R. D. Hill	Nov. 1, 1857	"	June 26, 1896	33 33	12 "	400 00
Belleville ..... "	"	J. P. Reeves	" 27, 1820	"	Oct. 17, 1883	50 00	12 "	600 00
Berlin..... "	"	J. C. Lemens.....	June 21, 1840	"	May 15, 1900	33 33	12 "	400 00
Brampton ..... "	"	James McBride.....	Oct. 5, 1840	"	Jan. 29, 1891	33 33	12 "	400 00
Carleton Place.. "	"	Jas. F. Halfpenny...	April 17, 1858	"	May 13, 1892	25 00	12 "	300 00
Chatham ..... "	"	W. W. Mitchell.....	May 25, 1848	" &c...	Jan. 7, 1885	33 33	12 "	400 00
Cornwall ..... "	"	R. Conroy.....	Nov. 6, 1848	"	April 1, 1897	33 33	12 "	400 00
Cayuga ..... "	"	G. A. Gibson	May 29, 1861	"	Sept. 3, 1891	4 16	12 "	50 00
Cobourg..... "	"	H. J. Payne.....	Jan. 31, 1854	"	April 24, 1890	33 33	12 "	400 00
Dundas ..... "	"	Wm. Graham	Dec. 5, 1853	"	July 1, 1898	4 16	12 "	50 00
Galt ..... "	"	Wm. Kilgour	March 3, 1857	"	Sept. 23, 1886	33 33	12 "	400 00
Guelph ..... "	"	Robert Higham	May 20, 1834	"	Oct. 29, 1889	33 33	12 "	400 00
Gananoque ..... "	"	T. P. Richardson....	Feb. 25, 1834	"	May 1, 1889	.....	12 "	.....
Goderich ..... "	" &c	G. Bissett.....	April 14, 1851	"	Sept. 1, 1897	29 16	12 "	350 00
Hamilton ..... "	Dominion building	Alfred Barnard	Dec. 27, 1847	"	Dec. 10, 1894	50 00	12 "	600 00
" ..... "	"	J. Wigglesworth	Aug. 7, 1863	Fireman.....	Oct. 1, 1896	40 00	8 "	320 00
" ..... "	"	Thos. Nicholson	Dec. 17, 1857	Engineer	March 2, 1887	50 00	12 "	600 00
" ..... "	Drill hall.....	H. Morris	Sept. 25, 1849	Fireman.....	Dec. 6, 1897	45 00	8 "	360 00
Kingston ..... "	Military college.....	Wm. Johnston.....	" 12, 1842	Engineer	May 31, 1881	65 00	12 "	780 00
" ..... "	"	M. Madden	Dec. 22, 1838	Fireman.....	Oct. 12, 1878	55 00	12 "	660 00
London..... "	Custom house	M. Mulkern	Sept. 4, 1837	Engineman.....	Sept. 18, 1888	50 00	12 "	600 00

London	"	Post office	Wm. Greer	Oct.	12,	1839	Caretaker	March	16,	1884	33 33	12 months.	400 00
"	"	"	John Price	"	6,	1836	Engineer.	Jan.	14,	1884	50 00	12 "	600 00
Lindsay	"	" and C. house	Wm. Galbraith	Jan.	8,	1844	Caretaker	Nov.	16,	1893	33 33	12 "	400 00
Napanee	"	" "	R. Webster	July	20,	1846	"	April,	1,	1898	33 33	12 "	400 00
Niagara Falls	"	"	Wm. J. Sheppard	Jan.	4,	1854	"	Jan.	15,	1897	25 00	12 "	300 00
Orangeville	"	"	John Wilkins	May	29,	1830	"	Sept.	15,	1886	33 33	12 "	400 00
Orillia	"	"	John Frawley	March	14,	1844	"	Nov.	1,	1898	15 00	12 "	180 00
Peterborough	"	"	John Irwin	May	17,	1842	"	June	8,	1887	25 00	12 "	300 00
"	"	Custom house	Wm. Taylor	Nov.	25,	1839	"	Jan.	26,	1889	25 00	12 "	300 00
Petrolea	"	Post office	Chas. McRitchie	March	29,	1853	"	Feb.	1,	1894	33 33	12 "	400 00
Port Colborne	"	Post office	Wm. Armstrong	Sept.	9,	1846	"	June	11,	1888	20 00	12 "	240 00
Port Hope	"	"	Levi Reynolds	Feb.	15,	1839	"	Nov.	17,	1895	33 33	12 "	400 00
Port Arthur	"	Public building	John Whitehead	April	15,	1839	"	Sept.	11,	1893	25 00	12 "	300 00
Pembroke	"	"	Samuel Hamilton	June	4,	1834	"	Oct.	29,	1890	33 33	12 "	400 00
Prescott	"	Post office	R. Birks	April	6,	1822	"	May	1,	1899	33 33	12 "	400 00
Rat Portage	"	Public building	Jacob Link				"	March	27,	1900	33 33	12 "	400 00
Stratford	"	Post office &c	J. H. Roberts	May	1,	1847	Engineer	Feb.	7,	1884	50 00	12 "	600 00
St Catharines	"	"	Louis Reno	Oct.	24,	1842	Caretaker	"	27,	1897	33 33	12 "	400 00
St. Thomas	"	"	James Russell	Sept.	15,	1832	"	Sept.	4,	1885	33 33	12 "	400 00
Strathroy	"	Public building	Wm J. Johnston	May	12,	1840	"	Oct.	25,	1890	33 33	12 "	400 00
Smith's Falls	"	"	R. W. Lewis	Aug.	19,	1863	"	Jan.	8,	1896	25 00	12 "	300 00
Toronto	"	Dominion buildings	W. J. Smith	Nov.	18,	1840	Forem. engineer	Dec.	9,	1897	100 00	12 "	1,200 00
"	"	Inland revenue building	C. H. Baillie	Sept.	22,	1852	Fireman	Jan.	13,	1891	50 00	12 "	600 00
"	"	Custom house	Fred. Faragher	Oct.	16,	1865	"	Nov.	1,	1889	55 00	12 "	660 00
"	"	Examining warehouse	James Cosgrove	Feb.	10,	1844	Engineer	Dec.	28,	1874	65 00	12 "	780 00
"	"	"	Ed. Appleton	Sept	26,	1864	Fireman	Sept.	23,	1886	55 00	12 "	660 00
"	"	"	Alexander Dey	"	27,	1863	Hoist attendant	Dec.	1,	1887	50 00	12 "	600 00
"	"	"	Wm. Chenery	Dec.	19,	1851	"	"	1,	1887	50 00	12 "	600 00
"	"	"	Wm. J. Slean	July	5,	1855	"	"	2,	1888	50 00	12 "	600 00
"	"	"	James Richardson	Feb.	23,	1831	Watchman	Sept.	3,	1888	46 50	12 "	558 00
"	"	Post office	J. Somers	April	8,	1835	Engineer	Oct.	9,	1897	45 00	8 "	360 00
"	"	"	George Letray	May	20,	1858	Fireman	Nov.	1,	1896	45 00	8 "	360 00
"	"	Drill hall	Richard Eyre	Oct.	11,	1849	"	March	25,	1895	50 00	12 "	600 00
"	"	"	D. Glionna				"	Oct.	1,	1898	50 00	8 "	400 00
"	"	Examining warehouse	M. W. Devane	Aug.	28,	1867	Watchman	June	1,	1900	50 00	12 "	600 00
Trenton	"	Public building	David Allen	May	13,	1844	Caretaker	Aug.	31,	1889	33 33	12 "	400 00
Windsor	"	Post office	I. Belleperdie	Oct.	26,	1848	Engineman	Dec.	24,	1897	50 00	8 "	400 00
"	"	"	W. Curtis	March	6,	1844	Caretaker	Nov.	9,	1880	33 33	12 "	400 00
Walkerton	"	Public building	T. Gibson	Aug.	14,	1828	"	"	1,	1897	33 33	12 "	400 00
Brandon	Man.	"	T. Giles	March	30,	1843	"	Aug.	1,	1897	50 00	12 "	600 00
Portage la Prairie	"	"	E. McNeil	April	29,	1833	"	Oct.	13,	1898	33 33	12 "	400 00
Winnipeg	"	Post office	J. D. McDougall	May	1,	1843	Engineman	Jan.	21,	1900	70 00	12 "	840 00
"	"	"	Patrick Dillon	March	17,	1849	Fireman	Jan.	1,	1889	45 00	12 "	540 00
"	"	"	Joseph Coutu	May	10,	1843	Hoist attendant	March	16,	1887	45 00	12 "	540 00
"	"	"	Joseph Gagnier	April	11,	1853	Watchman	June	7,	1892	45 00	12 "	540 00

STATEMENT showing the Names, &c., of the Engineers, Enginemen, Firemen, Caretakers, Hoist Attendants and Watchmen employed at the Dominion Public Buildings, &c.—*Continued.*

Place.	Building.	Name.	Date of Birth.	Position.	Date of Appointment.	Monthly Salary.	Time employed each Year.	Yearly Salary.
						$ cts.		$ cts.
Winnipeg ..... Man.	Custom house	J. R. Russell		Fireman	Dec. 12, 1899	45 00	12 months	540 00
Calgary ..... N W.T	Public building	G. L. Fraser	Oct. 20, 1851	Caretaker	Aug. 1, 1894	40 00	12 "	480 00
" ..... "	Court-house	E. N. Brown	March 8, 1845	"	Jan. 24, 1891	45 00	12 "	540 00
Edmonton ..... "	Land and registry office	R. Wylie	July 7, 1859	"	June 21, 1894	33 33	12 "	400 00
Letbridge ..... "	Court house & C.-house	Robert Sage	Oct. 15, 1849	"	Aug. 26, 1894	35 00	12 "	420 00
Moosomin ..... "	" "	J. C. Jopp	Jan. 6, 1848	"	April 29, 1897	50 00	12 "	600 00
Moosejaw ..... "	" "	R. Smale	July 21, 1865	"	Nov. 21, 1898	33 33	12 "	400 00
Macleod ..... "	"	John Ryan	June 24, 1827	"	" 1, 1893	14 58	12 "	175 00
Medicine Hat ... "	"	J. H. G. Bray	Jan. 24, 1841	"	June 1, 1900	45 00	12 "	540 00
Prince Albert ... "	" and jail	J. Savard	Aug. 14, 1859	Fireman	Nov. 11, 1897	40 00	8 "	320 00
" ... "	Land and registry office	George Cassie	Jan. 13, 1833	Caretaker	Aug. 25, 1893	33 33	12 "	400 00
Regina ..... "	Court house & C.-house	P. McAra	March 24, 1840	"	" 1, 1889	45 00	12 "	540 00
" ..... "	" &c	Jas. McLachlan	Dec. 9, 1840	Fireman	Oct. 3, 1898	40 00	8 "	320 00
Wolseley ..... "	"	Charles Taylor	June 11, 1844	Caretaker	" 2, 1895	45 00	12 "	540 00
Nanaimo ..... B.C.	Post office	J. Thompson	Sept. 2, 1836	"	May 1, 1897	50 00	12 "	600 00
New Westminster "	"	Jno. McMurphy	Aug. 2, 1812	"	Oct. 1, 1884	50 00	12 "	600 00
Vancouver ..... "	Public building	Atwell King	April 6, 1843	"	Aug. 25, 1898	50 00	12 "	600 00
Victoria ..... B.C.	New Dominion building	Wm. McKay	Dec. 31, 1857	"	Feb. 4, 1898	50 00	12 "	600 00
Victoria ..... "	Dominion building	A. Johnson	May 12, 1858	Asst. caretaker..	April 1, 1899	45 00	12 "	540 00
" ..... "	"	J. D. Milne	Oct. 12, 1840	Fireman	Oct. 4, 1899	45 00	8 "	360 00
" ..... "	"	J. McMillan	July 8, 1876	Elevatorman	Nov. 27, 1899	45 00	12 "	540 00

JOS. VINCENT.

Tabular Statement

SHOWING THE DATE OF THE

Closing and Opening of Navigation

AT THE PRINCIPAL PORTS OF CANADA

ON THE SEABOARD, THE RIVER AND GULF OF ST. LAWRENCE,
AND ON THE GREAT LAKES

1899-1900

OPENING AND CLOSING OF NAVIGATION.

STATEMENT showing the date of the closing and opening of navigation at the undermentioned ports of Canada in 1899-1900

Port.	Province.	Location.	Date of closing, 1899-1900.	Date of opening, 1899-1900.	Remarks.
Arichat	N. S.	Isle Madam			The fall and winter of 1899-1900 was an exception : no ice was formed at this port nor has there been any drift ice from the Strait of Canso which used to block the port in former years.
Bathurst	N. B.	Baie des Chaleurs	Nov. 28, 1899	May 1, 1900	
Belleville	Ont.	Lake Ontario	Dec. 13, 1899	April 15, "	
Campbellton	N. B.	Baie des Chaleurs	Nov. 28, 1899	May 1, "	The river is clear below the Government wharf.
Charlottetown	P. E. I.	Gulf St. Lawrence	Jan'y 4, 1900	March 17, "	Ferry steamers running up to 12th January, 1900.
Collingwood	Ont.	Georgian Bay	Dec. 8, 1899	April 10, "	
Gaspé	P. Q.	Gulf St. Lawrence	Jan'y 3, 1900	May 12, "	A good boat could open harbour in April ; and, if necessary, could be kept open all winter.
Georgetown	P. E. I.	Gulf St. Lawrence	Feb'y 24, 1900	March 21, "	
Goderich	Ont.	Lake Huron	Dec. 20, 1899	April 24, "	
Kincardine	"	Lake Huron	" 14, 1899	" 21, "	
Kingston	"	Lake Ontario	Jan'y 25, 1900	" 16, "	
Louisbourg	N. S.	Atlantic Ocean			Open all winter Very few days last winter that vessels did not enter or leave port ; but last winter was an exceptionally open one.
Montreal	P. Q.	River St Lawrence	Dec. 30, 1899	April 21, "	
North Rustico	P. E. I.	Gulf St. Lawrence	" 25, 1899	" 15, "	
North Sydney	N. S.	Atlantic Ocean			Open all winter. The ss. "Bruce" made three trips a week during the winter.
Percé	P. Q.	Gulf St. Lawrence	Jan'y 1, 1900	April 27, 1900	The ice left the shore on 17th April.
Pictou	N. S.	Gulf St. Lawrence	" 4, 1900	March 27, "	The winter was very mild. On 3rd April ss. "Princess" arrived from Charlottetown.
Port Arthur	Ont.	Lake Superior	Dec. 16, 1899	April 30, "	
Port Dover	"	Lake Erie	" 25, 1899	" 1, "	
Port Stanley	"	Lake Erie	" 28, 1899	" 1, "	The ferry boat "Shewango No. 1" to Conneaut, U.S., is supposed to run all winter. She made 25 trips in January, two in February, and two in March Port closed for lake craft as above.
Quebec	P. Q.	River St. Lawrence			Navigation in harbour open all winter. Last vessel out (coasting trade) 4th Dec., 1899 ; last vessel out (seagoing) 30th Nov., 1899. First vessel in (coasting) 6th April, 1900 ; first in (seagoing) 23rd April, 1900, and first out (coasting) was on 30th March, 1900.

Rimouski	P. Q.	Gulf St. Lawrence.	Dec.	1, 1899	April	15, 1900	
St. Ann's	N. S.	Atlantic Ocean	Feb'y	1, 1900	"	25, "	Ice usually forms between first and end of January, and breaks up in last week in April.
St. John's	P. Q.	Richelieu River	Dec.	8, 1899	"	20, "	
St Peter's	N. S.	Atlantic Ocean					Open all winter. Ice seldom forms. During a very severe winter it sometimes freezes for a week or so.
Sault Ste. Marie	Ont.	Lake Superior	Dec.	30, 1899	April	11, 1900	Last boat went through canal on 17th Dec. First boat in spring 1900 passed through on 22nd April.
Shediac	N. B.	Gulf St Lawrence	"	30, 1899	"	11, "	
Sorel	P. Q.	River St. Lawrence	"	6, 1899	"	22, "	
Summerside	P. E. I.	Gulf St. Lawrence.	"	31, 1899	"	13, "	The ss "Stanley" cut her way through the ice on 8th April, 1900, but navigation was not open before the 13th.
Sydney	N. S.	Atlantic Ocean	Feb'y	5, 1900	"	2, "	
Three Rivers	P. Q.	River St. Lawrence	Nov.	25, 1899	"	18, "	
Toronto	Ont	Lake Ontario	Dec.	28, 1899	"	8, "	
Wiarton	"	Georgian Bay	"	31, 1899	"	18, "	
Windsor	"	Detroit River	"	15, 1899	"	14, "	The Detroit River is open all winter for railway and public ferry boats. Those dates are for lake service.
Winnipeg	Man.	Lake Winnipeg	Nov.	12, 1899	"	10, "	Those dates are for the Red River at Winnipeg.
Wood Islands	P. E. I.	Gulf St. Lawrence.	Jan'y	10, 1900	"	15, "	Harbour only freezes when drift ice from the straits closes the entrance.

OFFICIAL CORRESPONDENCE

DEPARTMENT OF PUBLIC WORKS

FROM JULY 1st, 1867, to JUNE 30th, 1900

OFFICIAL CORRESPONDENCE.

LETTERS Received and Sent from July 1, 1867, to June 30, 1900.

Year.	Received.	Sent.
1867—From July 1 to December 31	2,075	1,511
1868 " January 1 to December 31	3,498	2,317
1869 " " "	3,448	2,171
1870 " " "	4,961	3,185
1871 " " "	6,268	3,983
1872 " " "	8,333	4,428
1873 " " "	10,072	5,707
1874 " " "	9,800	5,043
1875 " " "	9,006	5,006
1876 " " "	7,971	4,773
1877 " " "	7,517	4,425
1878 " " "	6,886	4,021
1879 " " to October 6	7,186	4,547
1879 " October 7 to December 31	2,033	810
1880 " January 1 "	8,451	4,410
1881 " " "	9,599	5,529
1882 " " "	10,505	5,699
1883 " " "	11,633	6,227
1884 " " "	13,114	6,903
1885 " " "	8,977	5,321
1886 " " "	9,644	5,352
1887 " " to June 30	4,866	2,735
1887 .. July 1 " 1888	10,493	6,343
1888 .. " " 1889	10,522	7,042
1889 .. " " 1890	10,098	7,448
1890 .. " " 1891	10,576	7,286
1891 .. " " 1892	11,637	6,709
1892 .. " " 1893	11,720	6,220
1893 .. " " 1894	9,517	6,028
1894 .. " " 1895	10,190	5,148
1895 .. " " 1896	10,223	5,573
1896 .. " " 1897	11,404	5,033
1897 .. " " 1898	9,640	5,250
1898 .. " " 1899	9,630	4,784
1899 .. " " 1900	12,139	5,938

NUMBER of Cheques sent by Accountant to Secretary's Branch and mailed through the latter, from 1882 to 1900.

Year.			No.
1882	From September 22 to June 30,	1883	1,566
1883	" July 1 "	1884	3,366
1884	" " "	1885	3,298
1885	" " "	1886	3,466
1886	" " "	1887	4,198
1887	" " "	1888	4,692
1888	" " "	1889	4,960
1889	" " "	1890	4,819
1890	" " "	1891	5,376
1891	" " "	1892	5,400
1892	" " "	1893	7,174
1893	" " "	1894	7,792
1894	" " "	1895	8,745
1895	" " "	1896	9,849
1896–7	Records incomplete ; partially destroyed by fire, February 11, 1897.		
1897–8	From July 1 to June 30,	1898	10,858
1898–9	" " "	1899	10,495
1899–1900	" " "	1900	12,991

CHEQUES issued by Finance Department and mailed from Secretary's Branch.

Year.			No.
1885	From April 1 to June 30,	1885	245
1885	" July 1 "	1886	954
1886	" " "	1887	1,158
1887	" " "	1888	918
1888	" " "	1889	887
1889	" " "	1890	908
1890	" " "	1891	790
1891	" " "	1892	820
1892	" " "	1893	822
1893	" " "	1844	868
1894	" " "	1895	594
1895	" " "	1896	267
1896–7	Records incomplete ; partially destroyed by fire, February 11, 1897.		
1897–8	From July 1 to June 30,	1898	332
1898–9	" " "	1899	213
1899–1900	" " "	1900	1,557

SESSIONAL PAPER No. 19

LETTERS Received and Sent, Chief Architect's Office, from January 1, 1880, to June 30, 1900.

Year.					Received.	Sent.
1880—From January 1 to June 30						1,273
1880	"	July 1	"	1881		2,943
1881	"	"	"	1882		2,859
1882	"	"	"	1883	3,538	4,600
1883	"	"	"	1884	3,860	6,004
1384	"	"	"	1885	4,500	6,718
1885	"	"	"	1886	6,075	6,450
1886	"	"	"	1887	6,816	6,380
1887	"	"	"	1888	6,947	6,870
1888	"	"	"	1889	6,484	7,667
1889	"	"	"	1890	7,448	6,578
1890	"	"	"	1891		7,751
1891	"	"	"	1892	6,113	4,260
1892	"	"	"	1893	7,428	6,453
1893	"	"	"	1894	6,900	*4,517
1894	"	"	"	1895	7,538	†5,327
1895	"	"	"	1896	7,843	5,783
1896	"	"	"	1897	10,700	8,200
1897	"	"	"	1898	10,867	8,547
1899	"	"	"	1899	10,913	8,762
1899	"	"	"	1900	12,386	9,878

LETTERS Sent from Chief Engineer's Office, from Jan., 1880 to June, 30, 1900.

Year.					No.
1880	From January 10, to June 30				418
1880	"	July 1,	"	1881	1,795
1881	"	"	"	1882	2,352
1882	"	"	"	1883	2,651
1883	"	"	"	1884	3,611
1884	"	"	"	1885	3,119
1885	"	"	"	1886	2,867
1886	"	"	"	1887	3,281
1887	"	"	"	1888	3,552
1888	"	"	"	1889	4,229
1889	"	"	"	1890	3,374
1890	"	"	"	1891	3,948
1891	"	"	"	1892	4,009
1892	"	"	"	1893	4,232
1893	"	"	"	1894	3,966
1894	"	"	"	1895	4,603
1895	"	"	"	1896	4,239
1896	"	"	"	1897	4,994
1897	"	"	"	1898	4,696
1898	"	"	"	1899	5,277
1899	"	"	"	1900	7,366

NOTE.—The letters, including returns, received in the Chief Engineer's Office may be estimated at the rate of two received to one sent.

* The exact number of letters received cannot be accurately given, but would bear about the same proportion to the letters sent as last year.

† The decrease in the number of letters sent, is due to a change made on January 1, 1894, in the manner of transmitting accounts to the secretary. Previous to that date a letter accompanied each account, but now a bundle of accounts goes with each letter.

T. N. DOODY.

DOMINION OF CANADA

ANNUAL REPORT

OF THE

DEPARTMENT OF RAILWAYS AND CANALS

FOR THE FISCAL YEAR

FROM JULY 1, 1899, TO JUNE 30, 1900

SUBMITTED IN ACCORDANCE WITH THE PROVISIONS OF THE REVISED STATUTES OF CANADA, CHAPTER 37, SECTION 28

PRINTED BY ORDER OF PARLIAMENT

OTTAWA
PRINTED BY S. E. DAWSON, PRINTER TO THE QUEEN'S MOST EXCELLENT MAJESTY
1901

[No. 20—1901.]

To His Excellency the Right Honourable the Earl of Minto, G.C.M.G.,
&c., &c., &c., Governor General of Canada, &c., &c., &c.

May it Please Your Excellency:—

The undersigned has the honour to present to Your Excellency the Annual Report of the Department of Railways and Canals, of the Dominion of Canada, for the past fiscal year, from July 1, 1899, to June 30, 1900.

All of which is respectfully submitted,

ANDREW G. BLAIR,
Minister of Railways and Canals.

Ottawa, February 13, 1901.

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REPORT OF THE DEPUTY MINISTER.

To the Honourable
ANDREW G. BLAIR,
Minister of Railways and Canals.

SIR,—I have the honour to submit the annual report of the Department of Railways and Canals for the fiscal year ended June 30, 1900.

The annual reports of the engineers, together with general and special reports from superintendents, both of railways and canals, and from other officers in the department, are given in appendices.

In Part II. will be found statements showing the amounts expended during the past fiscal year in construction, repair and maintenance of the several works under the department; also statements showing total expenditure on each canal since its construction, and on each of the Government railways; also a statement showing the payments made, year by year, to subsidized railways, with the aggregates of such payments.

RAILWAYS.

The present report deals with those railways of the Dominion directly controlled by the Federal Government, and others towards the construction of which subsidies have been authorized.*

In an appendix (Part VI.) will be found a special statistical report, embodying returns for the fiscal year ended June 30, 1900, made by Canadian railway companies, as required by statute. This report gives information as to railroad operations in Canada, including the Government roads.

The general facts gathered from the compilation will be of interest.

The number of railways in actual operation, including the two Government roads, the Intercolonial and the Prince Edward Island Railways, at that date was 154: some of these, however, are amalgamated or leased; making the total number of controlling companies 86, not including the Government railways.. The number of companies absorbed by amalgamation is 36, and the number of leased lines is 33.

At the close of the fiscal year, June 30, 1900, the number of miles of completed railway was 17,824, an increase of 466 miles, besides 2,558 miles of sidings. The number of miles laid with steel rails was 17,694, of which 591 miles was double track. The number of miles in operation was 17,657.

*It should be observed that while the usual reports furnished by the superintending officers, and to be found in the appendices hereto, deal with the fiscal year only, the report of the Chief Engineer of the department covers works of construction up to December 1, 1900.

The paid-up capital amounted to $998,268,404, an increase of $33,568,620. The gross earnings amounted to $70,740,270, an increase of $8,496,486, and the working expenses aggregated $47,699,798, an increase of $6,993,581 compared with those of the previous year, leaving the net earnings $23,040,472, an increase of $1,502,805. The number of passengers carried was 21,500,175, an increase of 2,366,810, and the freight traffic amounted to 35,946,183 tons, an increase of 4,734,430 tons. The total number of miles run by trains was 55,177,871, an increase of 2,962,664. The accident returns show 7 passengers killed.

The above figures indicate a year of great activity in railway operations, the large increase in working expenses, due to the demands of a much increased traffic and the maintenance of a high standard of equipment and service, being more than offset by the additional earnings obtained. Out of the total increase in expenses, four roads, the Canadian Pacific, the Grand Trunk, the Canada Southern and the Intercolonial are responsible for over $5,700,000, while at the same time they gained over $6,700,000 out of the total increase in earnings.

The Federal Government expenditure on railways prior to and since the date of confederation (July 1, 1867) amounts, on capital account, to $127,636,988.07 (including $25,000,000 granted to the Canadian Pacific Railway Co.) which together with $296,872.90 expended on the Nova Scotia Railway and the European and North American Railway and transferred to the Consolidated Fund, and for railway subsidies charged against the Consolidated Fund, the further sum of $23,227,562.51*, makes a total expenditure of $151,161,423.48. In addition, there has been an expenditure since confederation for working expenses of $81,391,472.11, covering the maintenance and operation of the Government roads, or a grand total of $232,552,895.59, * all of which, with the exception of $13,881,460.65, paid out before confederation, has been expended on railways during the past thirty-three years. The revenue derived from the Government roads during the same period amounts to $73,225,382.16.

GOVERNMENT RAILWAYS IN OPERATION.

The railways maintained by the Government are: The Intercolonial, the Windsor Branch (maintained only), and the Prince Edward Island Railways.

Details respecting these railways and their operations will be found in the appendices, Part I., containing reports from the Chief Engineer of the department, the General Manager of Government Railways, and the officials of these roads.

The gross earnings of all the Government roads for the past fiscal year, 1899-1900, amounted to $4,774,161 87, and compared with those of the preceding year show an increase of $828,344,47. The gross working expenses amounted to $4,665,228.06, an increase of $758,615.75.

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*This includes the annual subsidy of $186,600 to the Atlantic and North-west Railway Company for 20 years from July 1, 1889, amounting for the past 11 years to $2,054,600, which is paid through the Finance Department, and now, for the first time, noted here. It does not include the annual payment of $119,700 as interest at 5 per cent on the sum of $2,394,000, payable to the province of Quebec for the line from Quebec to Ottawa, which sum has been transferred to the Public Debt.

It should be noted that in the Accountant's Statement part II., No. 3, showing railway subsidies paid, the $25,000,000 to the Canadian Pacific Railway and $500,000 to the Western Counties Railway, have both been included in his statement of capital account expenditure on page 42, part II.

The net profit on the operations of the year was $108,933.81.

The Intercolonial gave a profit of $120,667.02; the Windsor Branch ($\frac{1}{3}$ of total earnings) gave a profit of $34,459.87, and the Prince Edward Island a loss of $46,193 08.

The above figures include the rental of leased lines for the extension of the Intercolonial into Montreal.

INTERCOLONIAL RAILWAY.

On March 1, 1898, the operations of the Intercolonial were extended to Montreal by means of leases obtained from the Grand Trunk and 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.

The leasing agreement with the Grand Trunk Railway Company, dated the 1st of February, 1898, was confirmed by the Act 62-63 Vic. ch. 5 (1899). It granted to Her Majesty for a term of 99 years from the 1st of March, 1898, an undivided half share or leasehold interest in the company's railway and property between Ste. Rosalie and Bonaventure Station, Montreal, together with an equal right of user with the company of their bridge across the River Chaudière; the annual rental being fixed at $140,000.

With regard to the Drummond County Railway, the Act 62-63 Vic., ch. 6 (1899) authorized the acquisition by the Dominion of the Company's entire railway, for the sum of $1,600,000, less a certain subsidy granted and paid them under the subsidy Act of 1897, for 42 miles thereof between Moose Park and the River Chaudière. The amount of this subsidy was $136,000, making the amount payable to the Company $1,464,000. Under date the 7th of November, 1899, a deed was executed by the company conveying to Her Majesty the whole of this railway from Ste. Rosalie to Chaudière and also their branch line from St. Leonard to Nicolet, for the consideration mentioned, less the sum of $5,000 held pending settlement of certain details.

The accountant of the railway has dealt with the rental paid under these leases as an addition to the ordinary working expenses (page 66), and in his comparative statement of averages (page 75) gives such averages for each year, both with the rental included, and also with rental omitted. The figures of my present reports as Deputy and as Chief Engineer are based on his statements with the rentals included. The statements of the General Manager, however, are based on figures from which these rentals are omitted. This explanation will cover any seeming discrepancy of statement in the matter.

CAPITAL ACCOUNT.

During the fiscal year, in addition to the sum of $1,459,000 paid for the Drummond County Railway and $1,290.31 for improvements to the Governor General's car, there was an addition of $1,796,348.89 to the Capital Account expenditure, making the total expenditure chargeable to 'Capital,' on the whole road as amalgamated under the Acts 54-55 Vic., ch. 50 (1891), and 62-63 Vic., ch. 5 and 6 (1899), up to June 30, 1900, $60,341,425.21.*

*See statement of the Accountant of the Department, Part II., p. 32. The statements of the General Manager of the Railway (p. 64) do not include the Drummond County Railway, nor the car expenditure.

The additions made during the year included for increased accommodation at Halifax $22,714.07, at St. John $449,854.20, and at Lévis, $79,999.95, also for increased siding, station, and other facilities $176,902.92, for the elevator at St. John, $140,781.50, for the elevator at Halifax $82,671.12, for strengthening bridges, $77,091.10, for rolling stock $533,223.40, for refrigerator cars $30,016.69, for applying air brakes to freight cars $19,965.48, and for the Indiantown branch $52,128.44. Information as to these items will be found in the reports of the General Manager (part I., p. 58) and of the Engineers of the road

REVENUE ACCOUNT.

The gross earnings of the year amounted to $4,552,071.71, an increase of $813,740.27, and the working expenses to $4,431,404.69 (including $164,694.47 rent paid for the extension into Montreal), being an increase in comparison with the previous year (when $210,000 was paid for such rental) of $755,718.48; the excess of earnings over expenditure being $120,667.02, against an excess of expenditure over earnings in the previous year of $62,645.23, or a betterment of $58,021.79.

Comparing the earnings with those of the previous year, the passenger traffic produced $1,404,469.87 or 30·85 per cent of the gross earnings, an increase of $237,006.71; the freight traffic amounted to $2,912,790.52 or 63·99 per cent of the gross earnings, an increase of $564,693.94, and the carriage of mail and express freight produced $234,811.32 or 5·16 per cent of the gross earnings, an increase of $12,029.62. The earnings per mile of railway were $3,462.52,* an increase of $618.97.

GENERAL OBSERVATIONS.

A comparison of the traffic of the past fiscal year with that of the previous year shows certain interesting features.

The number of passengers carried was 1,791,754, an increase of 188,659, and 2,151,208 tons of freight were carried, an increase of 400,447 tons.

Of flour and meal 1,234,076 barrels were carried, an increase of 76,826. Of grain 2,720,453 bushels were carried, an increase of 125,100. Lumber showed an increase of 2,796,043 superficial feet, the total quantity carried being 379,350,074 feet. There was a decrease of 17,008 in the number of live stock, of which 92,813 head were carried. 603,209 tons of coal, an increase of 109,003 tons, were carried. Of raw sugar, 96 tons were carried, the quantity in the previous two years having been nil. Of refined sugar 29,007 tons, an increase of 3,743 tons were carried. A total of 8,939 tons of fresh fish, an increase of 2,356 tons, and a total of 6,643 tons of salt fish, an increase of 1,169 tons, were carried. Of manufactured goods, 507,024 tons were carried, an increase of 107,497 tons.

Of ocean borne goods, other than deals, to and from Europe via Halifax, the aggregate was 39,794 tons, an increase of 5,531 tons. Of this 37,108 tons was local traffic. In addition 55,086 tons of deals were carried.

In the winter of 1899–1900 the removal of snow and ice entailed an expenditure of nearly $89,000, about $19,000 more than the cost the previous year.

The permanent way and all structures and works are in good order.

The train mileage (or number of miles run by trains) of the year was 5,473,710, an increase of 592,015 miles. The cost per train mile was 80·95 cents, 5·66 cents more than in the previous year (in both years the rental of lease lines is included).

The working expenses per mile of railway amounted to $3,370.73*, an increase of $574.83 per mile. The rental of leased lines is included in both years.

The value of stores on hand at the close of the fiscal year, including fuel, rails and old material, was $971,054.60.

The commencement in July, 1899, by the Dominion Iron and Steel Company of extensive iron works at Sydney has given a great impetus to traffic, necessitating the increase of equipment and accommodation on the line.

A number of interesting statistical and comparative tables and other information relating to the railway and the several features of its traffic during the past year and the previous year of its operation, will be found in the appended reports of the Chief Engineer of the department and of the officers of the road.

WINDSOR BRANCH.

This road is 32 miles in length. It extends from Windsor Junction, on the Intercolonial Railway, to Windsor.

This railway is operated by the Dominion Atlantic Railway Company, formerly the Windsor and Annapolis Railway Company. The company pay all charges in connection with the working of the traffic, two-thirds of the gross earnings being allowed them, the Government taking the remaining one-third, and assuming all costs of maintenance of the road and works. This arrangement is carried out under an agreement dated December 13, 1892, which extends, for a further term of 21 years, arrangements similar to those made in 1871.

All charges for superintendence and supervision of maintenance of works are borne by the Government; the duty of supervision being performed by the chief officers of the Intercolonial Railway.

The gross earnings of the Government (one-third of gross receipts) credited to this branch, amounted to $47,351.43, an increase of $4,877.40. The expenses of maintenance amounted to $12,891.56, an increase of 18·47, leaving the profit to the Government $34,459.88.

The road has been maintained in good order. Details will be found in the appendices. (*See* Part I., p. 104).

PRINCE EDWARD ISLAND RAILWAY.

CAPITAL ACCOUNT.

The total cost of the road and equipment chargeable to capital account at the close of the fiscal year was $3,843,653.28; there being an addition during the year of

*These figures are based on a mileage for both 1898-99 and 1899-1900 of 1,314·67 miles.

$53,546.02; the main item being an expenditure of $28,502.67 for a branch to Murray Harbour; $9,995 for reducing curves and shortening the line between Loyalist and Colville; $8,000 for rolling stock, and $6,338.75 on a survey for a combined railway and carriage bridge over the River Hillsborough, Charlottetown.

REVENUE ACCOUNT.

The gross earnings amounted to $174,738.73, and the working expenses to $220,931.81: the expenditure in excess being $46,193.08.

Compared with the previous year, the gross earnings show an increase of $9,726.70, and the working expenses an increase of $2,878.80. The railway carried 147,471 passengers, an increase of 17,804, producing $72,908.42, an increase of $7,615.31. Of freight there were carried 62,227 tons, an increase of 4,259 tons, producing $83,627.41, an increase of $3,738.89, while the earnings from mails and sundries amounted to $18,112.90, a decrease of $1,627.50,

Compared with the previous year, the working expenses were greater by the sum of $2,878.20.

The train mileage (the number of miles run by trains) was 264,895, an increase of 1,560 miles.

The cost per mile run by trains was 83·40 cents, an increase of 0·60 cents; and per mile of railway $1,038.35, an increase of $13.70.

The value of stores on hand at the close of the fiscal year was $68,608.51.

The road, with its buildings and rolling stock, has been maintained in a satisfactory condition.

Details of operations will be found in the appendices (Part I., p. 127), including the reports of the superintendent and other officers.

SURVEY FOR A RAILWAY TO GIVE ACCESS TO THE YUKON DISTRICT.

During the seasons 1898, 1899 and 1900, in accordance with parliamentary provisions, surveying parties have been engaged in the work of endeavouring 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, and also from a Canadian port on the Pacific coast, and the approximate cost of such a railway. Reports from the officers in charge of these surveys were printed in the annual report of 1898-99. The
lts the work of the season of 1900 cannot yet be given, but the reports and plans
being prepared The chief engineer, however, states (part I., p. 31) that he is able
y that a practicable line can be obtained upon which a road could be constructed at
nable cost.

SESSIONAL PAPER No. 20

GOVERNMENT ACTION AS TO SUBSIDIZED RAILWAYS.

NOTE—The numbers within brackets after the title of the company refer to the lists of railways subsidized by Parliament, in Part III.

With regard to the several lines of railway subsidized by the Dominion, the following represents the action taken and the progress made, in so far as the Dominion Government is concerned; only those lines and companies being mentioned as to which definite steps, other than merely preliminary, have been taken towards securing the subsidy.

The following shows the aggregate of the payments made on subsidy account :—

For the fiscal year	1883–84,	ended on June 30,	1884	$ 208,000 00
do	1884–85	do	1885	403,245 00
do	1885–86	do	1886	2,171,249 00
do	1886–87	do	1887	1,406,533 00
do	1887–88	do	1888	1,027,041 92
do	1888–89	do	1889	846,721 83
do	1889–90	do	1890	1,678,195 72*
do	1890–91	do	1891	1,265,705 87*
do	1891–92	do	1892	1,247,215 93*
do	1892–93	do	1893	811,394 07*
do	1893–94	do	1894	1,229,885 10*
do	1894–95	do	1895	1,310,049 10*
do	1895–96	do	1896	834,745 49*
do	1896–97	do	1897	416,955 30*
do	1897–98	do	1898	1,414,934 78*
do	1898–99	do	1899	3,201,220 05*
do	1899–1900	do	1900	725,720 35*
				$20,202,312 51

To the above there have to be added the following exceptional subsidies :

The Canada Central Railway, paid between 1878–83.	1,525,250 00
The Canadian Pacific Railway extension from St. Martin's Junction to Quebec, paid in 1885. ..	1,500,000 00
Total subsidies paid from 'Consolidated Fund' up to June 30, 1900.....	$23,227,562 51
The main line subsidy to the Canadian Pacific Railway was paid from 'Capital' amounting to.	25,000,000 00
Total paid as subsidies...	$48,227,562 51†

The above does not include the amount, $2,394,000, due to the province of Quebec for the railway between Ottawa and Quebec, which has been transferred to the public debt, and on which interest at 5 per cent is paid, amounting to $119,700 a year. (See note on page 44 of the accountant's statement, Part II.)

* In these amounts the subsidy of $186,600 a year payable to the Atlantic and North-west Railway Company, for 20 years from the 1st July, 1889, is now, for the first time, included. Payment is made by the Finance Department.

† The sum of $500,000 granted by the Act 50-51 Vic., ch. 25 (1887) to the Western Counties Railway Company, in settlement of matters in dispute with the Government, towards the construction of a link of railway between Annapolis and Digby, has, in previous years, been included in this statement as a subsidy; it is now omitted, as under authority of the Act 52 Vic., ch. 8 (1889) the Government itself constructed the said link, which was handed over to the Company in 1891. The cost was charged against 'Capital.' (See the accountant's statement, Part II. p. 42).

The following pages show, in alphabetical sequence, the position of those companies whose dealings with the Government in respect of subsidies are not yet closed. Reports of previous years give information as to companies whose subsidies have been fully earned and paid prior to July 1, 1899.

A tabulated statement of payments will be found in Part II. page 45, and a list of subsidy agreements entered into during the fiscal year in Part IV., page 2.

The several Subsidy Acts passed in each year from 1882 will be found in Part III. No subsidies were authorized in the sessions of 1895, 1896 and 1898.

Information has been brought down to the end of the fiscal year 1899–1900, only, in the regular statements; but, in supplement to them, the following list shows the additional contracts entered into and the payments made between that date and December 31, 1900.

ADDITIONAL CONTRACTS.

Great Northern Ry. Co.—Shawenegan Falls Branch 6½ miles, contract dated July 4, 1900.

Great Northern Ry. Co.—Montcalm to St. Tite, 53½ miles, contract dated July 26, 1900.

Central Ontario Ry. Co.—Coe Hill or Rathbun to Bancroft, 21 miles, contract dated August 29, 1900.

Cape Breton Ry. Extension.—Port Hawkesbury to St. Peters, 30 miles, contract dated September 15, 1900.

St. Mary's River Ry. Co.—From Alberta Railway and Coal Co.'s line to Cardston, Alberta, 30 miles. Contract dated September 10, 1900.

Montreal and Province Line.—Farnham to Freleighsburg and Boundary, 21 miles, contract dated October 31, 1900.

Ottawa and New York Ry. Co.—Bridge over the St. Lawrence at Cornwall, $90,000, contract dated October 4, 1900.

Quebec Bridge Co.—Bridge over the St. Lawrence at Chaudière Basin, $1,000,000, contract dated November 12, 1900.

Pontiac Pac. Junction and Ottawa and Gatineau Ry. Co.'s. Bridge over the River Ottawa between Ottawa and Hull, additional $100,000, supplemental contract dated November 26, 1900.

ADDITIONAL PAYMENTS.

Massawippi Valley Ry. Co	$ 5,376 00
Inverness and Richmond Ry. Co.	132,800 00
Canadian Northern Ry. Co.	537,600 00
Great Northern Ry. Co.	187,911 00
Grand Trunk Ry. Co. (Victoria Bridge)	228,371 75
Canadian Pacific Ry. Co. (Pipestone Branch)	92,800 00
Central Ontario Ry. Co.	32,000 00
Midland Ry. Co.	170,264 00
Ottawa and New York Ry. Co. (Bridge)	90,000 00
Quebec Bridge Co.	26,676 00

Albert Southern Railway Company.

(See Annual Report of 1891-92.)

Atlantic and North-west Railway Company.

(See Annual Report of 1899-90.)

Baie des Chaleurs Railway Company.

(See Annual Report of 1895-96.)

Beauharnois Junction Railway Company.

(See Annual Report of 1895-96.)

Belleville and North Hastings Railway Company.

(See Annual Report of 1888-89.)

Boston and Nova Scotia Coal Company.

(See Annual Report of 1895-96.)

Brockville, Westport and Sault Ste. Marie Railway Company.

(See Annual Report of 1896-97.)

Brantford, Waterloo and Lake Erie Railway Company.

(See Annual Report for 1895-96.)

Buctouche and Moncton Railway Company.

(See Annual Report of 1893-94.)

Canada Atlantic Railway Company.

(See Annual Report of 1888-89; also see in present report under head Ottawa, Arnprior and Parry Sound Railway Company.)

Canada Eastern Railway Co.; formerly Northern and Western Railway Company of New Brunswick.

(See Annual Report of 1894-95.)

(See No. 458.)

Up to the end of the fiscal year 1894-95 there had been paid to this company subsidies aggregating $366,839.84.

By the subsidy Act 62-63 Vic., ch. 7 (1899), the grant of a subsidy to this company was authorized for a railway, 2½ miles, to complete the connection between Nelson and their main line, namely $3,200 a mile, with an addition of 50 per cent on the cost in excess of $15,000 a mile, but limited in all to $6,400 a mile.

A subsidy agreement was entered into with them accordingly on January 29, 1900. The work was completed, and they were paid during the fiscal year the sum of $8,000, making the total payments $374,839.84.

Canadian Northern Railway Company.

(See Ontario and Rainy River Railway Company.)

Canadian Pacific Railway Company.

Revelstoke to Arrow Lake.

(See Annual Report of 1896-97.)

Pipestone Branch—Antler Station to Moose Mountain.

(See No. 447.)

By the subsidy Act 62-63 Vic., ch. 7 (1899), a subsidy of $3,200 a mile with an addition of 50 per cent on cost in excess of $15,000 per mile, but not exceeding in all $6,400 a mile, was authorized for a railway from some point near Antler Station to a point near Moose Mountain, Man., not exceeding 50 miles.

The Canadian Pacific Railway Company having applied, were admitted to contract for this work on December 18, 1899. No payments have been made up to June 30, 1900.

Canadian Pacific Railway Company.

(Crow's Nest Pass Railway.)

(See No. 415.)

By the special Act 60-61 Vic., ch. 5 (1897), authority was given for the grant to the Canadian Pacific Railway Company, of a subsidy towards the construction of a railway from Lethbridge, through the Crow's Nest Pass, to Nelson, such subsidy being to the extent of $11,000 a mile, not exceeding in the whole $3,630,000. A contract for this work was entered into with the company, on September 6, 1897. The total distance is 342·75 miles. The road has been built and is in operation from Lethbridge to the south end of Lake Kootenay, a distance of 288·75 miles, except that at one point a temporary way will be replaced by a permanent straightened line. Of the remaining 54 miles to Nelson, the 20 miles between Nelson and Balfour are practially built. The total payments made up to June 30, 1900, amount to $3,116,250.

Cap de la Madeleine Railway Company.

(See Annual Report of 1896-97.)

Cape Breton Railway Extension Company.

(See Annual Report of 1895-96.)

Caraquet Railway Company.

(See Annual Report of 1888-89.)

Central Railway Company of New Brunswick.

(See Nos. 40, 143, 156, 205, 353, 382 and 445.)

By the Act of 1884, 47 Vic., ch. 8, a subsidy not exceeding $128,000 was granted in aid of the construction of about 40 miles of the Central Railway, from the head of the Grand Lake to a point on the Intercolonial Railway between Sussex and St. John, N.B.

Under the authority of an Order in Council of June 5, 1886, a contract was made with the Central Railway Company, on July 7, 1886, for a line from Salmon River, at

the head of Grand Lake, to Norton, on the Intercolonial Railway ; work to be completed by July 1, 1888. Certain work has been executed, but the contract obligations had not been carried out, and no portion of the subsidy was paid. The subsidy lapsed, but was revived by the Subsidy Act, 52 Vic., ch. 3 (1889.)

On December 1, 1890, a new contract was made with the company for this work under the Subsidy Act of 1889, the limit of subsidy being $128,000 ; this contract covered also a subsidy for 4½ miles, the limit of which was $14,400, authorized by the Act, 53 Vic., ch. 2, making a total subsidy of $142,400 ; the total length of road subsidized being 44½ miles. The date for completion was fixed as December 1, 1891.

By the Act 51 Vic., ch. 3, a grant as a subsidy to this company was authorized of used iron rails to the value $83,612.54, loaned to the St. Martin's and Upham Railway Company (which railway has been acquired by the Central Railway Company ; the sale being approved by an Order in Council of November 15, 1887), the condition of the grant being that such rails should first be replaced by new steel rails. The new steel rails were substituted, and an Order in Council of October 18, 1889, authorized the transfer of the rails to the company.

By the Subsidy Act of 1894, 57-58 Vic., ch. 4, the grant of a subsidy not exceeding $48,000 to this company was authorized for 15 miles of their railway from Chipman station to the Newcastle coal fields, and a contract for the work was made with the company on September 7, 1895.

By the Subsidy Act 60-61 Vic., ch. 4 (1897), the subsidy of 1894 for the said 15 miles was, in effect, revoted, with addition of 50 per cent of cost over $15,000 a mile, the total subsidy not to exceed $6,400 a mile.

The Subsidy Act 62-63 Vic., ch. 7 (1899), authorized the grant of a subsidy of $3,200 a mile, with an addition of 50 per cent of cost over $15,000 a mile, the total subsidy not to exceed $6,400 a mile for an extension from Newcastle coal fields to Gibson, 30 miles. An agreement was entered into with the company for this work on February 8, 1900.

Up to the end of the fiscal year 1898-99 there had been paid, including the value of the said rails, the sum of $226,012.54. No further payments have been made up to June 30, 1900.

Chatham Branch Railway Company.

(See Annual Report of 1893-94.)

Chignecto Marine Transport Company.

(See Annual Report for 1894 95.)

Coast Railway Company of Nova Scotia.

(See No. 403.)

This company was incorporated by the Provincial Act of Nova Scotia, 56 Vic., ch. 154 (1893), to build a line of railway from Yarmouth to Lockeport : a subsequent Act, 59 Vic., ch. 103 (1896), extending its powers.

By the Dominion Subsidy Act 60-61 Vic., ch. 4 (1897), the grant of a subsidy to this company for 61 miles of their railway from Yarmouth to Port Clyde was authorized

the amount being $3,200 a mile, with an addition of 50 per cent on the cost in excess of $15,000 a mile, the whole subsidy not to exceed $6,400 a mile.

The company were admitted to contract on August 26, 1897, the road to be completed by September 1, 1899.

During the year 1897-98 they were paid the sum of $90,400. No further payments have been made during the past fiscal year.

Cobourg, Northumberland and Pacific Railway Company.

(See Nos. 301, 249, 275 and 378.)

This company was incorporated by the Act 52 Vic., ch. 62 (1889), for the construction of a line of railway from Cobourg Harbour to the River Trent, to the Ontario and Quebec Railway, and to the mining regions of Marmora and Belmont.

By subsequent legislation in 1891, 1892 and 1894, the company's charter has been revived, and powers given for extension to the mineral lands of the county of Hastings, and for leasing the road to the Canadian Pacific Railway Company; the time for completion being extended to July 9, 1898.

By the Subsidy Act of 1890, assistance to the extent of $96,000 was authorized for 30 miles of the company's railway from Cobourg to the Ontario and Quebec Railway, and by the Subsidy Act of 1892, an additional subsidy of $60,800 was authorized for 19 miles. By the same Act the subsidy voted in 1890 was revoted.

A contract for the construction of the 49 miles subsidized was entered into with the company on June 16, 1894, the date for completion being fixed as August 1, 1896.

By an Order in Council of December 28, 1894, approval has been given to an agreement between the company and the Canadian Pacific Railway Company, dated June 30, 1894, for the lease of the road to the latter company, when completed, for a term of 999 years.

By the Subsidy Act of 1897, 60-61 Vic., ch. 4, in lieu of the subsidies granted by the Act of 1892, a subsidy was authorized for 50 miles of railway from Cobourg to the Ontario and Quebec Railway, namely, $3,200 a mile, with a further subsidy of 50 per cent on cost in excess of $15,000 a mile, the total subsidy not to exceed $6,400 a mile.

Under date April 25, 1898, a contract was entered into with the company for this work, the date for completion to be July 1, 1900.

No payments have been made up to June 30, 1900.

Columbia and Kootenay Railway and Navigation Company.

(*Leased to the Canadian Pacific Railway Company.*)

(See Annual Report for 1891-92.)

Cornwallis Valley Railway Company.

(See Annual Report for 1891-92.)

Cumberland Railway and Coal Company.

(See Annual Report for 1894-95.)

Dominion Atlantic Railway Company.

(See Western Counties Railway Company.)

Dominion Eastern Railway Company.

(No. 399.)

By the Subsidy Act 60-61 Vic., ch. 4 (1897), the grant of a subsidy was authorized for a railway from Sunny Brae to Country Harbour, and from a point at or near Country Harbour Cross Roads to Guysborough, N.S., 65 miles, namely, $3,200 a mile, with an addition of 50 per cent on the cost in excess of $15,000 a mile, not exceeding in all $6,400 a mile.

The Dominion Eastern Railway Company having applied, they were admitted to contract on March 25, 1898, for the work so subsidized, the date for completion being fixed as July 1, 1901. No payments have been made up to June 30, 1900.

Dominion Lime Company.

(See Annual Report for 1888-89.)

Dominion Coal Company.

(See Annual Report for 1895-96.)

Drummond County Railway Company.

(See Nos. 99, 175, 214, 292, 339 and 406.)

By the Railway Subsidy Act of 1888, 50–51 Vic., ch. 24, the grant of aid to an extent not exceeding $96,000 was authorized to the Drummond County Railway Company for 30 miles of their railway from Drummondville towards Nicolet, Quebec.

Under the authority of an Order in Council of November 12, 1887, a contract was made with the company on December 1, 1887, covering a line from the South-western Railway, at the village of Drummondville, to the south-west branch of the River Nicolet.

On May 2, 1889, the company were admitted to contract for the balance, 17½ miles, of the 30 miles subsidized.

By the Subsidy Act of 1889, 52 Vic., ch. 3, the company were further subsidized for 4½ miles from the end of the line already subsidized, to Ball's Wharf, on the River St. Lawrence, to the extent of $14,400, and were admitted to contract on January 21, 1890.

By the Subsidy Act, 53 Vic., ch. 2 (1890), authority was given for the grant of a subsidy, the limit of which was $76,800 for 24 miles of the railway of the company from Drummondville to Ste. Rosalie. Under date of February 2, 1891, the company were admitted to contract for this work.

By the Subsidy Act, 55–56 Vic., ch. 5 (1892), authority was given for the grant of a subsidy to the company for $4\frac{6}{10}$ miles from Ball's Wharf to Ste. Rosalie Junction, not exceeding $14,720.

By the Subsidy Act, 57–58 Vic., ch. 4 (1894), authority was given for the grant of a subsidy to this company for 30 miles of railway from St. Leonard northerly towards a junction with the Intercolonial at Chaudière Junction ; the limit being fixed at $96,000, and a contract for the work was made with the company on November 14, 1894.

By the Subsidy Act, 60–61 Vic., ch. 4 (1897), the grant of a subsidy to this company of $3,200 a mile for 42½ miles from Moose Park to Chaudière was authorized, with an addition of 50 per cent on the cost exceeding $15,000 a mile, the amount of such subsidy to be refunded to the Government in the event of its purchasing or leasing for a term of years their railway from Ste. Rosalie to Chaudière River. A contract was made with the company for this work on December 13, 1897.

Under an agreement dated February 25, 1898, the Government, in connection with the extension of the Intercolonial Railway traffic into Montreal, leased from the company their line from Ste. Rosalie to Chaudière, for the period between March 1, and June 30, 1898, with option of renewal for one year, and also option of purchase. Both options were exercised.

The total payments up to June 30, 1895, amounted to $287,936. During the fiscal years, 1898–99 the further sum of $136,000 was paid, as subsidy for the line from Moose Park to Chaudière, making a total $423,936.

The Act 62–63 Vic., ch. 6 (1899), authorized the Government to acquire the property of the company for the sum of $1,600,000 less the subsidy above mentioned and under date of November 7, 1899, the company by deed, conveyed their railway from Ste. Rosalie to Chaudière, together with the branch from St. Leonard to Nicolet to the Crown accordingly.

East Richelieu Valley Railway Company.

(See Annual Report of 1888–89).

Elgin, Petitcodiac and Havelock Railway Company.

(See Annual Report for 1885-86 and 1890 91.)

Erie and Huron Railway Company.

(See Annual Report for 1886-87.)

Esquimalt and Nanaimo Railway Company.

(See Annual Report for 1886-87.)

Fredericton and St. Mary's Bridge Company.

(See Annual Report for 1888-89.)

Grand Trunk, Georgian Bay and Lake Erie Railway Company.

(See Annual Report for 1893-94.)

Grand Trunk Railway Company.

(See No. 410 and 491.)

By the Subsidy Act, 60-61 Vic., ch. 4 (1891), the grant of a subsidy to the Grand Trunk Railway Company towards the rebuilding and enlargement of the Victoria Bridge over the River St. Lawrence at Montreal was authorized, namely, 15 per cent of the cost of the work, not exceeding $300,000, and a contract to this effect was made with the company on January 14, 1898.

By the Subsidy Act of 1900, 63-64 Vic., ch. 8, authority was given for increasing the grant of assistance to $500,000, on condition that the tariff of tolls for passengers and vehicular traffic should be approved by the Governor in Council.

The work undertaken was the removal of the old tubular iron bridge (a single track bridge) and the erection, without interruption to traffic, of a new steel truss bridge to carry four railway tracks—two for steam locomotives and ordinary railway trains, and two for electric railway purposes—and also two sidewalks, the superstructure to consist of 24 spans of through steel trusses, each 254 feet long, and one span of 348 feet.

The new bridge was completed in the fall of 1899, with an expenditure of $1,810,855.69.

During the past fiscal year the sum of $72,028.68 was paid, making, up to June 30, 1900, a total of $271,628.25.

Great Eastern Railway Company.

(See Annual Report for 1896-97.)

Great Northern Railway of Canada, formerly the Great Northern Railway Company.

(Name changed by the Act 62-63 Vic., ch. 68, 1899.)

(See Nos. 33, 37, 72, 79, 154, 215, 231, 308, 309, 346, 371, 380, 405, 407, 413.

By the Act 47 Vic., ch. 8 (1884), a subsidy not exceeding $32,000 was granted to this company for the construction of a line from St. Jérôme to New Glasgow, Que., the estimated length being 10 miles.

Under the authority of an Order in Council of February 3, 1885, a contract for the work was entered into with the company on the 14th of that month, the road to be completed by July 1, 1885.

The line was duly completed and inspected. Under an Order in Council of March 2, 1885, payment was made therefor, namely 7·84 miles, $25,088.

By the Act 49 Vic., ch. 10 (1886), a subsidy not exceeding $57,600 was authorized for a line from New Glasgow to Montcalm, a distance of about 18 miles. The Great Northern Railway Company having applied for it, it was granted to them by an Order in Council of July 18, 1887, which also approved of the location. The contract was made on August 19, 1887, the road to be completed by August 1, 1890.

By the Act 49 Vic., ch. 10, a subsidy not exceeding $22,400 was granted for a line from St. Andrews to Lachute, Que., 7 miles. For this subsidy the above named company applied, but no contract was made. The same subsidy was again voted by the Act of 1889, 52 Vic., ch. 3, and under date October 8, 1890, a contract was entered into with them for the work, calling for completion by August 1, 1891. The road was built and allowed to be opened for public traffic in January, 1892.

By the Act 53 Vic., ch. 2 (1890), the grant of a subsidy was authorized, limited to $48,000, for a line from, at or near Montcalm to the Canadian Pacific Railway, between Joliette and St. Félix de Valois, fifteen miles.

By the Act 54-55 Vic., ch. 2 (1891), the unpaid balance, $28,100 of the subsidy granted in 1886, was revoted.

By the Act 56 Vic., ch. 8 (1893), the unpaid balance, $25,600 of the subsidy granted in 1891, was revoted, and a new contract for this work was entered into with the company on June 16, 1894.

Also, by the same Act, the subsidy, not exceeding $48,000, granted to the company for 15 miles of their railway from Montcalm to the Canadian Pacific Railway, between Joliette and St. Félix de Valois, by 53 Vic., ch. 2, was revoted, and a contract for this work was entered into with them on June 16, 1894.

By the Subsidy Act 57–58 Vic., ch. 4 (1894), the grant to this company of a subsidy limited to $96,000, was authorized for 30 miles of railway from a junction with the Lower Laurentian Railway near St. Tite, westwards, in lieu of a subsidy previously granted to the Maskinongé and Nipissing Railway Company. A contract was entered into with the company for this work on September 16, 1895, the railway to be completed by November 30, 1896.

By the Subsidy Act, 60–61 Vic., ch 4, (1897), payment was authorized of unpaid balances for 67 miles of railway, between Montcalm and the junction with the Lower Laurentian Railway near St. Tite, not exceeding $182,400; also a subsidy of 15 per cent, not exceeding $52,500, of the cost of a bridge over the River Ottawa at Hawkesbury. Also, for 9 miles shortage in distance between Montcalm and St. Tite; also, for 35 miles from St. Jérôme to Hawkesbury; the last two being subsidies of $3,200 per mile with 50 per cent of expenditure in excess of $15,000 per mile, the total not to exceed $6,400 per mile. Under this Act, an agreement was entered into with the company on September 5, 1898, for the construction of the 67 miles and the 9 miles mentioned, and an agreement under the same Act was made with them on October 12, 1899, for the construction of the 35 miles from St. Jérôme to Hawkesbury.

By the Subsidy Act, 62–63 Vic., ch. 7 (1899) the grant of a subsidy for 53½ miles of the company's railway between Montcalm and St. Tite Junction was authorized; also for a branch from their main line to Shawenegan Falls, 6½ miles, such subsidies being of $3,200 a mile with an addition of 50 per cent of cost in excess of $15,000 a mile, the whole subsidy not to exceed $6,400 a mile.

By the Subsidy Act, 62–63 Vic., ch. 7 (1899), authority was given for the grant of aid to this company towards the construction of three bridges to the extent of 15 per cent of the amount expended; such subsidies being limited as follows:—

For the bridge across the River St. Maurice		$16,425
"	" du Loup	15,000
"	" Maskinongé	15,000

Contracts in respect of all three bridges were made with the company under date December 21, 1899.

Under date February 28, 1900, a subsidy contract was made with the company for the construction of a bridge across the River Ottawa at Hawkesbury, the subsidy, limited to $52,500, being that authorized by the Act 60–61 Vic., ch. 4 (1897). The line as subsidized and either built or under construction extends from Hawkesbury to St. Tite Junction with the Lower Laurentian Railway, a distance of 225 miles; passing through Grenville, Lachute, St. Jérôme, New Glasgow, Montcalm, Joliette and St. Boniface. The sections between St. Jérôme and Montcalm 27·84 miles, and 20

miles westward from St. Tite to St. Boniface, on all of which the subsidy was $3,200 a mile, making a total of $153,088 have been built and paid for; also a short line 6·75 miles from Lachute to St. Andrews, the subsidy for which amounted to $21,600.

The total payments to this company, up to June 30, 1899, amounted to $174,688. No further payments have been made up to June 30, 1900.

Gulf Shore Railway Company of New Brunswick.

(See Nos. 374 and 383.)

This company was incorporated by the New Brunswick Act, 48 Vic., ch. 49 (1885), with power to construct a railway from some point on the Caraquet Railway to the village of Tracadie or to some point in the parish of Sumarez, county of Gloucester. The Charter Act was revived by the Act 57 Vic., ch. 73 (1894).

By the Dominion Subsidy Act 57-58 Vic., ch. 4 (1894), assistance was authorized to the extent of $38,400 for a railway from a point on the Caraquet Railway at or near Pokemouche siding towards Tracadie village, 12 miles.

The above company having applied, they were admitted to contract for the work on April 22, 1896, and were paid during the fiscal year 1896-7, $28,635.05.

By the Subsidy Act, 60-61 Vic., ch. 4 (1897), authority was given for the grant to them of a subsidy for 5½ miles from the end of the section subsidized to Tracadie and thence to Big Tracadie, namely $3,200 a mile, with an additional 50 per cent of expenditure in excess of $15,000 a mile, to a limit, in all, of $6,400 a mile. The company were admitted to contract on the 29th of October, 1897. The total paid up to June, 30, 1898, was $53,699.20. No further payments have been made during the past fiscal year.

Guelph Junction Railway Company.

(See Annual Report of 1888-89.)

Harvey Branch Railway Company.

(See Annual Report of 1889-90.)

Hereford Railway Company (formerly Hereford Branch Railway Company).

(See Annual Report of 1891-92.)

International Railway Company.

(See Annual Reports of 1887-88 and 1889-90.)

Inverness and Richmond Railway Company.

(See Nos. 208, 357, and 400.)

This company was incorporated by the Act of the province of Nova Scotia, 50 Vic., ch. 60 (1887), with powers for the construction of a line of railway between Hawkesbury and a point in the district of Margaree. By the Act of 1888, ch. 79, the location of the line was authorized as from Port Hawkesbury, through Port Hastings, Judique, Port Hood, Mabou and Margaree, to a point at Eastern Harbour, Cheticamp.

By the Subsidy Act, 57-58 Vic., ch. 4 (1894), assistance to the extent of $80,000 was authorized for 25 miles of railway from Port Hawkesbury towards Cheticamp, and the above company was admitted to contract for the work on November 23, 1894, the time for completion being fixed for December 1, 1896.

By the Subsidy Act of 1897, 60-61 Vic., ch. 4, in lieu of the subsidy granted in 1894, a subsidy of $3,200 a mile with an addition of 50 per cent on expenditure in excess of $15,000 a mile, such subsidy in all not to exceed $6,400 a mile, was authorized for a railway from Port Hawkesbury to Port Hood and Broad Cove, 53 miles, and the company were admitted to contract thereunder on April 29, 1898.

No payments have been made up to June 30, 1900.

Irondale, Bancroft and Ottawa Railway Company.

(See Nos. 24, 159, 301, and 412.)

By the Act 47 Vic., ch. 8 (1884), the Irondale, Bancroft and Ottawa Railway Company were subsidized, to an extent not exceeding $160,000, for a line about 50 miles long, to connect the Victoria Branch of the Midland Railway with the village of Bancroft.

With the sanction of an Order in Council of July 10, 1886, a contract was made with the company on August 19, 1886.

The unpaid balance of subsidy, $145,000, which had lapsed, was revoted by the Act 52 Vic., ch. 3 (1889), and was again revoted by the Act 56 Vic., ch. 2 (1893).

By the Subsidy Act, 60-61 Vic., ch. 4 (1897), in lieu of the subsidy voted in 1893, the sum of $16,000 was voted for the last five miles of this railway as the unpaid balance. The company were admitted to contract on the 20th of September, 1897.

The total payments amounted to $144,000, up to June 30, 1897. No payments were made during the past fiscal year.

Joggins Railway Company.

(See Annual Report for 1891-92.)

Kingston, Napanee and Western Railway Company.

(See Napanee, Tamworth and Quebec Railway.)

Kingston and Pembroke Railway Company.

(See Annual Report for 1884-85.)

Lake Erie and Detroit River Railway Company.

Formerly 'the Lake Erie, Essex and Detroit Railway Company.' Name changed by Dominion Act, 54-55 Vic., ch. 38 (1891).

(See Annual Reports for 1889-90 and 1893-94.)

(See No. 463.)

Up to the end of the fiscal year 1893-94, this company had received subsidies to the extent of $338,731.

By the Subsidy Act, 62-63 Vic., ch. 7 (1899), the grant of a subsidy to this company was authorized, namely, for a line from Ridgetown, Ont., to St. Thomas, 44 miles, the subsidy to be payable only in the event of adequate running rights over the Canada Southern Railway being granted them on terms to be approved by the Railway Committee of the Privy Council.

The matter came before the Railway Committee, who decided that such rights could not be assured on terms that they could approve, and advised that a subsidy contract should be granted to the company.

On the 23rd of June, 1900, the company were admitted to contract accordingly.

No further payments have been made up to June 30, 1900.

L'Assomption Railway Company.

(See Annual Report of 1886-7.)

Leamington and St. Clair Railway Company.

(See Annual Report of 1888-9.)

Lake Temiscamingue Colonization Railway Company.

(See Annual Report of 1896-7.)

Lotbinière and Megantic Railway Company.

(See Annual Report of 1896 7.)

Massawippi Valley Railway Company.

(See No. 442.)

This company was incorporated by the Act of Canada of 1887, ch. 94.

By the Subsidy Act, 62-63 Vic., ch. 7, the grant of a subsidy to this company of $3,200 a mile, with an addition of 50 per cent on cost in excess of $15,000 a mile, but limited, in all, to $6,400 a mile, was authorized for an extension of their railway to the village of Stanstead Plain, P.Q.,

A subsidy agreement was entered into with them for the work on December 18, 1899.

No payment has been made up to June 30, 1900.

Midland Railway Company.

(See Nos. 336, 421, 472.)

This company was incorporated by the Act of the province of Nova Scotia, 59 Vic., ch. 85 (1896), with powers to build a railway from Windsor to a point at or near Maitland, thence via Clifton to a point between Truro and Stewiacke, on the Intercolonial; thence to Eastville; with extensions and branches to coal and iron fields, and shipping ports.

By the Dominion Subsidy Act, 57-58 Vic., ch. 4 (1894), authority was given for the grant of a subsidy of $3,200 per mile for 90 miles of railway, from Newport or Windsor to Truro, or to a point between Truro and Stewiacke, and from a point on the said railway to a point at or near Eastville, and from Eastville, through the valley of

Musquodoboit River, towards a point on the Dartmouth branch of the Intercolonial, in lieu of a subsidy authorized in 1892; also for a railway bridge over the River Shubenacadie, a subsidy of 15 per cent on the value of the structure; the total of the subsidies not to exceed $300,000.

The Midland Railway Company having applied, were admitted to contract for these works on July 30, 1896.

By the Subsidy Act, 62-63 Vic., ch. 7 (1899), in lieu of the foregoing, there was authorized a grant of $3,200 per mile, with a further grant of 50 per cent on cost in excess of $15,000 per mile, up to a limit of $6,400 per mile, for a railway from Windsor, N.S., to Truro, via Clifton; and the Midland Railway Company having applied for it they were admitted to contract on the 7th of December, 1899.

No payments have been made up to June 30, 1900

Montfort Colonization Railway Company.

(See Nos. 245, 310, 373 and 411.)

This company was incorporated by the Quebec Act, 53 Vic., ch. 107 (1890), for the construction of a railway from a point on the Canadian Pacific Railway, or the Montreal and Occidental Railway, either from Lachute, St. Jérôme or St. Sauveur, or near the same, to Montfort, and for the continuation of the road to a point on the Rivière Rouge, in the township of Arundel.

By the Subsidy Act, 55-56 Vic., ch. 5 (1892), the grant of a subsidy to this company to the extent of $67,200 was authorized for 21 miles of railway from Lachute, St. Jérôme, or a point at or near St. Sauveur, on the line of the Montreal and Western Railway to Montfort and westward.

By the Subsidy Act, 56 Vic. (1893) this subsidy was revoted, with an addition specifying the gauge as three feet.

On May 16, 1893, a contract was entered into with this company for the construction of 21 miles of railway from St. Sauveur to Montfort and westward, the road to be completed by September 1, 1895.

By the Subsidy Act, 57-58 Vic., ch. 4 (1894), a subsidy to the company was authorized to the extent of $38,400 for 12 miles from the end of the 21 miles previously subsidized, and the company were admitted to contract on July 30, 1896; the River Rouge being the terminal point for the distance subsidized.

By the Subsidy Act, 60-61 Vic., ch. 4 (1897), authority was given for the grant to this company of a subsidy of $2,000 a mile for 33 miles of their railway from Montfort Junction to Arundel; and the company were admitted to contract on December 29, 1897.

The total payments, up to June 30, 1899, amounted to $167,440.

No payments have been made during the past fiscal year.

Montreal and Champlain Junction Railway Company.

(See Annual Report for 1892-93.)

Montreal and Lake Maskinongé Railway Company.

(See Annual Report for 1890-91.)

Montreal and Sorel Railway Company.

(See Annual Report for 1892-93.)

Montreal and Western Railway Company.

(See Annual Report for 1893-94.)

Montreal and Ottawa Railway Company.

(Formerly 'the Vaudreuil and Prescott Railway Company.' Name changed by 53 Vic., ch. 58.)

(See Annual Report for 1898-99.)

Napanee Tamworth and Quebec Railway Company.

(*Name changed to the* **Kingston, Napanee and Western Railway Company** *by the Act 53 Vic., ch. 62.*)

(See Annual Report of 1895-96.)

Nakusp and Slocan Railway Company.

(See Annual Report for 1894-95.)

New Brunswick and Prince Edward Island Railway Company.

(See Annual Report for 1888-89.)

New Glasgow Iron, Coal and Railway Company.

(See Annual Report for 1895-96.)

Northern and Pacific Junction Railway Company.

(See Annual Report of 1890-91.)

Northern and Western Railway Company.

(See Annual Report of 1889-90.)

Also under the head 'Canada Eastern Railway' in Annual Report of 1894-95.)

Nova Scotia Central Railway Company.

(See Annual Report for 1898-99.

Nova Scotia Southern Railway Company.

(See Annual Report for 1896-97.)

(See No. 431 and 432.)

No payments were made to this company under the subsidies previously granted which lapsed; and in 1899, by the Subsidy Act of that year, 62-63 Vic., ch. 7, the grants of the following were authorized, viz.: For a railway from a point on the Central Railway in the county of Lunenburg, N.S., to the town of Liverpool via the village of Caledonia, or to the village of Caledonia via Liverpool, or for any part thereof, the whole distance not exceeding 62 miles; also for a railway from Indian Gardens, Queen's County, N.S., to Shelburne, 35 miles. In each case the subsidy was $3,200 a mile, with an addition of 50 per cent of cost in excess of $15,000 a mile, but not exceeding in all $6,400 a mile.

The above company having applied, were admitted to contract under both subsidies, the two agreements being each dated January 27, 1900.

No payments have been made up to June 30, 1900.

Ontario and Pacific Railway Company.

(Name changed to Ottawa and New York Railway Company, by 60-61 Vic., ch. 57, 1897.)

(See Nos. 31, 115, 150, 288 and 375.)

By the Act 47 Vic., ch. 8 (1884), the grant of a subsidy to the Ontario and Pacific Railway Company was authorized, namely to the extent of $262,400, on an estimated distance of 82 miles, for a line from Cornwall to Perth; and on July 27, 1886, a contract was made with the company, under the authority of an Order in Council of the first day of that month, for the construction of such line, via Newington, Chrysler, Manotick and Franktown; the road to be completed by July 1, 1888. This subsidy lapsed on July 1, 1888.

By the Act 50–51 Vic., ch. 24, a further subsidy of $19,200 for a further distance of 6 miles was granted.

By the Act 52 Vic., ch. 3 (1889), a subsidy not exceeding $172,400 was authorized to this company for a line from Cornwall to Ottawa.

By the Subsidy Act of 1892, 55–56 Vic., ch. 5, the subsidy granted in 1899 was revoted, the length being set down as $53\frac{87}{100}$ miles. Under date June 1, 1895, a contract was entered into with the company for the construction of this line from Cornwall to Ottawa, 53·87 miles.

By the special Act 60–61 Vic., ch. 57, the name of the company was changed to 'The Ottawa and New York Railway Company,' and its construction powers were extended to July 1, 1901.

By the Subsidy Act 60–61 Vic., ch. 4 (1897), in lieu of the subsidy voted in 1892, a subsidy was authorized of $3,200 a mile, for 53·87 miles from Cornwall to Ottawa, with a further subsidy for expenditure in excess of $15,000 a mile, to an extent of 50 per cent of such expenditure, the total subsidies not to exceed $6,400 per mile.

The company were admitted to contract for the above on December 4, 1897.

The total payments up to June 30, 1899, amounted to $172,384. No further payments have been made during the past fiscal year.

Ontario and Quebec Railway Company.

(See West Ontario Pacific Railway Company, and Annual Report for 1891–92.)

Ontario and Rainy River Railway Company.

(See Nos. 390, 433, 444 and 466.)

This company, incorporated by the Ontario Act 49 Vic., ch. 75, with powers to construct a railway from the Town of Port Arthur to Rainy River and certain branches, was declared to be a work for the general advantage of Canada by the Dominion Act 54–55 Vic., ch. 82 (1891), which also extended the time for completion to August 1898, and ratified agreements made by the company for running powers over

the line of the Port Arthur, Duluth and Western Railway Company; it further gave powers for the construction of a bridge across Rainy River. By the Act 61 Vic., ch. 81, the company were empowered to construct their railway either from Port Arthur or from a point on the Port Arthur, Duluth and Western Railway to a point on the boundary between the provinces of Ontario and Manitoba, and the time for completion of their works was extended.

By the Subsidy Act 60-61 Vic., ch. 4 (1897), a subsidy to this company was authorized towards the construction of 80 miles of their railway from the Port Arthur, Duluth and Western Railway to Rainy Lake, namely, $3,200 a mile, with an addition of 15 per cent limited to $3,200 a mile on the cost in excess of $15,000 a mile. This subsidy was definitely increased to $6,400 a mile by the Subsidy Act 62-63 Vic., ch. 7 (1899)

The company were admitted to contract under these two subsidies by agreements dated July 29, 1899, and April 21, 1900, respectively.

By the Subsidy Act 62-63 Vic., ch. 7 (1899), authority was given for the grant to this company of a subsidy of $6,400 a mile for 140 miles of railway from a point 80 miles west of Stanley Station, on the Port Arthur, Duluth and Western Railway, to Fort Frances. The company were admitted to contract thereunder on February 14, 1900.

By the same Act the grant of a subsidy was authorized for 70 miles of railway from Fort Frances to or near the mouth of Rainy River. This company applied and were admitted to contract thereunder on February 14, 1900. By a special covenant in this contract they waived claim to any subsidy for this 70 miles in excess of $3,200 a mile.

Under authority of the Act 62-63 Vic., ch. 80 (1899), the company was amalgamated with, and under the name of, the Canadian Northern Railway Company, the agreement in this regard being approved by an Order in Council of May 4, 1900. The Canadian Northern Railway Company was formed by the amalgamation of the Winnipeg Great Northern Railway Company and the Lake Manitoba Railway and Canal Company under the Act 61 Vic., ch. 70 (1898), the agreement for that purpose being approved by an Order in Council of January 13, 1899. With the same company there is also amalgamated the Manitoba and South Eastern Railway Company under the Act 62-63 Vic., ch. 75 (1899), the agreement to that effect being approved by an Order in Council of May 2, 1900. The above railways are comprised in the Canadian Northern Railway system and under the name of that company.

The subsidized line is under construction, but no portion of the subsidies has been paid up to June 30, 1900.

Ontario, Belmont and Northern Railway Company

(See Annual Report for 1896-97.)

Orford Mountain Railway Company.

(See Annual Reports for 1893-94 and 1894-95.)

Ottawa and New York Railway Company.

(See Ontario Pacific Railway Company.)

Ottawa, Arnprior and Parry Sound Railway Company.

Now the **Canada Atlantic Railway Company,** *by amalgamation, under the Act 62-63 Vic., ch. 81 (1899.)*

(See Annual Report for 1898-99.)

Ottawa and Gatineau Valley Railway Company.

Name changed to the **Ottawa and Gatineau Railway Company** (by the Act 57-58 Vic. ch. 87, which consolidated and amended Acts relating to the company).

(See Nos. 8, 26, 58, 151, 305, 349, 379 and 409.)

By the Act 48-49 Vic., ch. 29 (1885), the grant of a subsidy to this company was authorized (in lieu of subsidies granted in previous years), namely, for a line of railway from Hull station towards the village of Le Désert, 62 miles, the amount being $320,000. The subsidy having lapsed, it was revoted by the Act 52 Vic., ch. 3 (1889).

Under authority of an Order in Council of July 10, 1889, a contract with the company for the work in question, 62 miles, was signed on August 19, 1889.

By the Subsidy Act 56 Vic., ch. 2 (1893), the unpaid balance, $89,248, was revoted.

By the Subsidy Act 57-58 Vic., ch 6 (1894), authority was given for subsidizing, to the extent of $64,000, a further distance of 20 miles from the end of the 62 miles already subsidized, and a contract for the work was entered into with the company on October 7, 1895.

By the Subsidy Act 60-61 Vic., ch. 4 (1897), in lieu of this subsidy, the said 20 miles were subsidized to the extent of $3,200 per mile, with a further subsidy of 50 per cent of the expenditure in excess of $15,000 a mile; the total subsidy not to exceed $6,400 a mile.

The company were admitted to contract under this subsidy on July 29, 1899.

By the Subsidy Act 60-61 Vic., ch. 4 (1897), the unpaid balance, $35,872, of the vote of 1893 was revoted, and a contract was made with the company thereunder on July 29, 1899.

The total payments up to June 30, 1894, amounted to $284,128. No further payments have been made up to June 30, 1900.

Under date September 21, 1899, a contract was entered into for the construction, under subsidy, of a bridge across the river Ottawa at Ottawa, being made with this company conjointly with the Pontiac Pacific Junction Railway Company (which see.)

Oshawa Railway and Navigation Company.

Name changed to the **Oshawa Railway Company** by 54-55 Vic., ch. 91.

(See Annual Report for 1895-96.)

Parry Sound Colonization Railway Company.

(See Annual Report for 1895-96.)

Pembroke Southern Railway Company.

(See No. 389.)

This company was incorporated by the Act of the Province of Ontario, 56 Vic., ch. 96, 1893; with powers to build a line of railway from Pembroke to Douglas, and by the Ontario Act 59 Vic., ch. 107 (1896), were allowed the option of building from Pembroke to Golden Lake.

By the Railway Subsidy Act 60-61 Vic., ch. 5 (1897), the grant of a subsidy to this company was authorized for 20 miles of their railway from Pembroke to Golden Lake, namely, $3,200 a mile with an addition of 50 per cent on the average cost in excess of $15,000 a mile, the whole limited to $6,400 a mile.

The company having applied for the said subsidy, an agreement was entered into with them on August 22, 1898, for the construction of the 20 miles in question.

The road has been completed, the actual distance being 21 miles, and during the past fiscal year the full amount of the subsidy earned, $64,000, has been paid. The road is leased to the Canada Atlantic Railway Company, with whose line is connects.

Philipsburg Junction Railway and Quarry Company.

(See Annual Report for 1894–95.)

Now the **Philipsburg Railway and Quarry Company.** *Name changed by Quebec Act, 58 Vic., ch. 65 (1895.)*

(See No. 417.)

Up to the end of the fiscal year 1894-95, there had been paid to this company the sum of $21,600.

By the Subsidy Act 62-63 Vic., ch. 7 (1899), the grant of a subsidy of $3,200 a mile for shortage in an extension of this railway to the government wharf at Philipsburg, P.Q., not exceeding 0·66 of a mile was authorized.

A contract was made with the company accordingly on December 5, 1899, and the sum of $2,112 was paid therefor, during the fiscal year, making the total payments to this company, $23,712 up to June 30, 1900.

Port Arthur, Duluth and Western Railway Company.

(Formerly the **Thunder Bay Colonization Railway Company.**)

(See Annual Report for 1892–93.)

Pontiac and Renfrew Railway Company.

(See Annual Report for 1889-90.)

Pontiac Pacific Junction Railway Company.

(See Nos. 25, 138, 211, 294, 329, 330, 331, 385 and 408.)

This company was incorporated by the Dominion Act 43 Vic., ch. 55 (1880), with powers to construct a railway from a point on the line of the Quebec, Montreal, Ottawa and Occidental Railway, at or near Hull or Aylmer, to a point in the county of Pontiac, suitable for crossing the River Ottawa, thence to Pembroke to connect with the Canada Central Railway.

The Act 45 Vic., ch. 69, gave authority for the construction of a bridge across the River Ottawa.

This line was subsidized in 1884, by 49 Vic., ch. 8, to the extent of $3,200 a mile, not exceeding $272,000.

Under authority of an Order in Council, dated December 12, 1884, a contract, dated the 22nd of that month, was made with this company for the building of the

line subsidized, namely, from Aylmer to Pembroke, crossing the River Ottawa at a point 'not east of Lapasse;' the first twenty-seven miles to be completed by September 1, 1885 (extended to December 15, by an Order in Council of August 13, 1895), the second twenty-seven miles by July 1, 1886, and the whole road, estimated at eighty-five miles west of Aylmer, by July 1, 1887.

By the Act 51 Vic., ch. 3 (1888), a subsidy to this company of $31,500 was authorized for the bridging of the River Ottawa at Culbute; also a subsidy of $9,600 for 3 miles of their railway from a point 3 miles east of Pembroke to Pembroke, provided that the entire work subsidized on this railway be completed within four years from May 22, 1888.

By the Act 53 Vic., ch. 2 (1890), a subsidy, limited to $24,000 was authorized for 7½ miles of this railway, between Hull and Aylmer.

By the Act 63 Vic., ch. 69 (1890), the time for completion of the railway to the town of Pembroke, and of the bridge over the River Ottawa, at or near the city of Ottawa, which the company were empowered to construct by the Act 45 Vic., ch. 69, was extended to May 22, 1892. The same Act gave the company power to extend their line from the said bridge to the canal basin in the city of Ottawa.

The Act 53 Vic., ch. 69 (1890), gave to this company power to purchase from the Canadian Pacific Railway Company the section between Hull and Aylmer, or any part thereof.

By the Subsidy Act 55-56 Vic., ch. 5, clause 4 (1892), the balance unpaid of the subsidy voted in 1884 was revoted; and by the special Act of 1892, ch. 56, the time for the commencement of a bridge over the River Ottawa, at or near Ottawa, was extended for two years, and its completion for five years from July 9, 1892. The time for the completion of the line to Pembroke was also extended for four years from that date.

By the Subsidy Act 57-58 Vic., ch. 4 (1894), the subsidies voted in 1888 were revoted, subject to the condition that the entire work subsidized on this railway should be completed within four years.

By the same Act the unpaid balance of the subsidy voted by ch. 8 of the Act of 1884, less $24,000 for the 7½ miles from Hull to Aylmer, was revoted, namely, $73,172.

By the same Act the sum of $24,000, voted for the road from Hull to Aylmer in 1890, was, in effect, revoted.

By the Subsidy Act 60-61 Vic., ch. 4 (1897), the unpaid balances of the subsidies for 85 miles from Aylmer to Pembroke, and for bridging the River Ottawa, granted by the Acts of 1894, such balances amounting to $114,272, were revoted. A contract was made with the company thereunder on July 29, 1899.

By the same Act the subsidy for 7½ miles from Hull to Aylmer, revoted by the Act of 1894, was, in effect, revoted, with the addition of 50 per cent on expenditure in excess of $15,000 per mile, the total of the subsidies not to exceed $6,400 per mile. The company were admitted to contract thereunder on July 29, 1899.

By the Subsidy Act 60-61 Vic., ch. 4 (1897), authority was given for the grant of subsidy for a railway and traffic bridge over the River Ottawa at Ottawa, to the extent of 15 per cent of its cost but not exceeding $112,500. A contract thereunder was made

with the Pontiac Pacific Junction Railway Company and the Ottawa and Gatineau Railway Company, jointly, on September 21, 1899. This subsidy was increased to $212,500 by the Subsidy Act of 1900, on the condition that free vehicular and foot passenger facilities should be provided. At the close of the fiscal year the work was rapidly approaching completion, but no portion of the subsidy can be paid until the bridge and its approaches are fully finished.

Up to the close of the fiscal year 1887-88, a total of $174,828, had been paid out of the subsidy voted in 1884. During the fiscal year 1894-95 the sum of $18,750 was paid, making a total of $193,578. No further payments have been made up to June 30, 1900.

Quebec Central Railway Company.

(See Annual Report of 1895-96.)

Quebec and Lake St. John Railway Company.

(See Annual Report for 1895-96.)

Quebec, Montmorency and Charlevoix Railway Company.

(See Annual Report of 1894-95.)

Restigouche and Western Railway Company.

(See No. 384.)

This company was incorporated by the Act of the Province of New Brunswick, 60 Vic., ch. 82 (1897), with powers to construct a railway from Campbellton, to a point on the River Saint John between Grand Falls and Edmundston.

By the Subsidy Act 60-61 Vic., ch. 4 (1897), there was authorized a subsidy for a railway from Campbellton, on the I.C.R., towards Grand Falls, N.B., 20 miles, $3,200 a mile, with an addition of 50 per cent on the cost in excess of $15,000 a mile; the whole not to exceed $6,400 a mile. This was in lieu of a previous subsidy to a specified company.

The Restigouche and Western Railway Company having applied were admitted to contract for the work on December 24, 1897. During the past fiscal year, the sum of $14,930 was paid, making the total payments up to June 30, 1900, $46,930, covering the first ten mile section from Campbellton.

Schomberg and Aurora Railway Company.

(See No. 386.)

This company was incorporated by the Dominion Act 59 Vic., ch. 34 (1896), with powers to build a line of railway from a point on the Grand Trunk Railway between King and Newmarket to the Village of Schomberg.

By the Subsidy Act 60-61 Vic., ch. 4 (1897), the grant of a subsidy of $3,200 a mile for 15 miles between the point named above, with an addition of 50 per cent of the cost in excess of 15,000 a mile, but not exceeding in all $6,400 a mile was authorized.

A subsidy agreement was entered into with the company accordingly on July 29, 1899.

No payments have been made up to June 30, 1900.

Shuswap and Okanagan Railway Company.

(See Annual Report of 1894–95.)

South Norfolk Railway Company.

(See Annual Report of 1888–89.)

South Shore Railway Company.

(See Annual Report of 1896–97.)

South Shore Railway Company, Quebec.

(See Nos. 441, 468 and 469.)

This company was incorporated by the Quebec Act of 1894, ch. 72, and this undertaking was declared to be a work for the general advantage of Canada by the Dominion Act, 60 Vic. ch. 10 (1896), which authorized the construction of a line of railway from a point in the town of Levis to a point on the Canada Atlantic Railway at or near Valleyfield.

By the Subsidy Act 62-63 Vic. ch 7 (1899), the grant of a subsidy to this company for 82 miles of railway from Sorel junction to Lotbinière was authorized, $3,200 a mile with an addition of 50 per cent of cost in excess of $15,000 a mile, but not exceeding in the whole $6,400 a mile. The company were admitted to contract for this work on May 9, 1900.

By the same Act the grant of a subsidy was authorized towards the construction of a bridge over the River Richelieu at Sorel, not exceeding $35,000. The company were admitted to contract for this work on December 23, 1899.

By the same Act the grant of a subsidy to this company was authorized towards the renewal of the railway bridge over the River Yamaska at Yamaska, the amount being $50,000. They were admitted to contract for the work on May 9, 1900.

During the past fiscal year there has been paid to the company from the above subsidies a total of $14,725.76 for work on the Richelieu Bridge. There has also been paid to them a certain balance of $16,164.43 remaining of a subsidy granted under the Subsidy Act 53 Vic., ch. 2 (1890), for completing the Montreal and Sorel Railway from St. Lambert to Sorel, such completion having been effected in 1895, but the payment having been withheld in view of dispute as to the ownership of the road, which was in sequestration. Payment has now been made on the advice of the Department of Justice to the effect that the South Shore Railway Company is entitled thereto.

St. Catharines and Niagara Central Railway Company.

(See Annual Report for 1895–96.)

St. Clair Frontier Tunnel Company.

(See Annual Reports of 1890–91 and 1891–92.)

St. Gabriel de Brandon and Ste. Emélie de l'Energie Railway Company.

(See No. 381.)

By the Subsidy Act 60–61 Vic., ch. 4 (1897), in lieu of a previous subsidy authorized in 1894, a subsidy of $3,200 a mile with an addition, not exceeding $3,200 a mile,

of 50 per cent of cost in excess of $15,000 a mile, was authorized to be granted to this company for 15 miles of railway from St. Gabriel to Ste. Emélie de l'Energie and for 5 miles from a point on the main line to St. Jean de Matha.

A subsidy agreement for this work was entered into with the company on July 29, 1899.

No portion of the subsidy has been paid up to June 30, 1900.

St. John Valley and Rivière du Loup Railway Company.

(See Annual Report for 1893-94.)

St. Stephen and Milltown Railway Company.

(See Annual Report for 1895-96.)

(No. 393.)

A further subsidy to this company was authorized by the Act 60-61 Vic., ch. 4 (1897), namely, for 41 miles of their railway from Milltown to St. Stephen, $3,200 a mile, with 50 per cent additional on the cost in excess of $15,000 a mile, not exceeding in all $6,400 a mile. The company were admitted to contract for this work on September 29, 1897. No payments have been made under this subsidy. Under the previous subsidy $14,848 was paid up to June 30, 1900.

Stewiacke Valley and Lansdowne Railway Company.

(See Annual Report for 1895-96.)

St. Lawrence and Adirondack Railway Company.

(See Annual Report for 1893-94.)

(No. 394.)

A further subsidy to this company was authorized by the Act 60-61 Vic., ch. 4 (1897), namely, for 13½ miles of their railway from Beauharnois to Caughnawaga, $3,200 a mile, with an addition of 50 per cent on expenditure in excess of $15,000 a mile, such subsidy not to exceed in the whole $6,400 a mile.

The company was admitted to contract on October 16, 1897. No payments have been made under this subsidy up to June 30, 1900. The payments under the previous subsidy aggregated $149,481.60.

St. Lawrence, Lower Laurentian and Saguenay Railway Company.

Name changed to **Laurentian Railway Company** *by Provincial Act 51-52 Vic., ch. 108.*

(See Annual Report for 1891-92.

St. Louis and Richibucto Railway Company.

(See Annual Report for 1884-85.)

Témiscouata Railway Company—Rivière du Loup to Edmundston.

(See Annual Report for 1892-93.)

Thousand Islands Railway Company.

(See Annual Report for 1895-96.)

Tilsonburg, Lake Erie and Pacific Railway Company.

(See Annual Report for 1895-96.)

(No. 387.)

A further subsidy to this company was authorized by the Act 60-61 Vic, ch. 4 (1897), namely, for 3·50 miles from the then terminus, through Tilsonburg to the Michigan Railway, $3,200 a mile, with an addition of 50 per cent of the cost in excess of $15,000 a mile, the whole not to exceed $6,400 a mile.

Under date December 4, 1897, the company were admitted to contract. During the past fiscal year the sum of $7,159.48 was paid from this subsidy, making, with their previous subsidy of $51,200, paid in 1895-96, a total of $69,271.48, up to June 30, 1900.

Tobique Valley Railway Company.

(See Annual Report for 1893-94.)

Toronto, Grey and Bruce Railway Company.

(See Annual Report for 1887-88.)

United Counties Railway Company.

(See Nos. 297, 314 and 393.)

This company was incorporated by the Quebec Act 46 Vic., ch. 90 (1883), for the construction of a railway from a point on the line of the Montreal, Portland and Boston Railway, at Richelieu, to a point on the River Richelieu and the River St. Lawrence.

By the Subsidy Act 56 Vic., ch. 2 (1893), a subsidy to the extent of $102,400 for 32 miles between Iberville and St. Hyacinthe, and beyond, toward Sorel, was authorized.

On August 19, 1893, a contract was entered into with the company for this work.

By the Subsidy Act 57-58 Vic., ch. 4 (1894), a subsidy, limited to $102,400, was authorized for a further distance of 32 miles, and on October 23, 1894, a contract was made with the company for the work, covering the whole distance from St. Hyacinthe to Sorel.

By the Act 60-61 Vic., ch. 4 (1897), the grant of a subsidy of $3,200 a mile, with an addition of 50 per cent on the cost in excess of $15,000 a mile, not exceeding in all $6,400 a mile, was authorized for one mile of this company's railway from Johnson to St. Grégoire station.

During the past fiscal year no payments were made, leaving the total payments $188,816, up to June 30, 1900.

Vaudreuil and Prescott Railway Company.

(See *Montreal and Ottawa Railway Company.*)

Waterloo Junction Railway Company.

(See Annual Report for 1891-92.)

Western Counties Railway Company.

(Name changed to **The Yarmouth and Annapolis Railway Company** *by 56 Vic., ch. 64.)*

(Name further changed to **The Dominion Atlantic Railway Company** *by 57 58 Vic., ch. 60.)*

(See Annual Report for 1894–95.)

West Ontario Pacific Railway Company.

(Leased to Ontario and Quebec Railway Company—C. P. R.)

(See Annual Report of 1890–91.)

Woodstock and Centreville Railway Company.

(See Annual Report for 1895–96.)

Yarmouth and Annapolis Railway Company.

(See *Western Counties Railway Company.*)

York and Carleton Railway Company.

(See No. 423.)

This company was incorporated by the Act of New Brunswick, 1887, ch. 44.

By the Subsidy Act 62-63 Vic., ch. 7 (1899), the grant of a subsidy of $3,200 a mile, with a further subsidy of 50 per cent on the cost in excess of $15,000 a mile, the total subsidy not to exceed $6,400 a mile, was authorized for 6 miles of railway from Cross Creek Station, on the Canada Eastern Railway, to Stanley Village, N.B., for which this company applied.

A subsidy agreement thereunder was entered with them on November 23, 1899.

No payments have been made up to June 30, 1900.

LAND SUBSIDIES.

A number of companies have been aided by subsidies in land, duly authorized by Parliament and granted by the Department of the Interior, to whose report reference must be had for information as to their position. Certain details in respect of these roads will, however, be found in the annual report of this department for 1895-96.

CANALS.

The total expenditure charged to capital account on the original construction and the enlargement of the several canals of the Dominion up to June 30, 1900, was $79,043,784.09.† A further sum of $16,273,125.98* was expended on the repairs, maintenance and operation of these works, making a total of $95,316,910.07.* The total revenue derived, including tolls, and rentals of lands and water-powers, amounted to $12,401,917.32. (See the accountant's statement, Part II, pp. 27 and 28.)

* These figures are the aggregate expenditure on specific canals and do not comprise certain items charged to 'Canals in general.'

† The figures for the year 1897 in the accountant's statement, p. 28, should be $2,348,636.91, and the 'total' $79,043,784.09, as correctly given on the preceding page, 27.

The total expenditure for the fiscal year ended on June 30, 1900, including 'canals in general,' was as follows: on construction and enlargement a total of $2,639,564.93, and a further sum of $711,600.06 for repairs, renewals, and operation, making a total for the year of $3,351,164.99.

The total net revenue collected for the fiscal year was $322,642.86, a decrease compared with the net revenue of the previous year of $46,401.52. The net canal tolls amounted to $272,533.82, a decrease of $49,751 30. On July 1, 1899, the balance of rents unpaid was $65,594.42. The rents accrued during the year amounted to $54,-364.63, and the rents received to $50,109.04, an increase of $3,449.74, leaving a balance of rents uncollected on June 30, 1900, amounting to $68,739.52.

The total expenditure on canal staff and maintenance, repairs and renewals amounted, for the year, to $711,600.06, an increase of $78,284.45, and the total net receipts amounting as above, to $322,642.86, the amount of expenditure in excess of receipts was $388,957.20, compared with an excess expenditure the previous year of $264,271.23.

The above figures relate to the *fiscal year* 1899-1900, but very voluminous statistics relating to the canal traffic, and various commercial statistics for the *season of navigation* of the year 1899 will be found in Part V., 'Canal Statistics.'

The total traffic through the several canals of the Dominion for the *season* of 1899 amounted to 6,225,924 tons, a decrease of 392,551 tons compared with the previous year. This includes 3,006,664 tons passing through the Sault Ste. Marie Canal, which is free of toll.

The following features of the principal canal traffic during the *season* of 1899 will be of interest:—

On the Welland Canal 789,770 tons of freight were moved, a decrease of 350,307 tons; of which 462,523 tons were agricultural products, a decrease of 269,947 tons, and 103,589 tons produce of the forest; 637,268 tons passed eastward and 152,502 westward; 769,618 tons were through freight, of which 622,104 tons passed eastward.

Of this through freight Canadian vessels carried 309,546 tons, a decrease of 740 tons, and United States vessels 460,072 tons, a decrease of 350,372 tons.

The total freight passed eastward and westward through this canal from United States ports to United States ports was 360,529 tons, a decrease of 127,010 tons compared with the year 1898.

The quantity of grain passed down the Welland and the St. Lawrence canals to Montreal was 332,746 tons, a decrease of 186,786 tons compared with the previous year; of this 48,828 tons were transhipped at Ogdensburg, as against 40,257 tons transhipped in 1898. The further quantity of 39,545 tons of grain passed down the St. Lawrence canals, only, to Montreal, making the total 372,291 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 1,349,093 tons of freight were moved, a decrease of 90,041; of which 609,454 were east bound through freight, and 29,810 tons west bound through freight; 811,616 tons were agricultural products, 380,127 tons merchandise, and 81,951 tons forest products.

Two cargoes of grain, aggregating 558 tons, were taken down direct to Montreal through the Welland and St. Lawrence canals.

On the Ottawa river canals the total quantity of freight moved was 520,105 tons, a decrease of 29,981, of which 507,722 tons were produce of the forest.

On the Chambly Canal 362,635 tons were moved, an increase of 91,299, of which 218,977 tons were produce of the forest.

On the Rideau Canal 69,905 tons were carried, an increase of 15,409, 37,189 tons being the product of the forest.

On the St. Peter's Canal 70,804 tons were carried, an increase of 6,314, of which 50,666 tons were merchandise.

On the Murray Canal 16,788 tons passed, an increase of 1,245, and 1,651 tons of this were the product of the forest.

On the Trent Valley Canal 40,160 tons were moved, of which 38,135 tons were product of the forest.

On the Sault Ste. Marie Canal the total movement of freight was 3,006,664 tons, being a decrease of 48,623 tons, carried in 3,769 vessels, the number of lockages being 2,610. Of wheat 12,759,318 bushels, and of other grain 1,737,956 bushels were carried; 1,078,668 barrels of flour, 1,680,064 tons of iron ore and 7,927,000 feet, board measure, of lumber; all these items except lumber show a considerable decrease. The total traffic at this point, accommodated by the two canals, the American and Canadian, amounted to 25,258,803 tons, an increase of 4,019,365 tons, carried in 20,249 vessels, a decrease of 2,516. The total quantity of wheat carried was 58,301,682 bushels, an increase of 4,138,322, and of other grain 30,079,806, an increase of 3,940,689. Of lumber the total was 1,032,602,000 feet, board measure, an increase of 133,814,420.

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 and pease passed down to Montreal through the Welland and St. Lawrence canals to the extent of 332,746 tons, a decrease of 186,786 tons over the previous year, the quantity carried to Montreal via the Canadian Pacific and Grand Trunk railways amounted to 209,170 tons, a decrease of 84,221 tons. In addition, during the past two seasons, a new system of grain traffic has come into operation, from Depot Harbour on Georgian Bay, Lake Huron, over the line of the Canada Atlantic Railway to Coteau Landing at the head of the Soulanges Canal, thence by barge to Montreal. In the season of 1898, the total freight carried by this route to Montreal was 263,735 tons, of which 226,406 tons were grain. In the season of 1899 309,573 tons were carried, of which 259,531 tons were grain; going through the Beauharnois canal, the Soulanges not then being opened. Of the grain so carried in 1898 59,063 tons were wheat and 149,169 tons corn, and in 1899 66,635 tons were wheat and 174,932 corn. The quantity of grain carried to tide-water on the New York State canals was 416,700 tons, a decrease of 42,704 tons, while the quantity carried by the railways of the state to tide-water amounted to 4,642, 952tons, a decrease of 728,548 tons.

Of the total east and west bound freight carried by the canals of the State of New York (the Erie, the Champlain, the Black River, the Cayuga and Seneca and the Oswego) and the competing railways (the New York Central and the Erie Railroad)

respectively (amounting in 1899 to 51,702,761 tons—greater by 2,391,731 tons than in 1898), the proportion carried by the canals has fallen steadily from 68·9 per cent in 1859 and 47·0 per cent in 1869 to 6·8 per cent in 1898 and 7·2 per cent in 1899. These canals carried in 1899 3,686,051 tons: 1,692,972 tons were through freight from Lake Erie to New York, and of this quantity 1,165,217 tons went eastward.

On the opening of navigation in the spring of 1900, by means of the enlarged canal systems and the intermediate water ways (though not fully completed), passage to vessels drawing 14 feet of water from Lake Superior to the head of ocean navigation at Montreal was afforded.

The extent of the improved facilities of communication so obtained, and their value to commercial interests may be understood from the fact that in place of the old limit of lock dimensions, viz., length, 200 feet; width, 45 feet; depth of water on the sills, 9 feet: the enlarged locks are 270 feet in length, 45 feet in width, with 14 feet of water on sills, accommodating vessels 255 feet long and 44 feet wide. As an index to the carrying power of the new canal works, it may be observed that a typical vessel, the propeller *Dragon*, whose length is 247 feet and width 42·6 feet, has passed through the enlarged Welland Canal, drawing 14 feet of water and carrying 2,212 tons of corn.

The through route between Montreal and Port Arthur at the head of Lake Superior, now open for a 14-foot navigation, comprises 73 miles of canal and 965 miles of river and lake waters, or a total of 1,038 miles. To Duluth, the total distance is 1,162 miles. A summary of this route will be found in the Chief Engineer's report, Part I., p. 5, and further details of the several works in the pages immediately following.

The approaches to the canals and the channel through the intermediate river reaches are well defined and are lighted with gas buoys, rendering their navigation by night as well as by day feasible and safe. In the case of the Soulanges Canal, the canal is well lighted throughout by electricity, a system which will be extended to other canals before long.

With the more intimate knowledge of the new channel through the St. Lawrence now possessed by the river pilots, full advantage will, no doubt, be taken of the improved facilities afforded by the enlargement works; and this great water highway from the west will realize the aims of its projectors and constructors in giving rise to the establishment of lines of deep draught vessels on the route, with the beneficial result of a vast impetus to the trade and commerce of the country. Already, indications of movement on all sides promise the early and rapid development of the new era of progress, not only in the direction of the production and transport of crude materials, ores, grain, coal and lumber, but in the enormous expansion of manufactures and industries on the shores of the great lakes and their connecting rivers, notably the iron and steel and ship building industries, to all of which the ability to employ vessels carrying 3,000 tons of freight direct to the sea board and Europe, which Canada has now afforded, must inevitably prove a great stimulant. The growth of the main centres of production and collection on the lakes as shown by the last United States census of 1900 is sufficient indication of the prodigious vitality of the region. Since 1890 Buffalo has increased 37 per cent to a population of 352,000. Cleveland, the great ship building centre, 46 per cent to 382,000. Toledo, 61 per cent, to 132,000. Detroit, 38 per cent to 286,000. Milwaukee, 39 per cent, to 285,000, and Chicago, 54 per cent, to 1,699,000.

To this has to be added the fact that during the fiscal year ended on June 30, 1899, vessels were built on the great lakes to the extent of a total gross tonnage of 183,317, of which 139,765 tons were steam vessels. In the previous year this total amounted to 190,743 tons, and the total for the past eleven years, 1889 to 1899 inclusive, to 816,297 tons.

Though, naturally, not marked in equal degree, the tendency to a similar industrial development on the Canadian side is very evident, specially so at the Sault Ste. Marie, where, in addition to the existing important pulp and paper mills, the establishment of large iron and steel works is in progress. At Collingwood, also, and Kingston like works are projected, while at Depot Harbour, on Georgian Bay, a system of wharfs and elevators has been constructed for the accommodation of the grain trade. The very extensive harbour improvement works at Montreal, with the system of wharfs and elevators in that connection will naturally tend to attract traffic down the canals to that port. The improvements at Port Colborne, the Lake Erie entrance of the Welland Canal, are in progress. They comprise the deepening of the approaches to the canal to 22 feet and the construction of two docks, with piers 200 feet wide, upon which grain elevators will be erected to transfer grain to the 14 feet draught canal boats when required. The deepening of the approaches to the Sault Ste. Marie Canal, at present limited to accommodating vessels of 17 feet 6 inches draught, so as to give a depth of 22 feet, thus enabling the canal works to be utilized to their full extent (which is the same as the American canal on the other side of the river,) will probably be carried out next year.

The construction of the new works for the improvement and extension of the Trent Canal system is proceeding. When the present contracts are completed a six feet navigation will be afforded from Lake Simcoe to Heely's Falls, a distance of about 160 miles, leaving the portion between Heely's Falls and the Bay of Quinté, Lake Ontario, and the portion from the head of Lake Simcoe to Georgian Bay, Lake Huron, still to be dealt with. A question has, however, arisen as the expediency of adopting Port Hope as the Lake Ontario terminus instead of Trenton, and a survey has been made with a view to ascertaining the feasibility and cost of that route. The letting of the contract for the Trenton-Frankford section has, meantime, been postponed.

During the years 1899 and 1900, under special appropriations voted by Parliament, surveys have been conducted on the upper River Ottawa with a view to ascertaining the feasibility and probable cost of constructing a canal system which will give a 14 feet navigation from Georgian Bay down that river to Montreal, a scheme proposed many years ago and lately revived by private parties with considerable energy. The results of these surveys will be found in a special report from the engineer in charge, attached as an appendix to the present volume. It appears to be clearly established that such a series of works can be built at reasonable cost, which would attain the end desired.

In the report of the Chief Engineer, and in the reports of the superintending engineers, will be found full details as to the operation of the various canals, and as to the progress and position of the works of enlargement and construction now being carried on.

In concluding this report, it is only proper that I should draw attention to the rapid growth of the country during the last few years, specially in the enormous increase

in the area of its development and the interest of its business operations, which involve important questions, directly and indirectly affecting the great transportation problems with which this department is concerned and which it is called upon to deal with authoritatively. With this rapid growth the inner, or departmental staff proper, has not kept pace, and I must strongly urge the necessity, which is very apparent, of its amplification and its adjustment to the conditions of the times, if the wide and ever expanding field it is required to cover is to be properly and comprehensively treated.

In addition to the very voluminous correspondence with the general public, its necessary record and filing, the supervision of the expenditures entailed by the government railway and canal works in operation and under construction, and the revenue derivable from them, the leasing of lands and water powers, the settlement of claims, the letting of contracts and the preparation of (often very extended) returns, giving information required by the House of Commons and the Senate. There is also the inspection of completed portions of subsidized railways, and of all railways before opened to traffic: the inspection of railway bridge structures, with the examination of all their plans, required to be sent in for approval: inspection of railways subject to complaint of any kind: the examination for approval of railway by-laws, whether of tariff or otherwise, and the carrying out of varied and complicated duties entailed on the Railway Committee of the Privy Council; further, the compilation, analysis and printing of extensive statistics relating to all Canadian railways, and of similar statistics relating to the traffic on the canals of the Dominion. In justice to the work to be done and to those who are required to perform it, I am compelled to state that the staff is inadequate.

I have the honour to be, sir,
Your obedient servant,

COLLINGWOOD SCHREIBER,
Deputy of the Minister of Railways and Canals.

1900

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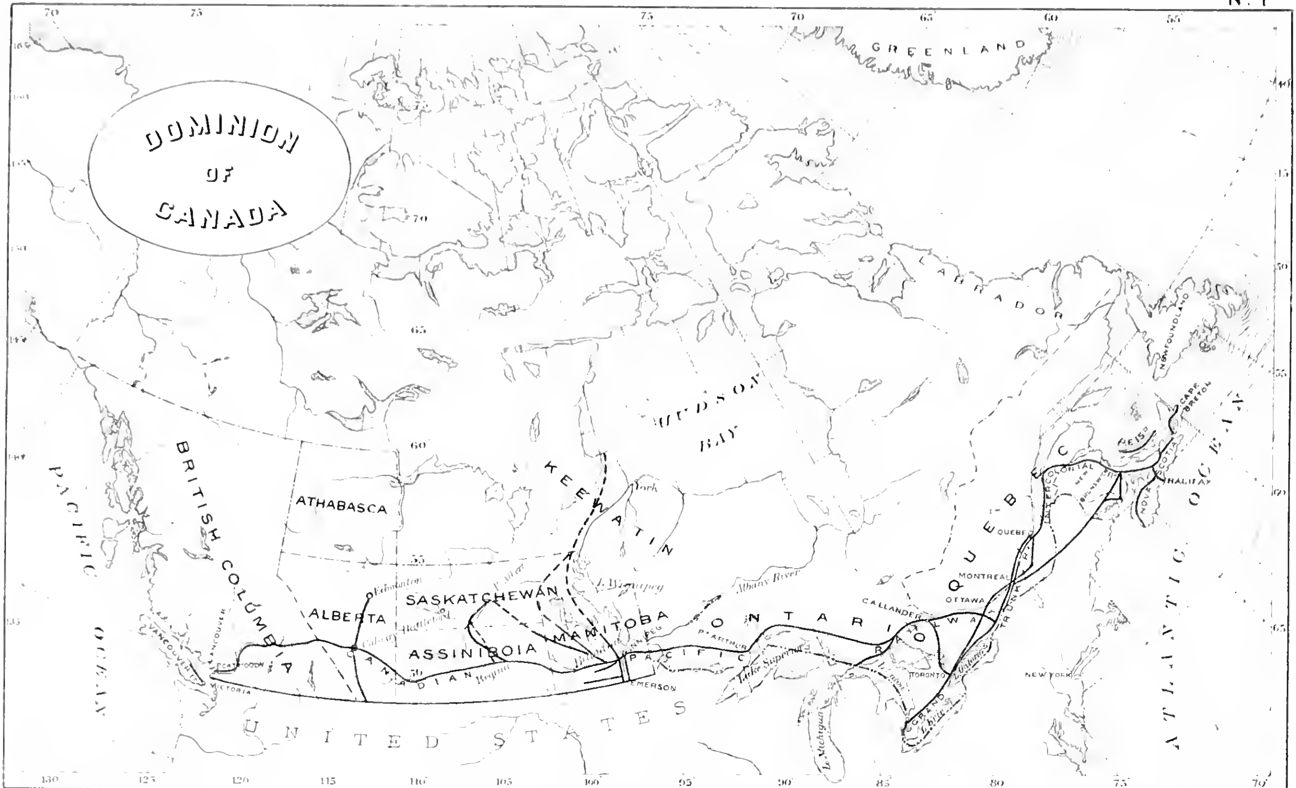

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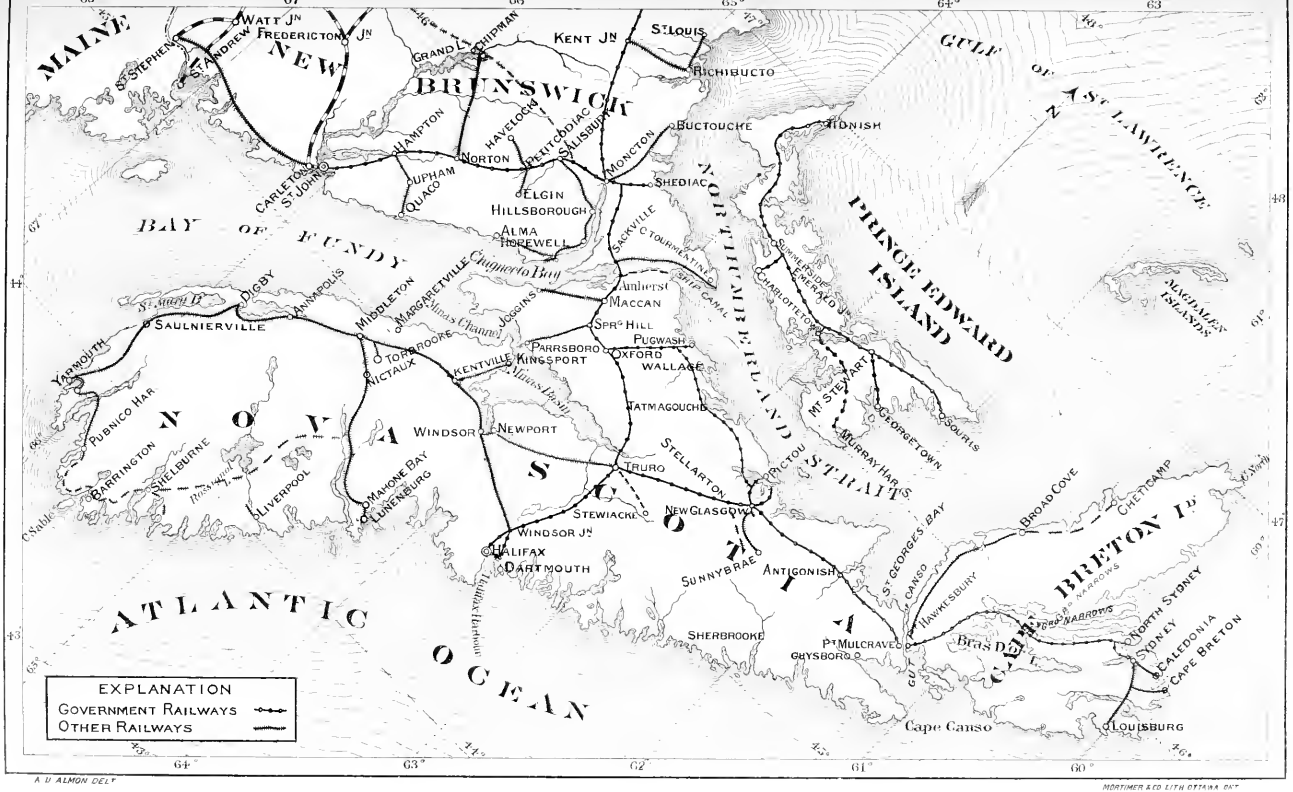

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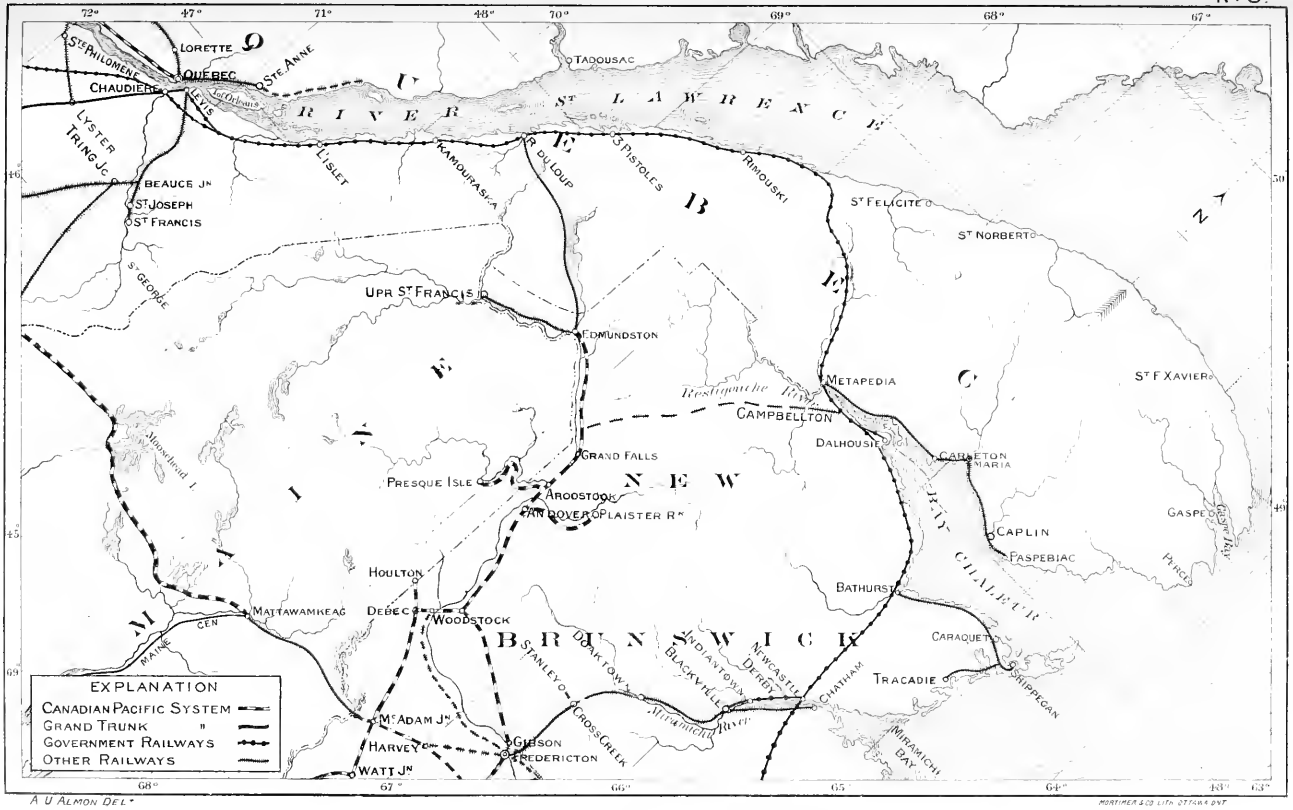

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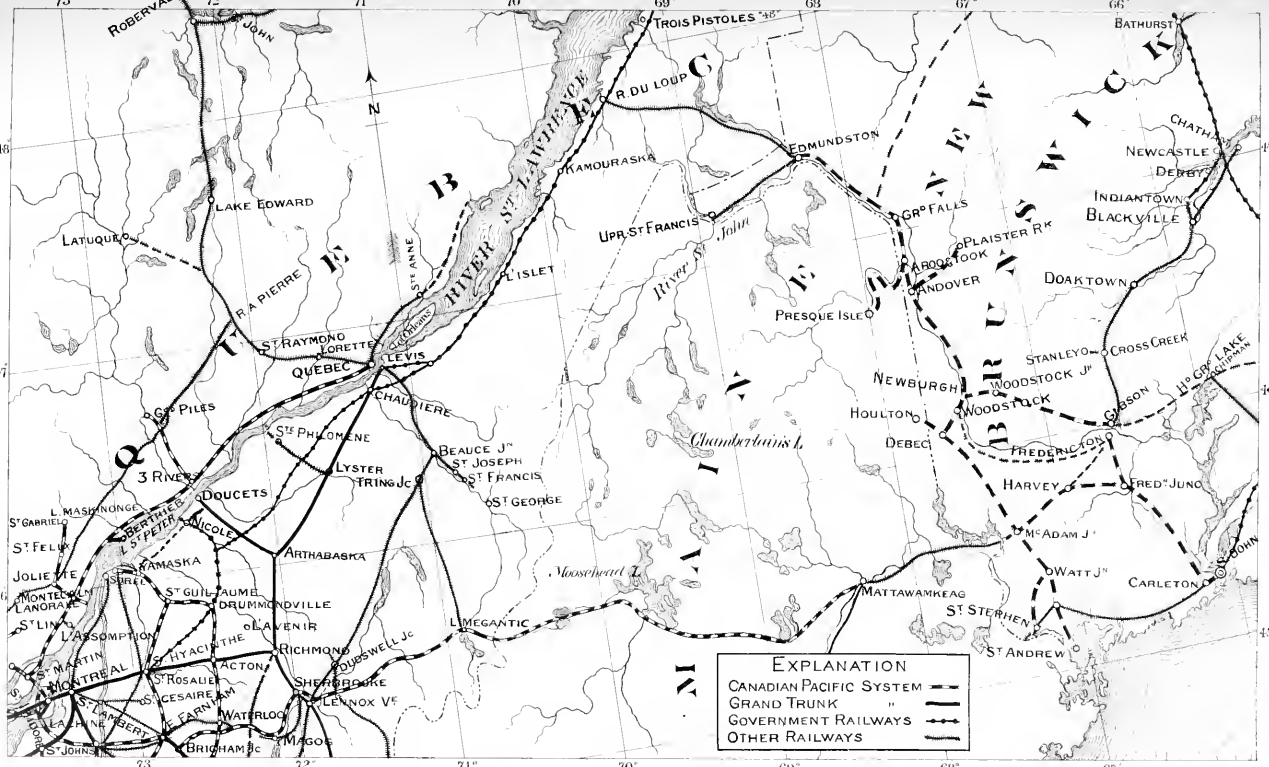

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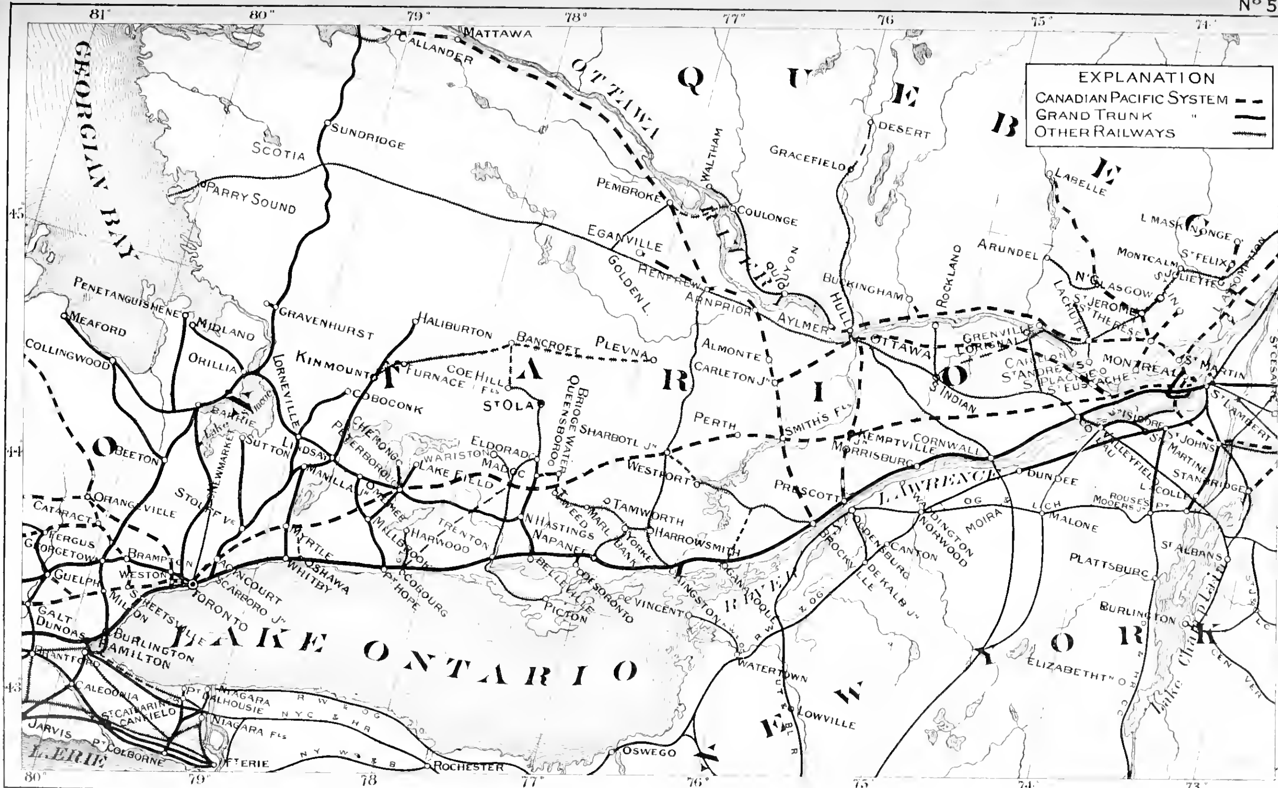

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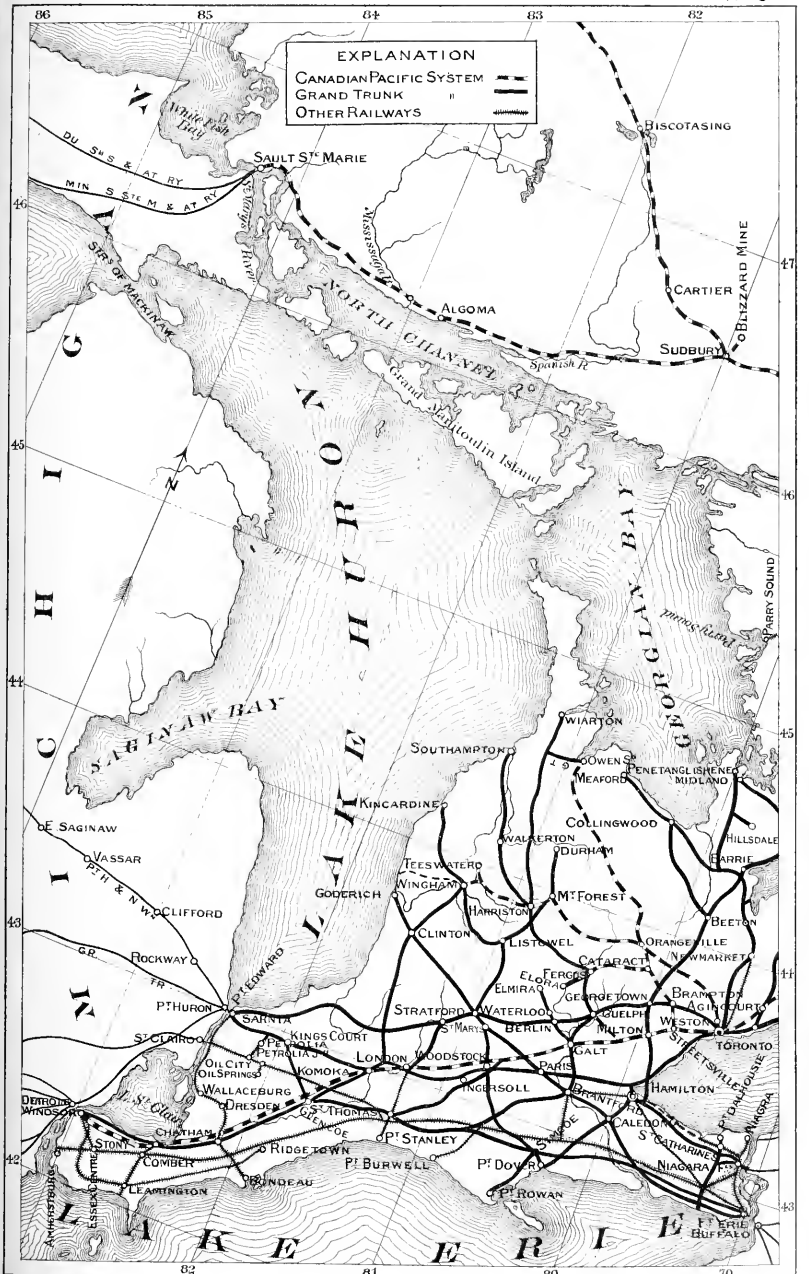
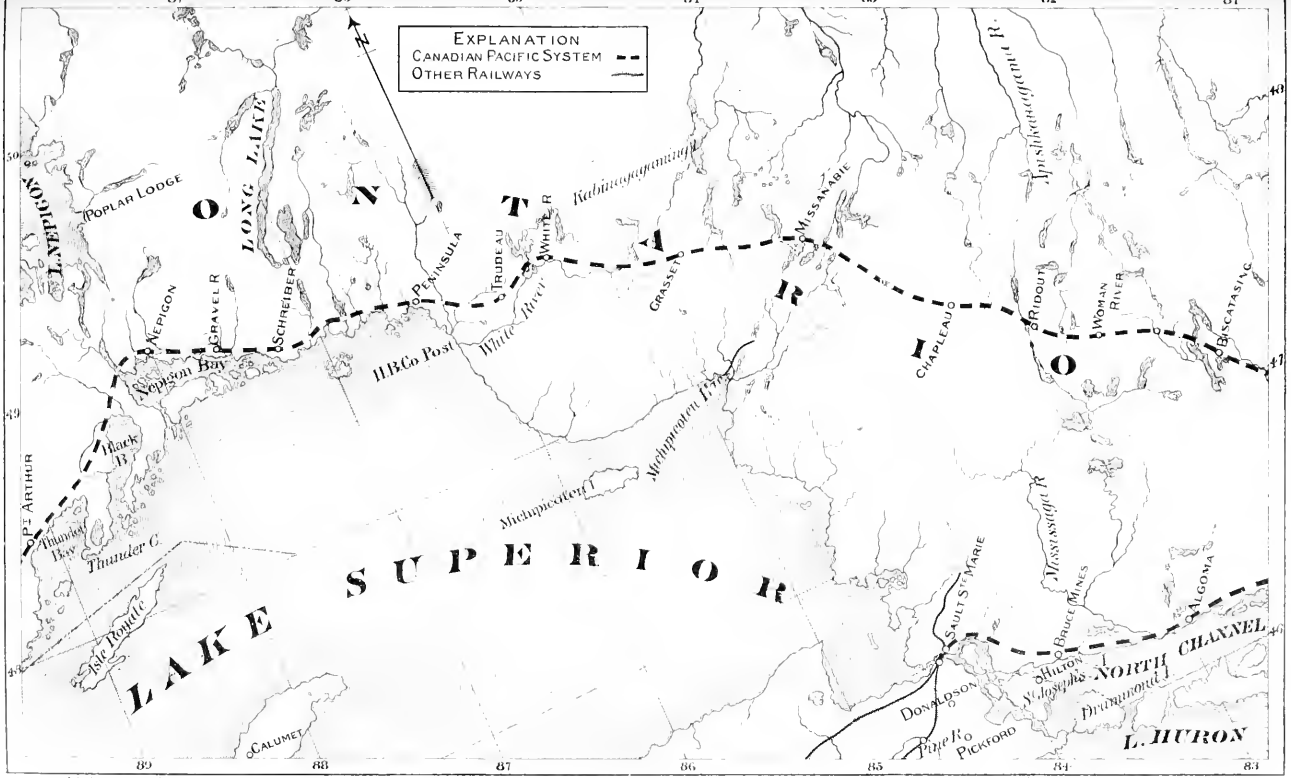


A. U. ALMON DELT

MORTIMER & CO LITH OTTAWA ONT



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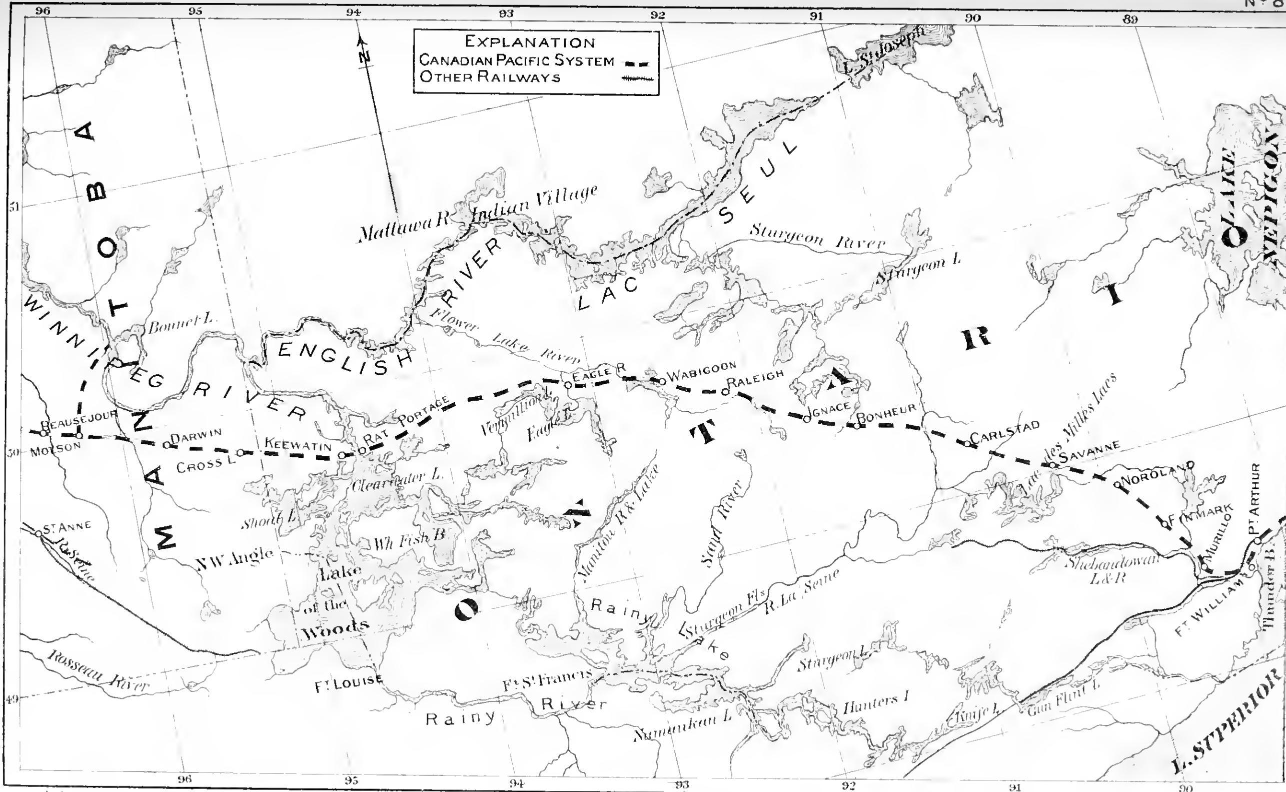
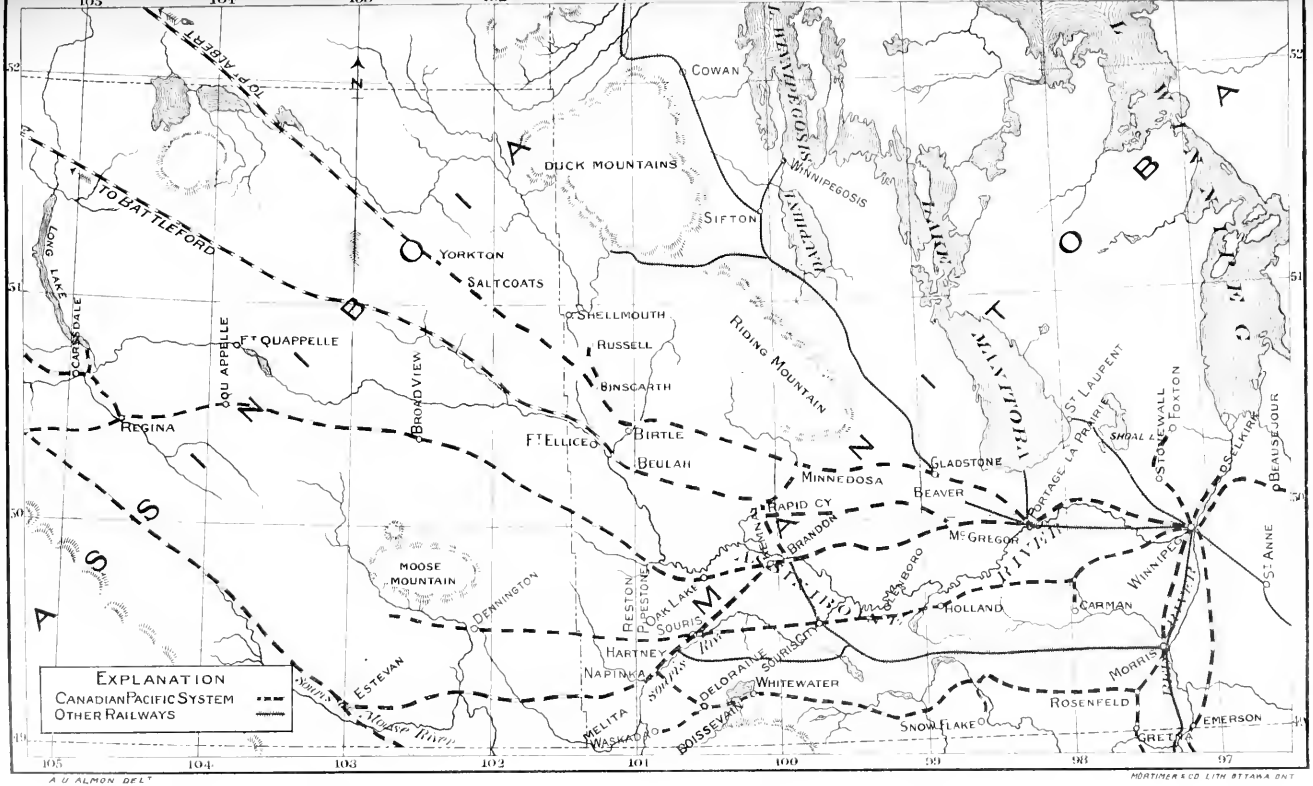

EXPLANATION
CANADIAN PACIFIC SYSTEM
OTHER RAILWAYS
MANITOBA
ONTARIO
LAC SEUL
ENGLISH RIVER
WINNIPEG RIVER
L. St Joseph
Sturgeon River
Sturgeon L.
Mattawa R.
Indian Village
Flower Lake River
Bonnet L.
BEAUSEJOUR
MOLSON
DARWIN
CROSS L.
KEEWATIN
RAT PORTAGE
EAGLE R.
WABIGOON
RALEIGH
IGNACE
BONHEUR
CARLSTAD
SAVANNE
NOROLAND
FINMARK
MURILLO
Pt ARTHUR
Ft WILLIAM
Thunder B.
LAKE NEPIGON
L. SUPERIOR
Lac des Milles Lacs
Vermillion L.
Eagle L.
Clearwater L.
Shoal L.
Wh Fish B.
N.W. Angle
Lake of the Woods
St ANNE
Rosseau River
Ft LOUISE
Ft St Francis
Rainy River
Rainy Lake
Manitou R. & Lake
Sand River
Sturgeon Fls
R. La Seine
Shebandowan L. & R.
Sturgeon L.
Hunters I.
Namakan L.
Knife L.
Gun Flint L.
A. U. ALMON DELT
MORTIMER & CO LITH OTTAWA ONT


1900
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TOP ALBERT
TO BATTLEFORD
LONG LAKE
CARNDALE
QU APPELLE
FT QUAPPELLE
REGINA
BROADVIEW
YORKTON
SALTCOATS
DUCK MOUNTAINS
COWAN
SIFTON
SHELLMOUTH
RUSSELL
BINSCARTH
FT ELLICE
BIRTLE
BEULAH
RIDING MOUNTAIN
MINNEDOSA
RAPID CY
BRANDON
MOOSE MOUNTAIN
DENNINGTON
ESTEVAN
RESTON
PRESTON
OAK LAKE
SOURIS
HARTNEY
NAPINKA
MELITA
WASKADA
DELORAINE
WHITEWATER
BOISSEVAIN
SNOW FLAKE
ROSENFELD
MORRIS
EMERSON
GRETNA
HOLLAND
CARMAN
MCGREGOR
GLADSTONE
BEAVER
PORTAGE LA PRAIRIE
ST LAURENT
OSTONEWALL
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OSBORNE
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ST ANNE
WINNIPEG
LAKE WINNIPEGOSIS
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CANADIAN PACIFIC SYSTEM
OTHER RAILWAYS
A U ALMON DELT
MORTIMER & CO LITH OTTAWA ONT

1900.

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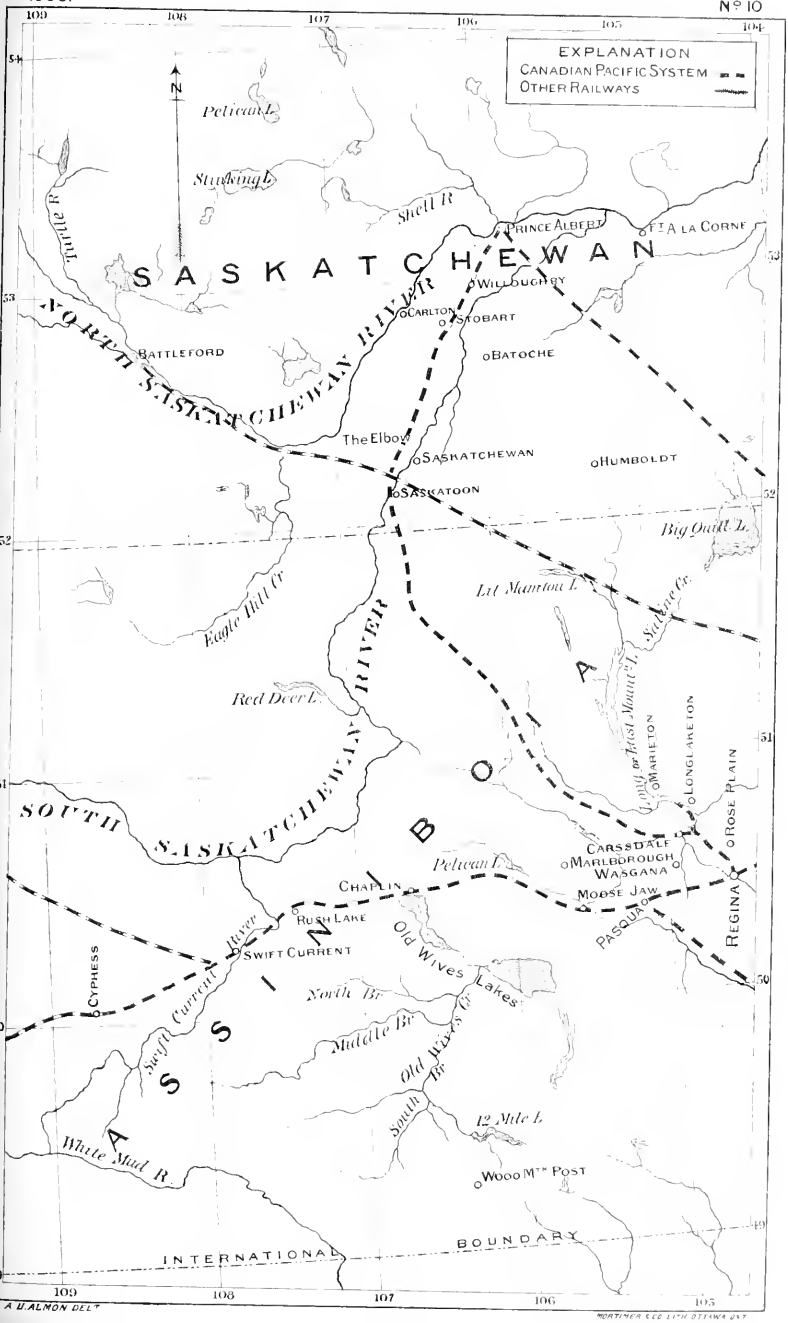

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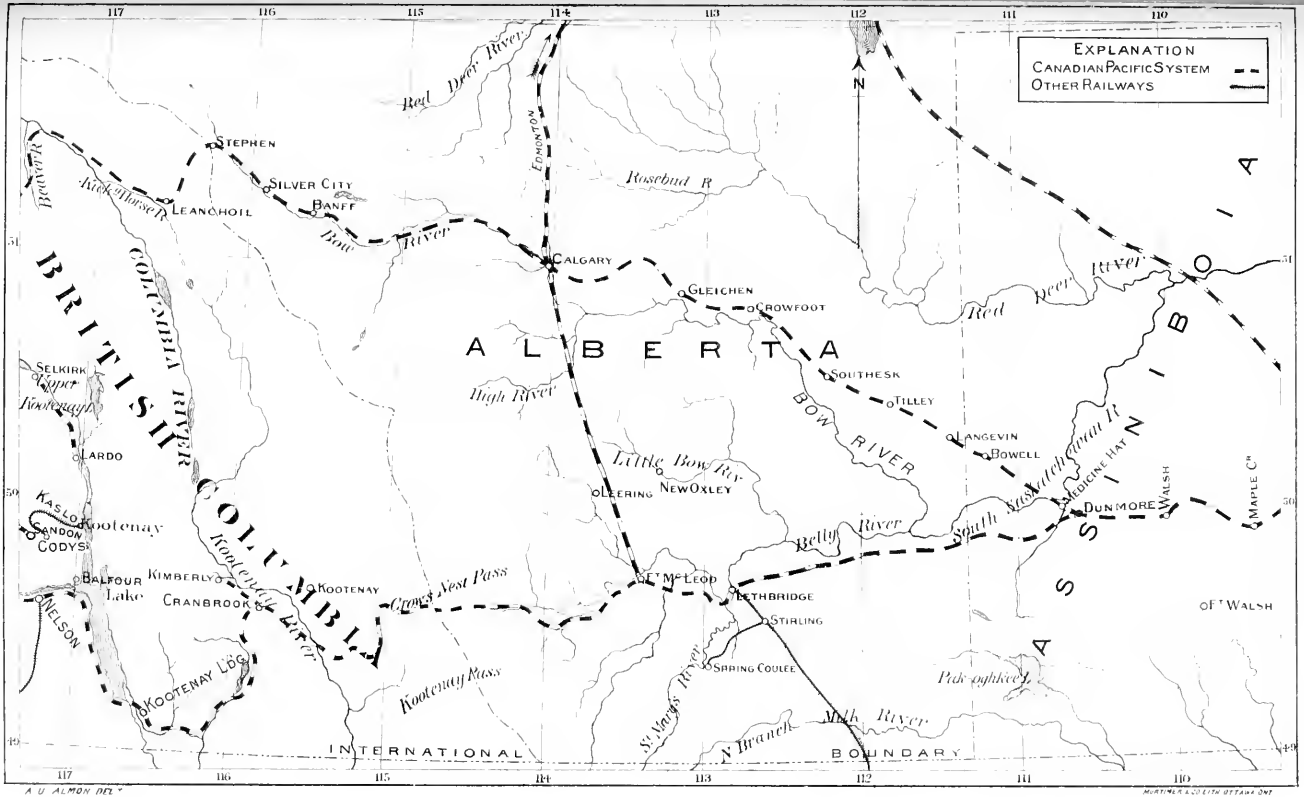
MORTIMER CO. LITH. OTTAWA ONT.



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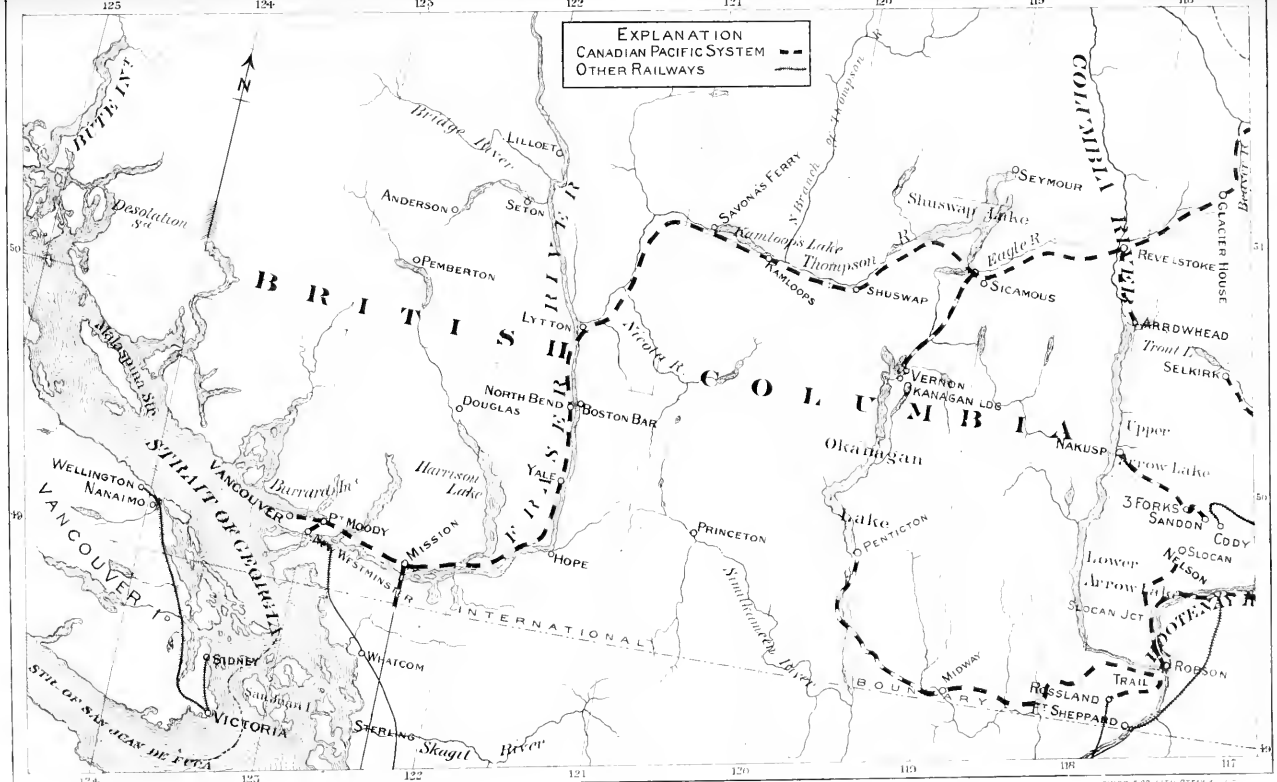

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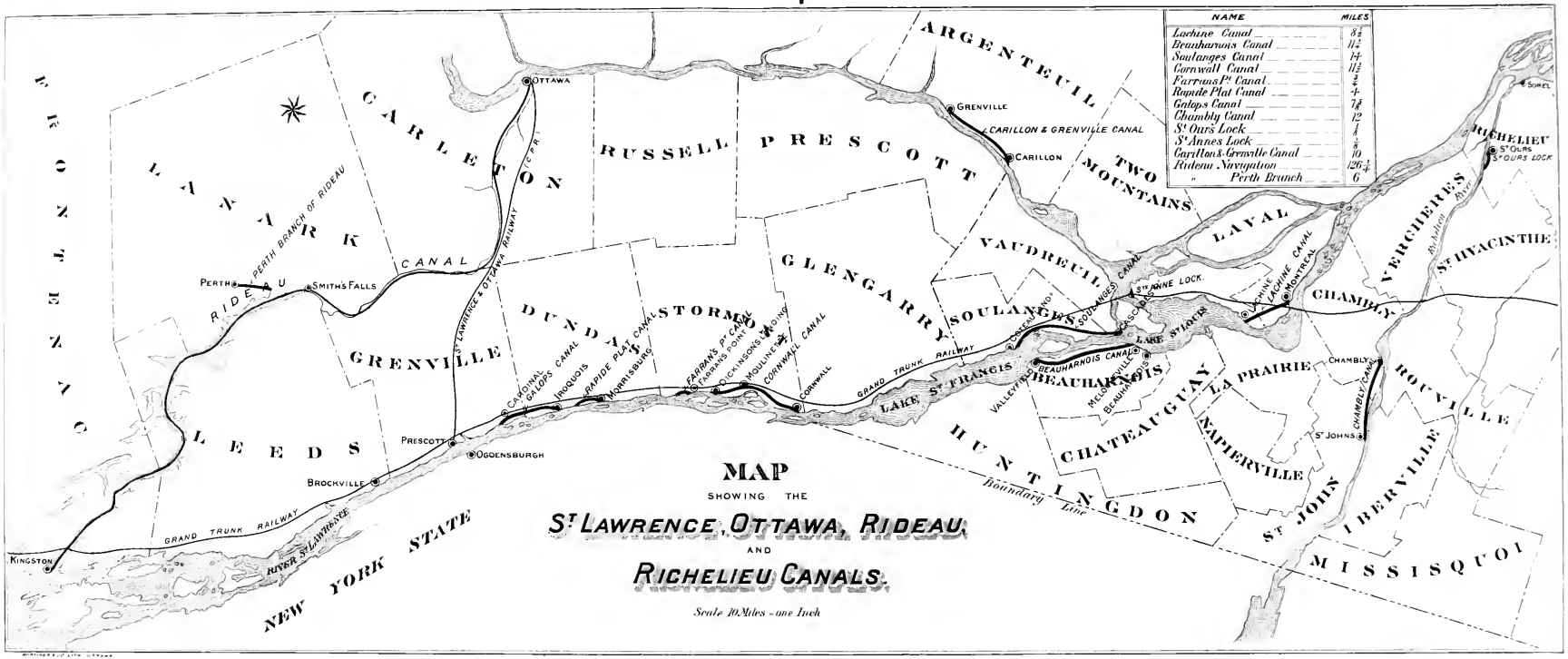
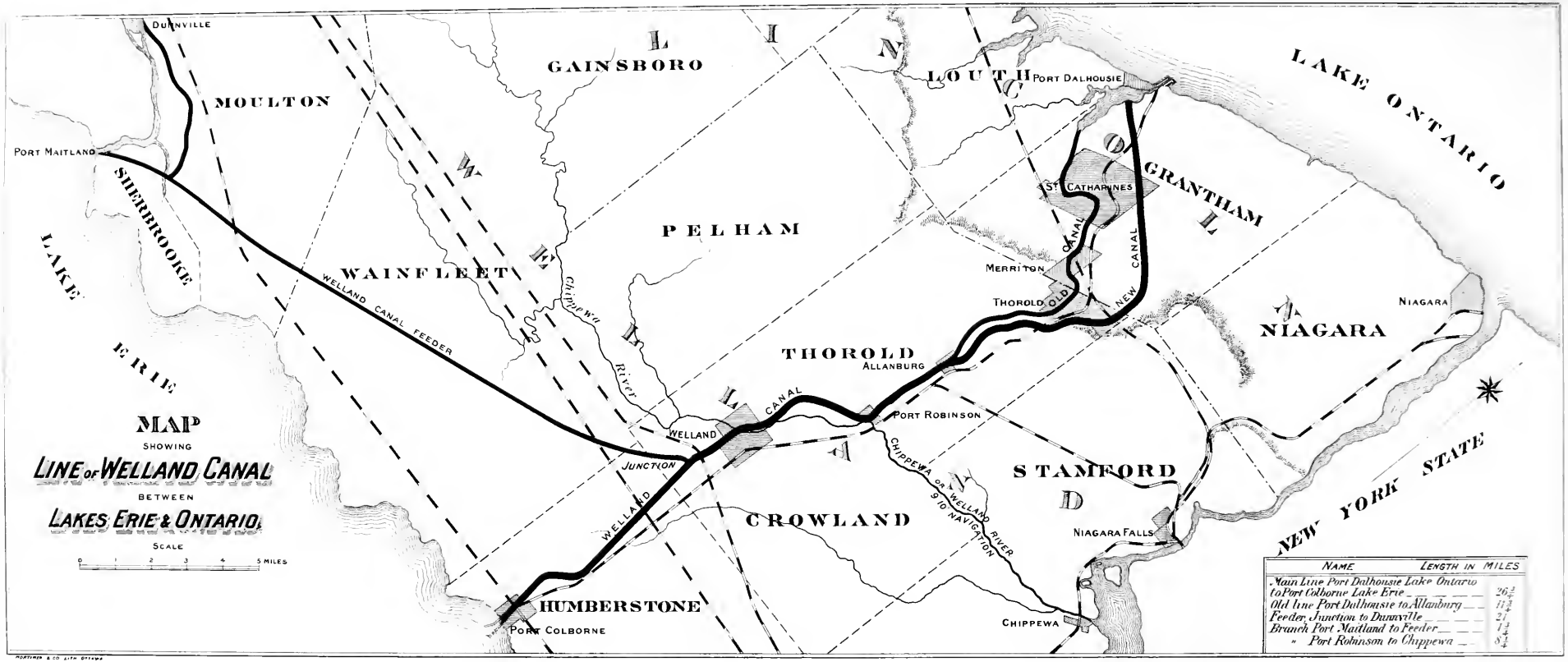
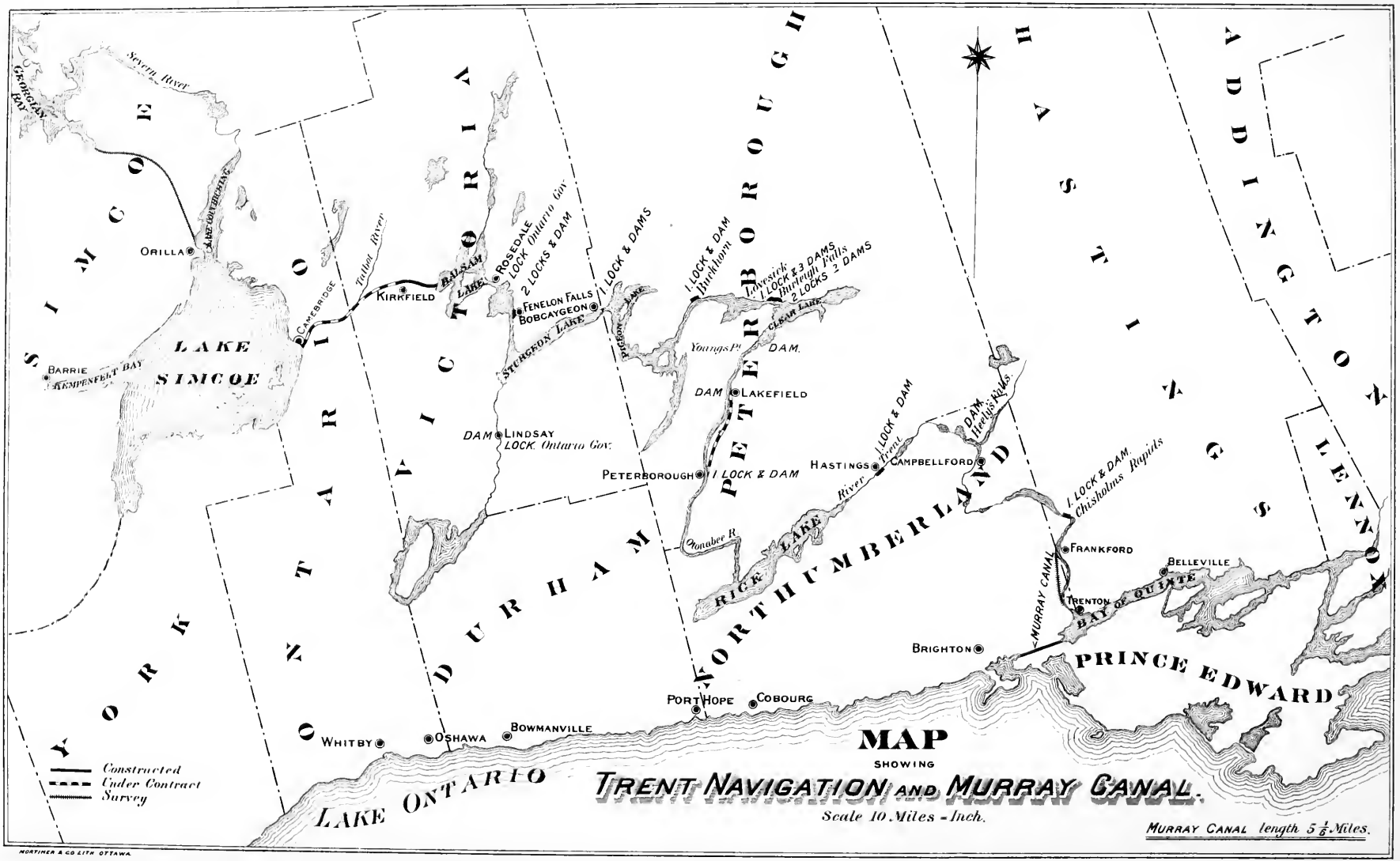


NAME	MILES
Lachine Canal	8½
Beauharnois Canal	11½
Soulanges Canal	14
Cornwall Canal	11½
Farrans Pt Canal	¾
Rapide Plat Canal	4
Galops Canal	7½
Chambly Canal	12
St Ours Lock	1
St Annes Lock	¾
Carillon & Grenville Canal	10
Rideau Navigation	126¼
" Perth Branch	6



NAME	LENGTH IN MILES
Main Line Port Dalhousie Lake Ontario to Port Colborne Lake Erie	26 3/4
Old line Port Dalhousie to Allanburg	11 3/4
Feeder, Junction to Dunnville	21
Branch Port Maitland to Feeder	1 3/4
" Port Robinson to Chippewa	8 1/4

ROBERTSON & CO. LITH. OTTAWA



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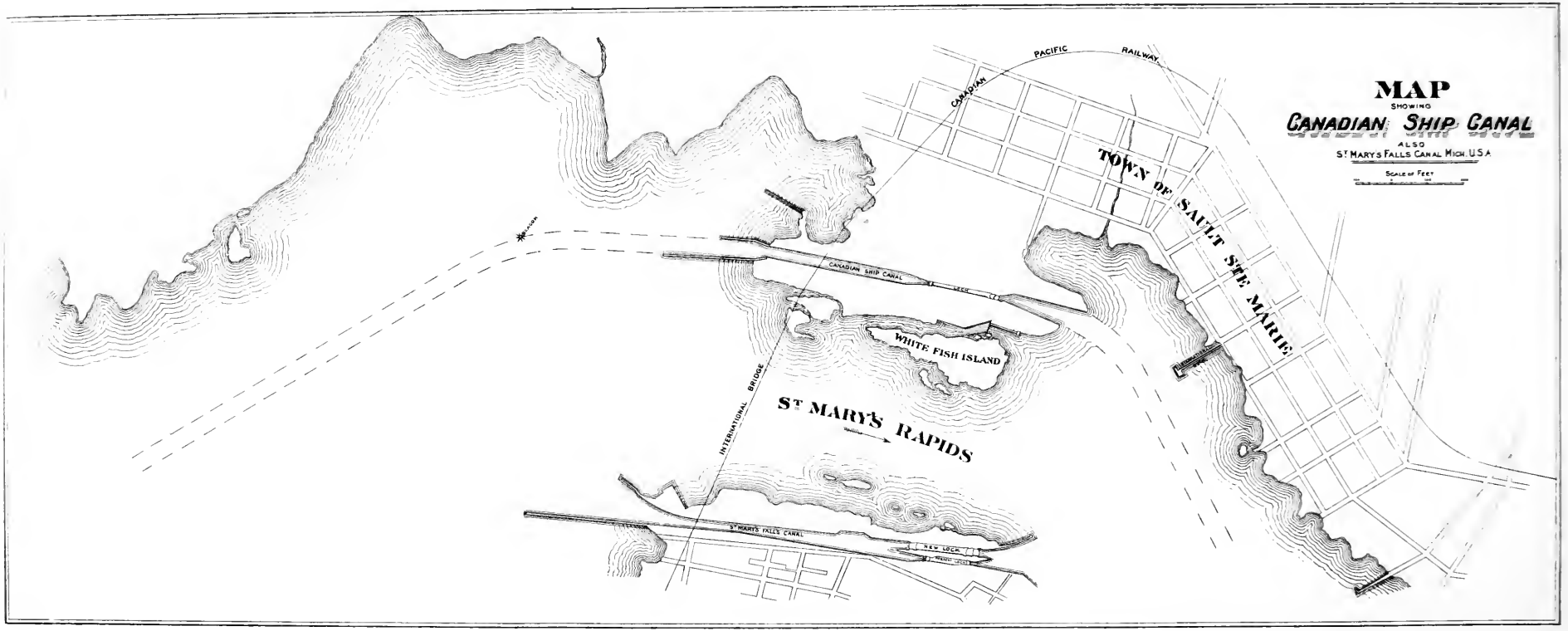
MAP
SHOWING
CANADIAN SHIP CANAL
ALSO
ST MARY'S FALLS CANAL MICH. U.S.A.
SCALE OF FEET
CANADIAN PACIFIC RAILWAY
TOWN OF SAULT STE. MARIE
CANADIAN SHIP CANAL
LOCK
WHITE FISH ISLAND
INTERNATIONAL BRIDGE
ST MARY'S RAPIDS
ST MARY'S FALLS CANAL
NEW LOCK

PART I

SKETCH MAPS OF DOMINION RAILWAYS AND CANALS

ALSO INFORMATION AS TO

TRANSCONTINENTAL RAILWAY COMMUNICATION AND AS TO ROUTES OF CANAL NAVIGATION

AND

REPORT OF THE CHIEF ENGINEER

COMPRISING REPORTS OF

GENERAL MANAGER OF GOVERNMENT RAILWAYS AND SUPERINTENDENTS OF CANALS

ALSO

DECISIONS OF THE RAILWAY COMMITTEE OF THE PRIVY COUNCIL

CANADIAN TRANSCONTINENTAL RAILWAY COMMUNICATION.

Halifax or St. John to Montreal.

The routes available between Halifax and Montreal are four in number; in all of which the Intercolonial is used, either in whole or in part, as follows: (the names adopted are those of the dominating roads):—

Intercolonial Railway Route—

	Miles.	
By Intercolonial Railway to Point Lévis	675	
" " Lévis to Montreal	173	
		848

(Or by ferry across the St. Lawrence to Quebec, thence by Canadian Pacific Railway, also 173 miles.)

Canadian Pacific Railway Route—

By Intercolonial Railway to St. John, N.B.	275	
Canadian Pacific Railway and Maine Central Railway to Mattawamkeag	146	
Canadian Pacific Railway to Montreal	334	
		775

Grand Trunk Railway Route—

By Intercolonial Railway to St. John, N.B.	275	
Canadian Pacific Railway	90	
Maine Central Railway	224	
Total up to Danville Junction	589	
By Grand Trunk Railway to Montreal	270	
		859

Témiscouata Railway Route—

By Intercolonial Railway to St. John, N.B.	275	
Canadian Pacific Railway to Edmundston	170	
Témiscouata Railway to Rivière du Loup	81	
Intercolonial Railway to Montreal	282	
		808

MONTREAL TO THE PACIFIC COAST, CANADIAN PACIFIC RAILWAY.

Trunk Line.

		Miles.
Quebec to St. Martin's Junction (13 miles north of Montreal)		159
Montreal (at head of Atlantic Ocean Navigation to St. Martin's Junction)		13
St. Martin's Junction to Callander		331
Callander to Port Arthur	649	
Port Arthur to Red River (opposite Winnipeg)	428	
Red River to Savona's Ferry	1,257	
Savona's Ferry to the waters of the Pacific Ocean at Port Moody	213	
		2,547
Port Moody to Vancouver		15
Total, Montreal to Vancouver		2,906

This railway was opened for through traffic on June 28, 1886.

INTERCOLONIAL RAILWAY.

The Intercolonial Railway touches six Atlantic Ocean ports, namely, Pointe du Chêne, Pictou, Halifax, St. John, Sydney and North Sydney, as well as the ports of Quebec and Montreal on the St. Lawrence River.

The total length of the road operated during the year ended June 30, 1900 was 1,315 miles, and for freight branches 27¼ miles, making a total of 1,342¼ miles.

The following are the through distances :—

		Miles.
Montreal via St. Joseph and St. Charles Junction (14 miles) to Halifax		838
Montreal to St. John		741
Montreal via Truro.	to Sydney	990
	to North Sydney	983

NOTE.—At Montreal the passengers make connection with the Canadian Pacific Railway and with the Grand Trunk Railway. Freight is carried direct along the line between Chaudière Junction and St. Charles Junction (17 miles), instead of round by Lévis to St. Charles Junction, a total distance of 24 miles, thence to Montreal.

WINDSOR BRANCH.

This road is 32 miles in length. It extends from Windsor Junction, on the Intercolonial Railway, to Windsor.

SESSIONAL PAPER No. 20

PRINCE EDWARD ISLAND RAILWAY.

LENGTH OF LINE.

	Miles.
Souris to Tignish	168
Mount Stewart to Georgetown	24
Charlottetown to Royalty Junction	5
Emerald Junction to Cape Traverse	13
Alberton to Cascumpec Wharf	1
	211

Communication between the Prince Edward Island Railway and the Intercolonial is afforded in summer by steamer between Summerside and Pointe du Chêne, between Charlottetown and Pictou, and between Georgetown and Pictou, and in winter by specially-built steamers between Georgetown and Pictou and between Charlottetown and Pictou; there is also further provision made for communication by iceboats from Cape Traverse. These cross the strait to Cape Tormentine, on the mainland, a distance of about 9 miles. Here, by the line of the New Brunswick and Prince Edward Railway, about 40 miles in length, connection is made with the Intercolonial Railway at Sackville. This winter service across the Straits is conducted by the Marine Department, the mails being taken to and met at Cape Traverse by special trains, whenever required by the Post Office Department.

CANALS.

The canal systems of the Dominion, under government control, in connection with lakes and navigable rivers, are as follow:—

First.—The through route between Montreal and the head of Lake Superior, 14 feet navigation.

	Miles.	Miles.
1. Lachine Canal	8½	
River St. Lawrence		16
2. Soulanges Canal	14	
River St. Lawrence		32¾
3. Cornwall Canal	11	
River St. Lawrence		5
4. Farran's Point Canal	1	
River St. Lawrence		10½
5. Rapide Plat Canal	3⅔	
River St. Lawrence		4½
6. Galops Canal	7⅛	
River St. Lawrence and Lake Ontario		236¾
7. Welland Canal	26¾	
Lake Erie, Detroit River, Lake St. Clair and St. Mary's River		394
8. Sault Ste. Marie Canal	1⅝	
Lake Superior to Port Arthur		266
" Duluth, 390.		
Total	73⅜	965½

Second.—Ottawa to Lake Champlain.

1. Grenville, 2, Carillon, 3, St. Anne's, 4, Chambly, 5, St. Ours Canals.

Third—Ottawa to Kingston and Perth.

1. Rideau Canal.

Fourth.—Lake Ontario at Trenton to Lake Huron at mouth of River Severn.

1. Trent Canal (not completed).

Fifth.—Ocean to the Bras d'Or Lakes.

1. St. Peter's Canal.

RIVER ST. LAWRENCE AND LAKES.

The River St. Lawrence, with the system of canals established on its course above Montreal, and the Lakes Ontario, Erie, St. Clair, Huron and Superior, with connecting canals, afford a course of water communication extending from the Straits of Belle Isle to Port Arthur, at the head of Lake Superior, a distance of 2,260 statute miles. The distance to Duluth is 2,384 miles.

From the Straits of Belle Isle, at the mouth of the St. Lawrence, to Montreal the distance is 986 miles. From Quebec to Montreal the distance is 160 miles. Owing to the shallowness of the waters on a portion of the river between these two places, particularly through Lake St. Peter, vessels drawing more than from ten to twelve feet were formerly barred from passage for the greater part of the season of navigation. In 1826, the question of deepening the channel was first definitely mooted, but it was not until 1844 that any dredging operations were begun. In that year, the deepening of a new straight channel was commenced, but the scheme was abandoned in 1847. In 1851 the deepening of the present channel was begun. At that time the depth of the channel at low water was 10 feet 6 inches. By the year 1869 this depth had been increased to 20 feet, by 1882 to 25 feet, and by the close of 1888 the depth of 27½ feet, at low water, was attained for a distance of 108 miles from Montreal to a point within tidal influence. This work is now being continued by the Government of Canada, which in 1888, under the provisions of the Act 51 Vic., ch. 5, of that year, assumed the indebtedness incurred. The channel has a minimum width of 300 feet, extending to 550 feet at points of curvature. The channel is lighted and buoyed.

Navigation, which is closed by ice during the winter months, opens about the end of April.

Montreal has by this work been placed at the head of ocean navigation, and here the canal systems of the River St. Lawrence begin, overcoming the various rapids by which the river channel upwards is obstructed, and giving access, through the St. Lawrence Canals, the Welland Canal, the Great Lakes and the Sault Ste. Marie Canal, to the head of Lake Superior.

The difference in level between the point on the St. Lawrence near Three Rivers where tidal influence ceases, and Lake Superior, is about 600 feet.

The Dominion canals, constructed between Montreal and Lake Superior are the Lachine, Soulanges, Beauharnois, Cornwall, Farran's Point, Rapide Plat, Galops, Murray,

Welland and Sault Ste. Marie. Their aggregate length is 85 miles; total lockage (or height directly overcome by locks), 551 feet. The number of locks through which a vessel would pass in its passage from Montreal, at the head of ocean navigation, to the head of Lake Superior is 47. The Soulanges Canal takes the place of the Beauharnois Canal; the latter may be abandoned for navigation purposes.

Communication between Lakes Huron and Superior is obtained by means of the Canadian Sault Ste. Marie Canal, and also by the St. Mary's Falls Canal situated on the United States side of the River St. Mary. Both these canals are free of toll.

It is important to note that the enlargement of the canals on the main route between Montreal and Lake Erie comprises locks of the following minimum dimensions:—Length 270 feet, width 45 feet, depth of water on sills 14 feet. *The length of the vessels to be accommodated is limited to 255 feet.* At Farran's Point, in the canal of that name, the lock is 800 feet long. A similar lock is built at Iroquois on the Galops Canal, the object being to pass a full tow at one lockage.

LACHINE CANAL.

Length of canal		$8\frac{1}{2}$ statute miles.
Number of locks		5
Dimensions of locks		270 feet by 45 feet.
Total rise or lockage		45 "
Depth of water on sills	at two locks	18 "
	at three locks	14 "
Average width of new canal		150 "

The old lift locks 200 feet by 45 feet, are still available, with 9 feet of water on mitre sills.

The depth of the canal between locks is now adapted to vessels of 14 feet draught.

The canal consists of one channel, with two distinct systems of locks, the old and the enlarged. There are two lock entrances at each end.

The canal extends from the city of Montreal to the town of Lachine, overcoming the St. Louis Rapids, the first of the series of rapids which bars the ascent of the River St. Lawrence. They are 986 miles distant from the Straits of Belle Isle.

SOULANGES CANAL.

Length of canal		14 statute miles.
Number of locks	lift	4
	guard	1
Dimensions of locks		280 feet by 45 feet.
Total rise or lockage		84 "
Depth of water on sills		15 "
Breadth of canal at bottom		100 "
Breadth of canal at water surface		164 "
Number of arc lights		219 of 2,000 candle power each.

The canal extends from Cascade Point to Coteau Landing, overcoming the Cascade Rapids, Cedars Rapids and Coteau Rapids.

From the head of the Lachine to the foot of the Soulanges the distance of 16 miles.

CORNWALL CANAL.

Length of canal	11 statute miles.
Number of locks	6
Dimensions of locks	270 by 45 feet.
Total rise or lockage	48 feet.
Depth of water on sills	14 "
Breadth of canal at bottom	100 "
Breadth of canal at water surface	164 "

The old lift locks, 200 feet by 45 feet, are also available, with 9 feet of water on mitre sills.

From the head of the Soulanges to the foot of the Cornwall Canal there is a stretch through Lake St. Francis, of $32\frac{3}{4}$ miles, which is being made navigable for vessels drawing 14 feet.

The Cornwall Canal extends past the Long Sault Rapids from the town of Cornwall to Dickenson's Landing.

WILLIAMSBURG CANALS.

The Farran's Point, Rapid Plat, and Galops Canals are collectively known as the Williamsburg canals.

Farran's Point Canal.

Length of canal	1 mile.
Number of locks	1
New lock	800 feet by 45 feet.
Old lock	200 " 45 "
Total rise or lockage	$3\frac{1}{2}$ "
Depth of water on sills of new lock at ordinary water level	14 "
Depth of water on sills of old lock at ordinary water level	9 "
Breadth of canal at bottom	90 "
Breadth of canal at water surface	154 "

From the head of the Cornwall Canal to the foot of Farran's Point Canal, the distance on the River St. Lawrence is 5 miles. The latter canal enables vessels ascending the river to avoid the Farran's Point rapid, passing the full tow at one lockage. Descending vessels run the rapids with ease and safety.

Rapide Plat Canal.

Length of canal	$3\frac{2}{3}$ miles.
Number of locks	2
Dimensions of locks	270 feet by 45 feet.
Total rise or lockage	$11\frac{1}{2}$ "
Depth of water on sills	14 "
Breadth of canal at bottom	80 "
Breadth of canal at surface of water	152 "

The old lift lock, 200 feet by 45, is also available, with 9 feet of water on mitre sills.

From the head of Farran's Point Canal to the foot of Rapide Plat Canal there is a navigable stretch of $10\frac{1}{2}$ miles. This canal was formed to enable vessels ascending the river to pass the rapids at that place. Descending vessels run the rapids safely.

Galops Canal.

Length of canal	$7\frac{1}{2}$ miles.
Number of locks	3
Dimensions of locks	2—270 by 45. 1—800 by 45.
Total rise or lockage	$15\frac{1}{2}$ feet.
Depth of water on sills	14 "
Breadth of canal at bottom	80 "
Breadth of canal at surface of water	144 "

From the head of Rapide Plat Canal to Iroquois, at the foot of the Galops Canal, the St. Lawrence is navigable $4\frac{1}{2}$ miles. This canal enables vessels to overcome the rapids at Pointe aux Iroquois, Point Cardinal and the Galops.

MURRAY CANAL.

Length between eastern and western pier heads	$5\frac{1}{6}$ miles.
Breadth at bottom	80 feet.
Breadth at water surface	120 "
Depth below lowest known lake level	11 "
No locks.	

This canal extends through the Isthmus of Murray, giving connection westward between the head waters of the Bay of Quinté and Lake Ontario, and thus enabling vessels to avoid the open lake navigation.

WELLAND CANAL.

Main Line from Port Dalhousie, Lake Ontario, to Port Colborne, Lake Erie.

—	Old Line.	Enlarged or New Line.
Length of canal	$27\frac{1}{2}$ miles.	$26\frac{3}{4}$ miles.
Pairs of guard-gates (formerly 3)		2
Number of locks: lift	26	Lift 25
Number of locks: guard	1	Guard 1
Dimensions	1 lock 200 x 45 1 " 200 x 45 1 (tidal) 230 x 45 24 locks 150 x 45	270 feet x 45 feet.
Total rise or lockage	$326\frac{3}{4}$ feet.	$326\frac{3}{4}$ feet.
Depth of water on sills	$10\frac{1}{2}$ feet.	14 "

Welland River Branches.

Length of canal—Port Robinson Cut to River Welland	2,622 feet.
" From the canal at Welland to the river, via lock at aqueduct	300 "
" Chippewa Cut to River Niagara	1,020 "
Number of locks—one at aqueduct and one at Port Robinson	2
Dimensions of locks	150 by 26½ feet.
Total lockage from the canal at Welland down to River Welland	10 feet.
Depth of water on sills	9 feet 10 inches.

Grand River Feeder.

Length of canal	21 miles.
Number of locks	2
Dimensions of locks	1 of 150 by 26½ feet. 1 of 200 by 45 "
Total rise or lockage	7 to 8 feet.
Depth of water on sills	9 feet.

Port Maitland Branch.

Length of canal	1¾ miles.
Number of locks	1
Dimensions of locks	185 by 45 feet.
Total rise or lockage	7½ feet.
Depth of water on sills	11 "

The Welland Canal has two entrances from Lake Ontario, at Port Dalhousie, one for the old, the other for the new canal.

From Port Dalhousie to Allanburgh, 11¾ miles, there are two distinct lines of canal in operation, the old line and the enlarged or new line.

From Allanburgh to Port Colborne, a distance of 15 miles, there is only one channel, the old canal having been enlarged.

From the head of the Welland Canal there is a deep water navigation through Lake Erie, the Detroit River, Lake St. Clair, the St. Clair River, Lake Huron and River St. Mary to the Sault Canal, a distance of about 394 miles. From the Sault the distance through Lake Superior to Port Arthur is 266 miles, and to Duluth 390 miles.

SAULT STE. MARIE CANAL.

Length of canal, between the extreme ends of the entrance piers	5,967 feet.
Number of locks	1
Dimensions of lock	900 feet by 60 feet
Depth of water on sills (at lowest known water level)	20 feet 3 inches.
Total rise or lockage	18 feet.
Breadth of canal at bottom	141 feet 8 inches.
Breadth at surface of water	150 feet.

This canal has been constructed through St. Mary's Island, on the north side of the rapids of the River St. Mary, and, with that river, gives communication on Canadian territory between Lakes Huron and Superior. The masonry pier of the bridge carrying the Canadian Pacific Railway over the canal, which stood in the channel of the canal, forming an obstruction to navigation, has been removed; the swing now spanning the full width of the channel or prism of the canal.

MONTREAL, OTTAWA AND KINGSTON.

This route extends from the harbour of Montreal to the port of Kingston, passing through the Lachine Canal, the navigation section of the lower River Ottawa, and the Ottawa Canals, to the city of Ottawa; thence by the River Rideau and the Rideau Canal to Kingston, on Lake Ontario—a total distance of 245⅝ miles.

After leaving the Lachine Canal the works constructed to overcome difficulties of navigation are:—

The Ste. Anne's Lock,
Carillon Canal,
Grenville Canal.
Rideau Canal.
} Ottawa River Canals.

The total lockage (not including that of the Lachine Canal) is 509 feet—(345 rise, 164 fall)—and the number of locks is 55.

The following table exhibits the intermediate distances from Montreal harbour:—

Sections of Navigation.	Intermediate distances.	Total distance from Montreal.
	Miles.	Miles.
The Lachine Canal	8½	
From Lachine to Ste. Anne's Lock	15	23½
Ste. Anne's Lock and piers	¼	23¾
From Ste. Anne's Lock to Carillon Canal	27	50¾
The Carillon Canal	¾	51½
From Carillon Canal to Grenville Canal	6¼	57¾
The Grenville Canal	¾	63½
From the Grenville Canal to entrance of Rideau navigation	56	119½
Rideau navigation ending at Kingston	126¼	245⅝

STE. ANNE'S LOCK.

	Old Lock.	New Lock.
Length of canal	$\frac{1}{8}$ mile.	$\frac{1}{8}$ mile.
Number of locks	1	1
Dimensions of locks	190 x 45 feet.	200 x 45 feet.
Total rise or lockage	3 feet.	3 feet.
Depth of water on sills	6 "	9 "

This work, with guide piers above and below, surmounts the Ste. Anne's Rapids between Ile Perrot and the head of the Island of Montreal at the outlet of that portion of the River Ottawa which forms the Lake of Two Mountains, $23\frac{1}{2}$ miles from Montreal harbour.

THE CARILLON CANAL.

Length of canal	$\frac{3}{4}$ mile.
Number of locks	2
Dimensions of locks	200 x 45 feet.
Total rise or lockage	16 feet.
Depth of water on sills	9 "
Breadth of canal at bottom	100 "
Breadth of canal at water surface	110 "

This canal overcomes the Carillon Rapids.

From Ste. Anne's Lock to the foot of the Carillon Canal there is a navigable stretch of 27 miles, through the Lake of Two Mountains and the River Ottawa.

By the construction of the Carillon dam across the River Ottawa the water at that point is raised 9 feet, enabling the river above to be used for navigation.

GRENVILLE CANAL.

Length of canal	$5\frac{3}{4}$ miles.
Number of locks	5
Dimensions of locks	200 x 45 feet.
Total rise or lockage	$43\frac{3}{4}$ feet.
Depth of water on sills	9 "
Breadth of canal at bottom	40 to 50 feet.
Breadth of canal at surface of water	50 to 80 "

This canal, by which the Long Sault Rapids are avoided, is about 56 miles below the city of Ottawa, up to which point the River Ottawa affords unimpeded navigation.

RIDEAU NAVIGATION.

The Rideau system connects the River Ottawa, at the city of Ottawa, with the eastern end of Lake Ontario, at Kingston.

Length of navigation waters	126¼ miles.
Number of locks going from Ottawa to Kingston.	35 asending. 14 decending.
Total lockage....446¼ feet.	282¼ rise and 164 fall. at high water.
Dimensions of locks	134 x 33 feet.
Depth of water on sills, 5 feet; navigation depth through the several reaches	4½ feet.
Breadth of canal reaches at bottom	60 " in earth. 54 " in rock.
Breadth at surface of water	80 " in earth.

Perth Branch.

Length of canal	6 miles.
Number of locks	2
Dimensions of locks	134 feet x 32 feet.
Total rise or lockage	26 "
Depth of water on sills	5 " 6 inches.
Length of dam	200 "
Breadth of canal at bottom	40 "
Breadth of canal at surface of water	40 " in rock. 60 " in clay.

The Perth branch of the Rideau Canal affords communication between Beveridge's Bay, on Lake Rideau, and the town of Perth.

The summit level of the Rideau system is at upper Lake Rideau, but several of the descending reaches are also supplied by waters which have been made tributary to them. The following description gives the sources of supply :—

From the summit, the route towards Ottawa follows the Rideau River, and that towards Kingston follows the River Cataraqui. The supply of water for the canal is derived from the reserves given in detail below.

These may be divided into three systems, viz. :

1. The summit level, supplied by the Wolf Lake system. 2. The eastern descending level to Ottawa, supplied by the River Tay system, discharging into Lake Rideau. 3. The south-west descending level to Kingston, supplied by the Mud Lake system, formerly known as the Devil Lake system, discharging into Lake Openicon.

Lake Openicon receives the waters of Buck Lake and Rock Lake.

All these waters on the descending level, supplemented by those of Lake Loughboro', flow into Cranberry Lake, which, discharging through Round Tail outlet, forms the River Cataraqui. The river, rendered navigable by dams at various points, affords a line of navigation to Kingston.

RICHELIEU AND LAKE CHAMPLAIN.

This system, commencing at Sorel, at the confluence of the Rivers St. Lawrence and Richelieu, 46 miles below Montreal, extends along the River Richelieu, through the St. Ours Lock to the basin of Chambly; thence, by the Chambly Canal, to St. Johns, and down the River Richelieu to Lake Champlain. The distance from Sorel to the boundary line is 81 miles.

At Whitehall, the southern end of Lake Champlain Canal is entered, and connection is obtained with the River Hudson, by which the city of New York is directly reached. From the boundary line to New York the distance is 330 miles.

The following table shows the distances between Sorel and New York :—

Section of Navigation.	Intermediate Distances in Miles.	Total Distances.
Sorel to Ours Lock	14	14
St. Ours Lock to Chambly Canal	32	46
Chambly Canal	12	58
Chambly Canal to boundary line	23	81
Boundary line to Champlain Canal	111	192
Champlain Canal to junction with Erie Canal	66	258
Erie Canal, from junction to Albany	7	265
Albany to New York	146	411

ST. OURS LOCK AND DAM.

Length	$\frac{1}{8}$	mile.
Number of locks	1	
Dimensions of lock	200	feet by 45 feet.
Total rise or lockage	5	"
Depth of water on sills	7	" at low water
Length of dam in eastern channel	300	"
" " western channel	690	"

At St. Ours, 14 miles from Sorel, the River Richelieu is divided by a small island into two channels. The St. Ours Lock is in the eastern channel.

There is a navigable depth in the Richelieu of 7 feet between St. Ours Lock and Chambly Basin, a distance of 32 miles.

CHAMBLY CANAL.

Length of canal	12 miles.
Number of locks	9

Dimensions of locks:—

Guard Lock, No. 1, at St. Johns	122 feet		
Lift " 2	124 "	From 22½ to 24 feet wide.	
" " 3, 4, 5, 6	118 "		
" " 7, 8, 9, combined	125 "		
Total rise or lockage	74 "		
Depth of water on sills	7 "		
Breadth of canal at bottom	36 "		
" " surface of water	60 "		

This canal succeeds the 32 miles of navigable water between St. Ours Lock and Chambly Basin. The canal overcomes the rapids between Chambly and St. Johns.

TRENT CANAL.

The term "Trent Canal" is applied to a series of water stretches, which do not, however, form a connected system of navigation, and which in their present condition, are efficient only for local use. By various works, this local use has been extended, and by others, now in progress and contemplation, this will become a through route between Lake Ontario and Lake Huron.

The series is composed of a chain of lakes and rivers, extending from Trenton, at the mouth of the River Trent, on the Bay of Quinté, Lake Ontario, to Lake Huron.

Many years ago the utilizing of these waters for the purpose of through water communication between Lake Huron and Lake Ontario was projected.

The course, as originally contemplated and modified, is as follows:—

Through the River Trent, Rice Lake, the River Otonabee and Lakes Clear, Stony, Lovesick, Deer, Buckhorn, Chemong, Pigeon, Sturgeon and Cameron to Lake Balsam, the summit water, about 165 miles from Trenton; from Lake Balsam by a canal and the River Talbot to Lake Simcoe; thence by the River Severn to Georgian Bay, Lake Huron; the total distance being about 200 miles, of which only about 15 or 20 miles will be actual canal.

The full execution of the scheme, commenced by the Imperial Government in 1837, was deferred. By certain works, however, below specified, sections of these waters have been made practicable for navigation, and the whole scheme is now being carried out. A branch of the main route, extending from Sturgeon Lake south, affords communication with the town of Lindsay, and, through Lake Scugog, to Port Perry, a distance of 190 miles from Trenton.

The following table gives the distance of navigable and unnavigable reaches;—

	Navigable Miles.	Unnavigable Miles.
From Trenton, Bay of Quinté, to Nine Mile Rapids		9
" Nine Mile Rapids to Percy Landing	19½	
" Percy Landing to Heeley's Falls Dam		14½
" Heeley's Falls Dam to Peterborough	51¾	
" Peterborough to Lakefield		9
" Lakefield to a point across Balsam Lake	61	
	132¼	32¾
Total distance, Bay of Quinté to a point across Balsam Lake		165
From Sturgeon Point on Sturgeon Lake, 48¾ miles from Lakefield, the branch through the town of Lindsay to Port Perry at the head of Lake Scugog		27½

The works by which the Trent navigation has been improved comprise canals, with locks and bridges, at Burleigh Rapids, Buckhorn Rapids and Fenelon Falls; also dams at Lakefield and Young's Point. By these works there is afforded communication between Lakefield, 9½ miles from Peterborough, and Balsam Lake, the headwaters of the system; opening up a total of about 160 miles of direct and lateral navigation.

At Lakefield, 9½ miles from Peterborough, the dam at the head of the Nine Mile Rapids of the River Otonabee, maintains navigation on Lake Katchiwannoe up to Young's Point.

At Young's Point, five miles from Lakefield, the dam between Lake Katchiwannoe and Clear Lake controls the water level through Clear and Stony Lakes up to the foot of the Burleigh Canal. The lock here, it should be observed, is controlled by the Provincial Government.

At Burleigh Rapids, 10 miles from Young's Point, a canal, about 2¼ miles in length, passes the Burleigh and Lovesick Rapids, and gives communication between Stony Lake and Deer Bay.

At Buckhorn Rapids, seven miles from Burleigh Rapids, there is a canal about one fourth of a mile long.

At Bobcaygeon, 15¾ miles from Buckhorn Rapids, a dam, 553 feet long, controls the water level up to Fenelon Falls.

At Fenelon Falls, 15 miles from Bobcaygeon, a canal about one-third of a mile in length connects Sturgeon Lake with Cameron Lake.

The following is a list of the locks, with their dimensions:—

1	lock at Rosedale (maintained by the Ontario Government)			100′ x 30′ x 4′ 6″ to 6′ 6″ depth water on mitre sill.
2	locks at Fenelon	134′ x 33′ x	5′ 0″ to 7′ 6″	depth water on mitre sill.
1	" Lindsay	"	5′ 0″ to 7′ 0″	" "
1	" Bobcaygeon	"	5′ 8″ to 7′ 6″	" "
1	" Buckhorn	"	5′ 0″ to 9′ 0″	" "
1	" Lovesick	"	5′ 0″ to 9′ 4″	" "
2	" Burleigh	"	2′ 4″ to 7′ 0″	" "
1	" Young's Point (a Provincial Government work)	134′ x 33′ x	5′ 0″ to 14′ 0″	depth water on mitre sill.
1	" Peterborough	134′ x 33′ x	5′ 0″ to 10′ 0″	depth water on mitre sill.
1	" Hastings	"	7′ 0″ to 10′ 6″	" "
1	" Chisholms	"	5′ 0″ to 8′ 6″	" "
13				

ST. PETER'S CANAL, CAPE BRETON.

Length of canal	About 2,400 feet.
Breadth at water line	55 feet.
Lock	One tidal lock, 4 pairs of gates.
Dimensions	200 feet by 42 feet.
Depth of water on sills	18 " at lowest water.
Depth through canal	19 "
Extreme rise and fall of tide in St. Peter's Bay	4 "

This canal connects St. Peter's Bay, on the southern side of Cape Breton, Nova Scotia, with the Bras d'Or Lakes. It crosses an isthmus half a mile in width, and gives access from the Atlantic.

BEAUHARNOIS CANAL.

Length of canal	11¼ statute miles.
Number of locks	9
Dimensions of locks	200 feet by 45 feet.
Total rise or lockage	82½ "
Depth of water on sills	9 "
Breadth of canal at bottom	80 "
Breadth of canal at water surface	120 "

As the new Soulanges Canal is now opened for navigation, it is to be presumed that the Beauharnois Canal will be abandoned for navigation purposes.

CHIEF ENGINEER'S REPORT.

DEPARTMENT OF RAILWAYS AND CANALS,
OFFICE OF THE CHIEF ENGINEER,
OTTAWA, December 6, 1900.

SIR,—I have the honour to submit my annual report for the fiscal year ended June 30, 1900, covering, however, works of construction up to December 1, instant. Accompanying it are the following:—

First.—The annual report of the General Manager of the Government Railways, attached to which are the reports of the Chief Engineer and Mechanical Superintendent of the Intercolonial Division, and the report of the Superintendent of the Prince Edward Island Division, with statements of accounts prepared by the Accountants of these roads. (Part I.)

Second.—Reports of Mr. J. S. O'Dwyer and Mr. Dupont, engineers on the exploratory surveys to ascertain the most practicable route for an all Canadian railway from some point on an existing railway into the Yukon District, also between the Stikine River and an ocean port in British Columbia. (Part I.)

Third.—The annual reports of the Superintending Engineers of the several canals. (Part I.)

Fourth.—Proceedings before the Railway Committee of the Privy Council. (Part I.)

Fifth.—Financial statements of the accountant of the department. (Part II.)

Sixth.—A statement of the condition of the subsidies granted in aid of the construction of railways; also a list of Railway Subsidy Acts. (Part III.)

Seventh.—Statement of contracts entered into during the year, prepared by Mr. Ruel, the law clerk. (Part IV.)

Eighth.—Statement of water powers and other public property leased by the department during the year, prepared by Mr. Ruel. (Part IV.)

Ninth.—Statement of property purchased or damaged during the year, prepared by Mr. Ruel. (Part IV.)

Tenth.—Agreements respecting subsidies in aid of construction of railways entered into during the year, prepared by Mr. Ruel. (Part IV.)

Eleventh.—The canal statistics for the season of navigation of 1899, compiled by Mr. Devlin. (Part V.)

Twelfth.—The railway statistics for the year ended June 30, 1900, compiled by Mr. Ridout, from returns prepared by the railway companies. (Part VI.)

The following table shows the length of the government railways in operation on June 30, 1900.

INTERCOLONIAL DIVISION.

	Miles.	Total Miles.
Montreal to Halifax	840	
Moncton to St. John	89	
Truro to Sydney	217	
Oxford Junction to Pictou	70	
Chaudière Junction to Lévis	8	
Lévis to St. Charles Junction via Harlaka	16	
Dalhousie Junction to Dalhousie	7	
Derby Junction to Indiantown	14	
Painsec Junction to Pointe du Chêne	12	
Pugwash Junction to Pugwash	5	
Stellarton Junction to Brown's Point	12	
North Sydney Junction to North Sydney	5	
New Glasgow to Pictou Landing	7	
Dartmouth Branch	13	
		1,315·00

Freight Branches.

Nicolet Branch		14·76	
Rivière du Loup Wharf Branch		4	
Rimouski	"	2	
Newcastle	"	2	
Dorchester	"	1	
Courtney Bay	"	1	
Sackville	"	·50	
Stewiacke	"	1	
Halifax Cotton Factory Branch		1	
			27·26
Total			1,342·26

WINDSOR BRANCH.

Windsor Junction to Windsor		32

PRINCE EDWARD ISLAND RAILWAY.

Souris to Tignish	168	
Mount Stewart to Georgetown	24	
Charlottetown to Royalty Junction	5	
Emerald Junction to Cape Traverse	13	
Alberton to Cascumpec Wharf	1	
		211
Total length of Government railways		1,585 26

The result of the year's operations of the Government railways may be stated as follows :—

Name of Railway.	Mileage in operation.		Amount.	Profit.	Loss.
			$ cts.	$ cts.	$ cts.
Intercolonial Division	1,315	Working expenses	4,431,404 69		
		Earnings	4,552,071 71	120,667 02	
Windsor Branch	32	¼ earnings	47,351 43		
		Maintenance	12,891 56	34,459 87	
Prince Edward Island Division	211	Earnings	174,738 73		
		Working expenses	220,931 81		46,193 08
				155,126 89	
		Deduct loss from profit		46,193 08	
Total miles	1,388	Net profit		108,933 81	

The maintenance of the roads and rolling stock has received careful attention, and both roads and rolling stock continue to be in efficient condition.

The gross earnings of the Government railways for the last two years compare as follows :—

	1898-99.	1899-1900.
	$ cts.	$ cts.
Intercolonial Division	3,738,331 34	4,552,071 71
Windsor Branch	42,474 03	47,351 43
Prince Edward Island Division	165,012 03	174,738 73
Total	3,945,817 40	4,774,161 87

Showing an increase in the gross earnings of $828,344.47.

The gross working expenses of the Government railways, including rentals of leased lines, for the last two years compare as follows :—

	1898-99.	1899-1900.
	$ cts.	$ cts.
Intercolonial Division	3,675,686 21	4,431,404 69
Windsor Branch	12,873 09	12,891 56
Prince Edward Island Division	218,053 01	220,931 81
Total	3,906,612 31	4,665,228 06

Showing an increase in working expenses for the year, compared with the previous year, of $758,615.75, which is made up of the following :—

	1898-99.	1899-1900.	Difference.	
			Increase.	Decrease.
	$ cts.	$ cts.	$ cts.	$ cts.
Locomotive power	1,158,655 18	1,457,956 08	299,300 90	
Car expenses	769,729 95	1,049,809 96	280,080 01	
Maintenance of way and works	942,382 20	1,041,071 06	98,688 86	
Station expenses	483,886 87	569,634 29	85,747 42	
General charges	269,062 00	321,038 95	51,976 95	
Car mileage	72,896 11	61,023 25		11,872 86
Rental of leased lines	210,000 00	164,694 47		45,305 53
	3,906,612 31	4,665,228 06	815,794 14	57,178 39
Deduct decrease			57,178 39	
Net increase			758,615 75	

INTERCOLONIAL DIVISION.

The ocean passenger and freight traffic via the port of Halifax shows a considerable increase for the winter season of 1899-00, as compared with the previous winter season.

COMPARATIVE STATEMENT of ocean-borne passenger business done at the port of Halifax during the winter seasons of 1898-99 and 1899-00.

Name of Steamer.	1898-99. No. of Passengers.			Name of Steamer.	1899-1900. No. of Passengers.		
	1st Class.	2nd Class.	Total.		1st Class.	2nd Class.	Total.
Vancouver	75	298	373	Vancouver	78	392	470
Parisian	41	110	151	Parisian	91	1,035	1,126
Tongario	7	108	115	Cambronian	56	531	587
Labrador	41	213	254	Lake Huron	12	328	340
Carthaginian	7	300	307	Carthaginian	9	144	152
Laurentian	34	219	253	Monterey	3	19	22
Scotsman	48	256	304	Monteagle	3	Nil	3
Siberian	4	158	162	Siberian	5	120	125
Californian	46	492	538	Californian	41	289	330
Numidian	12	135	147	Numidian	34	318	352
Castilian	14	98	112	Montrose	1	10	11
Lake Ontario		9	9	Lake Ontario	19	349	368
Dominion	34	207	241	Dominion	113	500	613
Mongolian	21	204	225	Ashante	3	Nil	3
Armenian		554	554	Arawa	3	46	49
Corean		25	25	Corean	11	68	79
Brazilia		1,792	1,792	Assyrian	8	58	66
Phœnicia		1,308	1,308	Lake Superior	6	215	221
Bulgaria		771	771	Sardinian	1	46	47
				Etolia	1	1	2
				Lake Megantic	5	96	101
				Norwegian	Nil	54	54
				Yola	1	11	12
				Lusitania	4	173	177
				Tunisian	Nil	446	446
				Arcadia	70	904	974
				Adria	Nil	1,701	1,701
				Hispania	Nil	389	389
Total	384	7,257	7,641	Total	577	8,243	8,820

Of ocean-borne passengers in 1898-9, 7,186 travelled via St. John by the Canadian Pacific Railway, and 461 travelled via Chaudière by the Grand Trunk Railway.

Of ocean-borne passengers in 1899-1900, 7,537 travelled via St. John by the Canadian Pacific Railway, and 824 travelled by the Intercolonial Railway to Montreal.

COMPARATIVE STATEMENT of ocean-borne freight traffic during the winter seasons of 1898-99 and 1899-1900.

Winter of 1898-99.				Winter of 1899-1900.			
Name of line of Steamers.	Measurement tons.	Weight tons.	Total tons.	Name of line of Steamers.	Measurement tons.	Weight tons.	Total tons.
Allan Line from Liverpool	1,265	1,030	2,295	Allan Line from Liverpool	2,615	2,756	5,371
Beaver Line from Liverpool	401	69	470	Beaver Line from Liverpool	Nil.	Nil.	Nil.
Canada & Newfoundland from Liverpool	Nil.	Nil.	Nil.	Canada & Newfoundland	Nil.	Nil.	Nil.
Furness Line from London	650	1,460	2,110	Furness Line from London	1,831	5,165	6,996
Dominion Line from Liverpool	382	69½	451½	Dominion Line from Liverpool	Nil.	Nil.	Nil.
				Elder Dempster from Liverpool	233	213	446
Total	2,698	2,628½	5,326½	Total	4,679	8,134	12,813

The above statement shows an increase of 7,487 tons of ocean-borne freight traffic for the winter season of 1899-1900, as compared with the winter season of 1898-99.

The following is a statement of the quantity and classes of the rolling stock purchased on capital account up to June 30, 1900 :—

	Engines.	Passenger Car Stock. Dining Cars.	1st Class Sleeping and Parlour.	1st Class.	2nd Class Sleepers.	2nd Class.	Baggage and Mail Postal.	Conductors' Van.	Box and Cattle and Refrigerator Cars.	Platform Cars.	Coal Cars of three several kinds.	Snow Ploughs.	Wing Ploughs.	Flangers.	Rotary Snow Ploughs.	Auxiliary Cars.
	228	4	23	102	19	93	45	99	2,796 103	2,319	999 229	49	10	22	2	9
			5				28		65		747					
Total	228	4	28	102	19	93	73	99	2,964	2,319	1,975	49	10	22	2	9

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The following is a statement of the quantity and classes of rolling stocks which have been rebuilt during the year ended June 30, 1900, at the cost of revenue to maintain the work :—

	Engines.	Passenger Car Stock.					Box and Cattle Cars.	Platform Cars.	Coal Cars of three several kinds.	Snow Ploughs.	Wing Ploughs.	Flangers.	Rotary Snow Ploughs.
		1st Class Sleeping and Parlour.	1st Class.	2nd Class Sleepers.	2nd Class.	Baggage and Mail.	Conductor's Van.						
Total	9	....	2	....	....	....	....	57	208	117	....	....	2	....

The following table shows the working expenses, gross earnings, the tonnage of freight and number of passengers carried each year since July 1, 1876, when the road was first opened as a through line to the west :—

Year.	Average Miles in Operation.	Working Expenses.	Gross Earnings.	Profit.	Loss.	Tons of Freight carried.	No. of Passengers carried.
		$ cts.	$ cts.	$ cts.	$ cts.		
1876–77	714	1,661,673 55	1,154,445 33	....	507,228 22	421,327	613,420
1877–78	714	1,816,273 56	1,378,946 78	....	432,326 78	522,710	618,957
1878–79	714	2,010,183 22	1,294,009 69	....	716,083 53	510,861	640,101
1879–80	829	1,603,429 71	1,506,298 48	....	97,131 23	561,924	584,483
1880–81	840	1,759,851 27	1,760,393 92	542 65	....	725,777	631,245
1881–82	840	2,069,657 48	2,079,262 66	9,605 18	....	838,956	779,904
1882–83	840	2,360,373 27	2,370,910 10	10,547 83	....	970,961	878,600
1883–84	887	2,377,433 62	2,384,414 92	6,981 30	....	1,009,237	944,636
1884–85	941	2,519,751 56	2,441,203 66	....	78,547 90	989,936	957,228
1885–86	946	2,583,999 67	2,450,093 88	....	133,905 79	1,023,788	932,880
1886–87	966	2,922,369 62	2,660,116 93	....	262,252 69	1,143,020	942,784
1887–88	971	3,366,781 74	2,983,336 65	....	383,445 09	1,288,823	1,040,163
1888–89	971	3,244,647 73	2,967,801 00	....	276,846 73	1,218,877	1,136,272
1889–90	971	3,560,575 74	3,012,739 87	....	547,835 87	1,368,819	1,219,233
1890–91	1,004	3,662,341 94	2,977,395 98	....	684,946 56	1,304,534	1,298,304
1891–92	1,142	3,439,377 00	2,935,441 97	....	495,935 03	1,264,575	1,297,732
1892–93	1,142	3,045,317 50	3,065,499 09	20,181 59	....	1,388,080	1,292,878
1893–94	1,142	2,981,071 98	2,987,510 27	5,898 29	....	1,342,710	1,301,062
1894–95	1,142	2,936,902 74	2,940,717 95	3,815 21	....	1,267,816	1,352,667
1895–96	1,142	3,012,827 62	2,957,640 10	....	55,187 52	1,379,618	1,471,866
1896–97	1,145	2,925,968 67	2,866,628 02	....	59,340 65	1,296,028	1,501,690
1897–98	....	3,327,648 51	3 117,669 85	....	209,978 66	1,434,576	1,528,444
*1898–99	....	3,675,686 21	3,738,331 44	62,645 45	....	1,750,761	1,603,095
*1899–1900	....	4,431,404 69	4,552,071 71	120,667 02	....	2,131,208	1,791,754

* The working expenses include the rental paid for leased lines.

The following table shows the number of tons of coal carried over the Intercolonial Railway from the Nova Scotia collieries to Chaudière Junction and St. John for points west thereof, and to local stations in each year since the road was opened as a through line :—

Year.	For the West.		To Local Stations.	Total.
	Via Chaudière.	Via St. John.		
1876-77	....	....	103,420	103,420
1877-78	....	....	97,043	97,043
1878-79	300	....	112,232	112,532
1879-80	1,097	....	135,369	136,466
1880-81	6,102	4,022	174,483	184,607
1881-82	18,015	11,779	218,364	248,158
1882-83	12,837	22,206	227,580	262,423
1883-84	22,014	19,534	252,014	293,562
1884-85	133,440	1,773	213,791	349,004
1885-86	171,170	21,150	215,272	407,592
1886-87	192,871	27,536	233,178	453,585
1887-88	183,704	36,228	309,727	529,659
1888-89	160,026	27,923	338,538	526,487
1889-90	164,473	25,126	366,967	556,566
1890-91	113,996	39,213	344,829	498,038
1891-92	35,447	5,918	392,441	433,806
1892-93	136,868	3,775	402,653	543,296
1893-94	102,273	8,028	367,390	478,691
1894-95	67,082	7,865	310,253	385,200
1895-96	53,124	9,681	369,708	432,513
1896-97	38,295	12,305	331,469	382,172
1897-98	9,084	9,796	351,069	369,949
1898-99	4,644	5,399	484,163	494,206
1899-1900	3,495	Nil.	599,714	603,289

It thus appears that the largest tonnage of coal carried over the road for the west was in the year 1886-87, when it reached 220,407 tons, since which the through coal traffic for points west of the Intercolonial Railway has greatly declined.

TABLE showing the number of bushels of grain carried during each year for shipment at Halifax since the road was opened as a through line to the west.

Year.	Bushels.		Total.	Year.	Bushels.		Total.
	Via Chaudière.	Via St. John.			Via Chaudière.	Via St. John.	
1876-77	....	....	....	1888-89	129,725	.....	129,725
1877-78	....	....	....	1889-90	502,012	.....	502,012
1878-79	....	....	....	1890-91	148,803	59,534	218,337
1879-80	....	....	....	1891-92	745,997	519,500	1,265,497
1880-81	....	....	....	1892-93	155,306	197,669	352,975
1881-82	....	....	....	1893-94	Nil.	8,026	8,026
1882-83	31,011	....	31,011	1894-95	Nil.	Nil.	Nil.
1883-84	73,389	....	73,389	1895-96	Nil.	Nil.	Nil.
1884-85	300,961	....	300,961	1896-97	Nil.	Nil.	Nil.
1885-86	389,122	....	389,122	1897-98	8,000	Nil.	8,000
1886-87	575,880	....	575,880	1898-99	30,000	Nil.	30,000
1887-88	69,021	....	69,021	1899-1900	13,239	Nil.	13,239

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TABLE showing the number of barrels of flour carried during each year since the road was first opened as a through line to the west.

Year.	Barrels.	Year.	Barrels.
1876-77	254,710	1888-89	948,514
1877-78	657,778	1889-90	1,116,050
1878-79	630,329	1890-91	1,013,129
1879-80	533,248	1891-92	954,015
1880-81	672,310	1892-93	856,913
1881-82	692,095	1893-94	944,967
1882-83	983,916	1894-95	938,351
1883-84	817,134	1895-96	822,097
1884-85	935,977	1896-97	847,701
1885-86	761,127	1897-98	987,308
1886-87	763,894	1898-99	1,157,250
1887-88	871,838	1899-1900	1,234,076

TABLE showing the number of bushels of grain carried during each year since the road was first opened as a through line to the west.

Year.	Bushels.	Year.	Bushels.
1876-77	292,852	1888-89	1,526,158
1877-78	331,170	1889-90	2,610,202
1878-79	362,921	1890-91	2,890,921
1879-80	534,021	1891-92	3,776,677
1880-81	565,678	1892-93	1,514,619
1881-82	560 253	1893-94	1,304,684
1882-83	1,195,601	1894-95	1,036,384
1883-84	654,673	1895-96	1,064,385
1884-85	734,902	1896-97	1,093,499
1885-86	849,800	1897-98	1,551,372
1886-87	1,018,395	1898-99	2,595,353
1887-88	1,219,035	1899-1900	2,720,153

TABLE showing the quantity of lumber in feet carried during each year over the road since it was first opened for traffic as a through line to the west.

Year.	Feet.	Year.	Feet.
1876-77	58,096,474	1888-89	199,507,777
1877-78	56,626,547	1889-90	210,886,071
1878-79	55,626,696	1890-91	184,188,324
1879-80	55,462,654	1891-92	175,474,340
1880-81	72,841,388	1892-93	181,211,013
1881-82	78,356,418	1893-94	200,507,949
1882-83	104,033,417	1894-95	202,247,269
1883-84	131,120,948	1895-96	226,392,715
1884-85	178,403,675	1896-97	243,355,725
1885-86	117,186,512	1897-98	354,093,846
1886-87	161,801,763	1898-99	306,554,031
1887-88	197,755,272	1899-1900	379,350,074

TABLE showing the number of live stock carried during each year over the road since it was first opened for traffic as a through line to the west.

Year.	Number.	Year.	Number.
1876-77	34,414	1888-89	85,960
1877-78	46,498	1889-90	86,771
1878-79	47,584	1890-91	95,529
1879-80	70,990	1891-92	87,889
1880-81	61,574	1892-93	93,369
1881-82	73,479	1893-94	79,203
1882-83	68,338	1894-95	72,106
1883-84	60,090	1895-96	64,051
1884-85	70,785	1896-97	72,082
1885-86	74,498	1897-98	89,301
1886-87	82,896	1898-99	109,821
1887-88	98,302	1899-1900	92,813

TABLE showing the number of tons of ocean-borne goods to and from Europe, via the port of Halifax, carried over the road during each year since it was first opened for traffic as a through line.

Year.	Via Chaudière to and from the West.	Via St. John to and from the West.	To and from local Stations.	Total.
	Tons.	Tons.	Tons.	Tons.
1876-77				
1877-78	14,949		3,405	18,354
1878-79	21,628		2,643	24,271
1879-80	21,073		4,952	26,025
1880-81	15,454		3,334	18,788
1881-82	21,607		4,168	25,775
1882-83	24,875		7,911	32,786
1883-84	19,696		6,533	26,229
1884-85	22,787		8,405	31,192
1885-86	13,464		8,216	21,680
1886-87	16,923		9,811	26,734
1887-88	41,864		8,878	50,742
1888-89	17,340		11,481	28,821
1889-90	9,895		11,730	21,625
1890-91	9,923		10,764	20,687
1891-92	9,719	17	23,825	33,571
1892-93	7,295	100	12,319	19,714
1893-94	3,023	204	13,455	16,682
1894-95	6,749	213	10,399	17,361
1895-96	3,767	314	16,748	20,829
1896-97	2,654	263	17,239	20,156
1897-98	5,950	1,637	18,633	26,220
1898-99	2,465	243	31,555	34,263
1899-1900	2,379	307	37,108	39,794

The above statement does not include deals, which amounted to 55,086 tons for the year 1899-1900.

TABLE showing the number of tons of raw and refined sugar carried over the road during each year since it was first opened as a through line.

Year.	Raw Sugar.				Refined Sugar.			
	To Chaudiere for the West	To St. John for the West.	To Local Stations	Total.	To Chaudiere for the West	To St. John for the West	To Local Stations	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1876-77	340	..	..	340	..	..	..	..
1877-78	186	..	..	186	..	..	..	..
1878-79	1,041	..	..	1,041	..	..	..	..
1879-80	12,220	..	..	12,220	..	..	..	..
1880-81	13,872	..	..	13,872	4,022	..	2,902	6,924
1881-82	14,256	..	1,290	15,546	7,146	..	3,607	10,753
1882-83	9,465	..	508	9,973	11,126	..	5,497	16,623
1883-84	13,778	..	3,068	16,846	14,543	..	7,265	21,808
1884-85	10,381	..	3,661	14,042	18,024	..	8,445	26,469
1885-86	4,304	..	3,998	8,302	7,660	..	5,858	13,518
1886-87	20,450	..	8,500	28,950	15,044	..	8,395	23,439
1887-88	14,320	..	14,085	28,405	21,641	..	7,133	28,774
1888-89	24,358	..	7,160	31,518	12,955	..	11,120	24,075
1889-90	7,380	..	8,913	16,303	6,778	..	6,125	12,903
1890-91	5,088	4,670	8,215	17,973	10,130	4 8	5,996	16,594
1891-92	7,142	3,966	10,535	21,637	12,633	7,674	12,414	32,721
1892-93	Nil.	Nil.	10,137	10,137	8,327	6,456	7,840	22,623
1893-94	N l.	Nil.	6,775	6,775	17,729	6,907	8,885	33,581
1894-95	Nil.	Nil.	10,342	10,342	13,351	15,819	4,695	33,865
1895-96	Nil.	Nil.	9,824	9,824	15,138	13,734	11,309	40,181
1896-97	Nil.	Nil.	4,925	4,925	5,694	8,069	6,957	20,720
1897-98	Nil.	Nil.	Nil.	Nil.	6,624	8,821	10,989	26,534
1898-99	Nil.	Nil.	Nil.	Nil.	8,138	2 193	15,833	26,164
1899-1900	96	Nil.	Nil.	96	9,795	257	19,655	29,907

TABLE showing the number of tons of fresh and sa't fish carried over the road during each year since it was opened as a through line.

Year.	Fresh Fish.				Salt Fish.			
	To Chaudiere for the West.	To St. John for the West	To Local Stations.	Total.	To Chaudiere for the West.	To St. John for the West	To Local Stations	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1876-77	530	921	527	1,978	551	1,848	802	3,201
1877-78	596	1,015	474	2,085	898	1,644	805	3,347
1878-79	471	1,336	817	2,624	988	1,038	1,048	2,974
1879-80	519	1,362	453	2,334	1,612	2,238	959	4,809
1880-81	498	1,879	920	3,297	2,418	937	1,051	4,406
1881-82	475	1,619	957	3,051	4,031	1,066	2,487	7,584
1882-83	542	384	393	1,319	3,299	759	1,354	5,412
1883-84	838	1,682	412	2,932	1,322	1,143	1,224	3,689
1884-85	1,062	1,885	484	3,431	3,563	3,600	1,596	8,759
1885-86	1,669	1,645	902	4,216	1,680	2,047	3,376	7,103
1886-87	1,278	1,572	2,008	4,858	3,236	569	1,747	5,552
1887-88	1,533	1,477	1,031	4,041	2,617	476	1,099	4,193
1888-89	2,474	2,000	1,870	6,344	3,970	7,746	2,994	13,810
1889-90	2,235	1,787	2,111	6,223	2,449	847	3,288	6,584
1890-91	2,029	2,788	1,848	6,665	1,953	1,917	3,236	7,106
1891-92	1,367	1,746	547	3,660	1,946	928	1,889	4,763
1892-93	1,683	1,875	3,340	6,898	3,262	1,811	2,176	7,249
1893-94	1,950	2,192	2,224	6,375	2,921	1,814	2,962	7,697
1894-95	2,006	3,726	1,160	6,892	2,075	1,849	5,285	10,209
1895-96	1,966	3,059	1,319	6,344	1,863	1,087	2,791	5,741
1896-97	3,307	3,115	1,286	7,708	2,168	1,176	2,536	5,880
1897-98	3,575	3,703	1,052	8,330	1,729	1,066	2,210	5,005
1898-99	1,210	2,070	3,305	6,583	1,651	1,198	3,625	5,474
1899-1900	2,547	2,706	3,686	8,939	2,421	1,563	2,659	6,643

Twenty-four miles of the 67 lb. steel rails have been lifted and replaced, at the cost of revenue, by 80 lb. steel rails, and 332,163 ties have been renewed.

Capital Account.

Total cost of road and equipment up to June 30, 1900:—

Road, including $1,459,000 paid on acct., purchasing Drummond County Railway	$50,867,364 32
Rolling stock	9,138,827 86
Total	$60,006,192 18

The increased accommodation at the deep water terminus at Halifax has been further improved.

Additions have been made to the rolling stock and both the road and rolling stock have been efficiently maintained during the year.

WINDSOR BRANCH.

This road continues to be operated by the Dominion Atlantic Railway Company, formerly the Windsor and Annapolis Railway Company, the company receiving two-thirds of the gross earnings for working the traffic, and the government one-third of the gross earnings for maintaining the way and works.

The road has been maintained in efficient condition.

Table showing the earnings and its division between the Windsor Branch and the Main Line of the Intercolonial Railway between Windsor and Halifax, the maintenance, expenses and net earnings of the Windsor Branch for each year since 1880:—

Year.	Miles in Operation.	One third Gross Earnings.	Proportion of one-third Gross Earnings credited to Line Windsor Junction to Halifax.	Proportion of one-third Gross Earnings credited to the Windsor Branch.	Maintenance Expenses.	Profit.	Loss.
		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
1880-81	32	28,434 29	7,217 76	21,216 53	20,502 26	714 27	.....
1881-82	32	28,461 07	7,407 88	21,053 19	13,099 55	7,953 64	.....
1882-83	32	31,199 77	8,085 88	24,113 89	23,103 93	1,009 96	.....
1883-84	32	30,428 39	7,409 46	23,018 93	22,140 86	878 07	.....
1884-85	32	32,246 30	7,794 95	24,451 35	18,751 96	5,699 39	.....
1885-86	32	31,185 63	7,527 52	23,658 11	19,229 49	4,428 62	.....
1886-87	32	33,564 58	8,237 00	25,327 58	26,042 33	.....	714 75
1887-88	32	32,242 85	6,689 30	24,553 55	24,040 33	513 22	.....
1888-89	32	37,313 43	8,941 32	28,372 11	20,856 50	7,515 61	.....
1889-90	32	39,514 19	9,381 73	30,162 46	18,982 82	11,179 64	.....
1890-91	32	39,519 56	9,284 43	30,235 13	28,931 71	1,303 42	.....
1891-92	32	42,891 23	9,382 38	33,508 85	19,514 37	13,994 48	.....
1892-93	32	43,901 28	9,585 17	34,316 11	16,889 95	17,426 16	.....
1893-94	32	41,834 70	8,859 23	32,975 47	17,645 09	15,330 38	.....
1894-95	32	50,703 84	11,626 20	39,077 64	14,640 07	24,437 57	.....
1895-96	32	47,456 74	10,894 91	36,561 83	16,476 46	20,085 37	.....
1896-97	32	54,268 81	13,665 58	40,603 23	10,821 01	29,782 19	.....
1897-98	32	48,892 21	11,665 57	37,226 64	18,181 63	19,045 01	.....
1898-99	32	56,311 51	13,840 48	42,474 03	12,873 09	29,600 94	.....
1899-1900	32	62,266 61	14,915 18	47,351 43	12,891 56	34,459 87	.....

SESSIONAL PAPER No. 20

PRINCE EDWARD ISLAND RAILWAY.

CAPITAL ACCOUNT.

Total cost of road and rolling stock up to June 30, 1900 :—

Road, &c	$3,373,424 28
Rolling stock	470,229 00
Total	$3,843,653 28

The rolling stock provided on capital account consists of :—

Passenger Car Stock.

Engines	1st Class Car.	2nd Class Car.	Baggage Smoking and Postal Cars.	Official Car.	Box, Cattle and Refrigerator Car.	Platform Car and Coal Cars.	Conductors' Vans.	Pay Car	Snow Ploughs	Flangers.
21	17	11	9	1	183 17 1	127 18	3	1	8	7
					201	145				
Owing to converting of one class of car to another the stock now stands :—										
21	17	11	9	1	201	145	3	1	8	7

Statement of rolling stock rebuilt during the year—2 locomotives, 2 first-class cars, 1 baggage car, 3 coal cars, 1 platform car and 1 snow plough.

The following table shows the working expenses, the gross and net earnings, the tons of freight and number of persons carried each year since June 30, 1875, when the road was first opened for traffic :—

Year.	Miles of Operation.	Working Expenses.	Gross Earnings.	Loss.	Tons of Freight carried.	No. of Passengers carried.
		$ cts.	$ cts.	$ cts.		
1875-76	199	214,930 43	118,060 96	96,869 47	28,358	93,964
1876-77	199	228,595 25	130,664 92	97,930 33	41,039	93,478
1877-78	199	221,509 49	135,899 60	85,699 89	38,923	111,428
1878-79	199	223,313 12	125,855 99	97,457 21	38,668	105,046
1879-80	199	164,649 55	113,851 11	50,789 44	37,208	90,533
1880-81	199	203,122 88	131,131 43	71,991 45	45,396	102,937
1881-82	199	228,259 97	137,267 54	90,922 43	48,315	118,436
1882-83	199	252,808 41	146,170 42	106,637 99	51,920	117,162
1883-84	199	236,428 13	144,504 12	91,924 01	51,841	118,888
1884-85	211	211,207 01	158,588 06	52,618 95	57,346	130,423
1885-86	211	216,744 34	155,584 36	61,159 98	57,913	120,374
1886-87	211	204,237 37	155,303 37	48,934 00	53,589	103,067
1887-88	211	229,639 95	158,363 62	71,276 33	59,603	131,246
1888-89	211	247,559 44	171,369 56	76,189 89	59,682	152,780
1889-90	211	266,485 85	160,971 78	105,514 07	51,604	133,099
1890-91	211	257,990 08	174,258 05	83,732 03	59,511	145,508
1891-92	211	289,706 38	157,442 69	132,263 69	51,065	139,389
1892-93	211	226,422 17	162,690 42	63,731 75	56,718	152,111
1893-94	211	226,891 06	158,533 83	68,357 23	53,577	123,727
1894-95	211	232,905 19	149,654 71	83,250 41	48,325	125,089
1895-96	211	225,138 56	146,476 54	78,662 02	46,395	122,586
1896-97	211	240,489 90	153,443 13	87,046 77	52,151	121,498
1897-98	211	231,418 74	158,950 61	72,468 13	57,539	126,510
1898-99	211	218,053 01	165,012 03	53,040 98	57,968	120,667
1899-1900	211	220,931 81	174,738 73	46,193 08	62,227	147,471

The track stands the same as at date of my last annual report.

Steel rails (50 lbs. to yard)	151½ miles.
Iron rails (40 lbs. to yard)	59½ "
Total length of road	211 "

The road and rolling stock are in good running condition.

CROW'S NEST PASS RAILWAY.

The construction of this road being considered a necessity for the successful development of the mining interests of British Columbia, Parliament by 60-61 Victoria, chapter 5, 1897, granted a subsidy of $11,000 per mile in aid of it. Under this Act the Canadian Pacific Railway Company undertook the work of construction and entered into a contract, breaking ground on July 15, 1897.

The road was, for construction purposes, divided into two sections. Section 1 extended from Lethbridge to the crossing at the south end of Kootenay Lake, a distance of $288\frac{75}{100}$ miles. Section 2 commenced at the end of section 1, at the crossing of the south end of Kootenay Lake to Nelson, a distance of 54 miles, making a total of $342\frac{75}{100}$ miles. Section 1 has been completed some time, with the exception of the building of a permanent straightened line around the point at Bullhead Prairie, for which a certain amount has been retained from the subsidy. Of section 2 no work has been done at the south end of Kootenay Lake, but the 20 mile subsection between Balfour and Nelson is practically completed and ready for traffic: this subsection follows along the rocky bluff bordering on the Kootenay Lake; it is heavy work, the curvature is sharp, but the grades are light, and the road is well and substantially built. The section between Lethbridge and the south end of Kootenay Lake, $288\frac{75}{100}$ miles, has continued to be operated successfully during the year.

The amount of subsidy paid up to October 1, 1900, remains same as appeared in my last annual report, viz.	$3,116,250
Balance of subsidy applicable to section 1 unpaid	60,000
Total subsidy applicable	$3,176,250

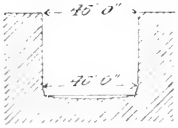
While upon the subject of the Canadian Pacific Railway construction, I may, as a matter of interest to the public, give a statement of the extensions made to their system during the year, viz.:

	Miles.
Crow's Nest Pass Railway, Balfour to Nelson	20·00
Vancouver and Lake Island Railway, Vancouver to North Arm of the River Fraser	6 80
Pipestone Extension (Assiniboia) Antler to Ancoba	50·00
McGregor Branch (Manitoba) McGregor, westward	26·45
Lac du Bonnet Branch (Manitoba) Molson to Lac du Bonnet	21·88
Dymond Branch (Western Ontario) Dymond to Ottawa Mine	7 00
Total miles of railway constructed by C.P.R during the year	132·13

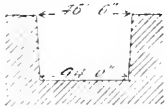
SURVEYS FOR A RAILWAY TO THE YUKON DISTRICT FROM A POINT ON AN EXISTING RAILWAY, AND ALSO FROM AN OCEAN PORT IN BRITISH COLUMBIA.

To my last annual report were attached the following reports on the surveys for these routes—Mr. John S. O'Dwyer's report with map, February 8, 1899, also his reports of December 5, 1899, and March 1, 1900 with map; Mr. P. H. Dupont: reports April, 1899, and December 3, 1899; C. F. K. Dibblee: report September 20, 1899. In addition to these reports will be found attached to this my annual report of 1899-1900 a further report from Mr. P. H. Dupont, of January 8, 1900. These reports do not cover the whole route, but Mr. O'Dwyer and Mr. Dibblee have been employed in the field during the past season, completing the explorations, and they are now on the way home. I shall not be able to furnish any further information upon the subject in this report, as it will require some time to prepare their plans and reports. From the information, however, given me from time to time, I am able to say a practicable line can be obtained, upon which a road could be constructed at a reasonable cost.

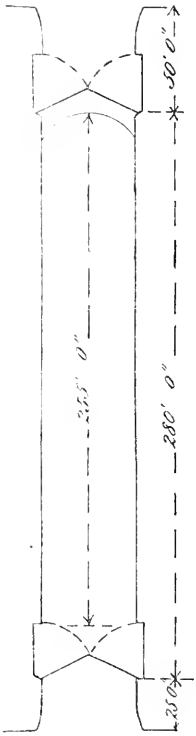
In the annual report for the year ending June 30, 1901 (before the preparation of which no doubt the reports of the engineers in charge of the surveys will be received, covering, it is expected, the entire route) it is proposed to give a full and intelligent description of the entire line from Edmonton to the Yukon and to an Ocean Port, as regards alignment, grades, cost of construction, and a general description of the country through which it passes.



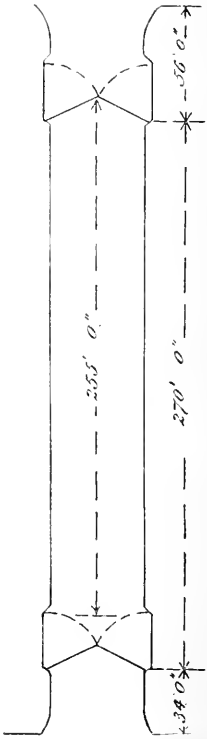
SECTION OF SOULANGES CANAL LOCK.



SECTION OF WELLAND CANAL LOCK



SOULANGES CANAL LOCK.



WELLAND CANAL LOCK

CANALS—CAPITAL ACCOUNT.

SAULT STE. MARIE CANAL.

During the year ended on June 30 last and up to date, the Messrs Heckler Brothers have, under contract, removed a number of shoals in the lower approach to the canal, completing their contract in September, since which tenders have been invited for deepening the entire lower entrance channel so as to give a depth of 22 feet of water. It will also be necessary to give a like depth of water in the upper entrance, and in order to give berths to vessels waiting to pass through the lock it is very essential that the piers at the lower entrance should be lengthened. I suggest that provision should be made for carrying on these works next year. Some trees have been planted upon the canal reserve, and certain levelling of the grounds has been done.

The total cost of construction and equipment up to June 30, 1899, was	$3,742,513 69
Expended during year ended June 30, 1900	27,157 98
Total cost of construction and equipment to June 30, 1900	$ 3,769,671 67
Expended from June 30 to December 1, 1900	300,765 72
Total cost of construction and equipment to December 1, 1900	$4,070,437 39

Of the amount of expenditure during the current year of $300,765.72, $281,973.43 was paid on an award made by Mr. Shanly in favour of Messrs. Hugh Ryan & Co., contractors for the lock.

SOULANGES CANAL.

The works of construction upon this canal are practically, although not actually, completed, the following being definitely finished :—

Section No. 3—O'Leary Brothers.
" " 8—Charles Rayner.
" " 9—Manning & McDonald.
" " 10—Rogers & Taylor.
" " 11—Poupore & Fraser.
" " 12—M. J. Hogan
" " 13—Manning & McDonald.
Lock Gates—J. & R. Miller.
Bridges—Dominion Bridge Co.
Bridges—Weddell Bridge Co.
Stony Sluices—Dominion Bridge Co.

The only contract works not fully completed are those of sections Nos. 4, 5, 6 and 7, Andrew Onderdonk, on which some work of road construction, sodding, &c., remains to be done, and the power house and electric appliances, Canadian General Electric Co. The power house is built, but the electric works are not yet in condition to be accepted

This canal may, I think, be cited as the best equipped canal of any in the whole group between Lake Erie and Montreal; it is well lighted throughout by electricity; the locks and bridges will be worked by the same power. At lowest stage of water there are 15 feet of water in the mitre sills, and both the upper and lower approaches are well marked out with gas buoys; so that after the close of this season there will be no necessity to operate the Beauharnois Canal, and, for navigation purposes, I suggest it may be abandoned.

The following is a statement of the amounts which have been paid the contractors up to December 1, 1900:

Sections 1 & 2	Archibald Stewart	$521,796 10	
	Ryan & McDonnell	592,900 00	
	Day work	5,524 91	
			$ 1,126,221 01
Section 3	O'Leary Bros.		199,056 44
" 4,5,6&7	George Goodwin	$356,726 85	
	Andrew Onderdonk	601,726 03	
			958,452 88
Section 8	Charles Raynor		322,300 00
" 9	Manning & McDonald		187,400 60
" 10	Rogers & Taylor		297,047 26
" 11	George Goodwin	$ 42,020 00	
	Thomas Feeney	53,780 00	
	Poupore & Fraser	228,372 70	
			324,172 70
Section 12	O'Brien & Sons	$ 25,367 50	
	George Goodwin	8,100 00	
	M. J. Hogan	203,108 70	
			236,576 20
Section 13	Manning & McDonald		638,530 00
Power Weir	Charles Raynor		43,916 74
Power House and Electric Works	Canadian Electric Co		77,230 00
Lock Gates	J. & R. Miller		100,000 00
Stony Valves	Dominion Bridge Co.		56,934 00
Steel Bridges	Dominion Bridge Co.		39,687 00
Steel Bridges	Weddell Bridge Co.		4,995 00
		$	4,606,519 23

The payments are as follows, viz.:

For works and expenses of supervision	$	5,703,033 93
For land damages		343,373 95
Total expenditure up to December, 1900	$	6,046,407 88

In addition to the expenditure already made as herein stated, the estimated cost to complete is placed at about $450,000, making a total estimated cost, based on existing contracts, of about $6,500,000.

LACHINE CANAL.

The works being carried on under the capital account appropriation may be stated to be as follows, viz.:—

1st. The rebuilding of the stone wall along the side of the canal, necessitated by the deepening of the prism to 15 feet of water, for which Mr. John Baptiste de Lorimier is the contractor. As some of the work remaining to be done is below water level, it cannot be completed until the canal is unwatered in the spring.

2nd. The erection of two lighthouses for range of new channel at Lachine: the work is completed. Messrs. Farand and Delorme were the contractors.

3rd. Deepening the River St. Pierre south of the canal. The work, for which Messrs. Brewder and McNaughton are the contractors, is drawing near to a close, and it is expected it will be finished this season. The object of this work is to give a freer and more rapid flow to the water passing down the river, thus improving the condition of the low lands on either side of the river, and removing possible grounds for complaints.

4th. Deepening of the prism of the canal from its lower entrance to the St. Gabriel and other basins in Montreal to give a depth of 20 feet of water. This work is still in progress, and is being executed by the Lachine Canal dredging fleet.

The amounts paid each of these contractors under their contracts up to October 1, are:

J. B. de Lorimier—Stone wall	$18,507 90
Messrs. Farand and Delorme—Lighthouse	2,900 00
Messrs. Brewder and McNaughton—River St. Pierre	16,582 46
Total	$37,990 36

Total amount expended on the works of enlargement and improvements to this canal up to June 30, 1899	$8,197,561 16
Expended from June 30, 1899, to June 30, 1900	125,009 41
Total expended up to June 30, 1900	$8,322,570 57
Expended from June 30, to December 1, 1900	30,599 68
Total expended up to December 1, 1900	$8,353,170 25

LAKE ST. LOUIS.

The work of forming a channel 300 feet wide, on a direct course, with a depth of 16 feet of water is completed, and the engineers have been taking soundings and preparing a chart of this section of the St. Lawrence River and channel.

GRENVILLE CANAL.

ENLARGEMENT.

Messrs. Pigott and Ingles are the contractors for the sections of this part under contract, they completed their work on May 16, 1900, and the final estimate is being prepared. Their work extended from Lock 4 to Station 95·20 below Lock 5, total distance about 9,500 lineal feet, of which 4,750 feet are between locks 4 and 5.

The amount paid to Messrs. Pigott and Ingles under their contract up to December 1, 1900.....	$ 91,675 57
The total expenditure on the enlargement works of this canal up to December 1, 1900, is.....	$4,114,683 11

TRENT CANAL.

CONSTRUCTION.

Tenders have been received for the Trenton-Frankford section, a distance of about 9 miles, but no action has been taken thereon, in consequence of the route via Port Hope having been urged upon the attention of the government as being a cheaper and better route than that via Trenton for which tenders had been obtained. With a view of determining which of the two routes is the best adapted to traffic, and also with the object of ascertaining the probable cost of construction of the Port Hope line, a survey was ordered, which has since been made : a plan and report thereon will be prepared for submission to the government so soon as an opportunity offers.

Tenders have been received and the contracts awarded for the two sections of the Balsam and Lake Simcoe division which cover the ground from the north end of section No. 1 of this division to Lake Simcoe, a distance of about 13 miles. For section No. 2 the contract is awarded to Messrs. Larkin & Sangster, and that for section No. 3 to Messrs Brown & Aylmer.

The work on the three sections which, as I stated in my report of last year, I anticipated would be completed this season, is not completed.

Section No. 1, Balsam and Lake Simcoe division, Andrew Onderdonk, contractor, will be completed in about three weeks from this time.

Section No. 1, Lakefield—Peterboro division, is finished with the exception of the dredging of some rock, which has already been blasted, in the Otonabee River near Lakefield, and will all be cleaned up in the early part of next season, when the contract will have been completed.

Section No. 2, Lakefield—Peterboro division. The work has dragged along slowly, but though the progress being made is unsatisfactory, I am pleased to be able to report that the contractors are doing good and substantial work. They have recently applied for a further extension of time until November, 1901 ; an extension has been granted to December 31, 1900 ; it will therefore be observed that there is no prospect whatever of this contract being completed for some time to come.

Section No. 1—Balsam Lake end.

Gross amount of progress estimate for November, 1900 ..... $ 446,834 30

(Andrew Onderdonk, contractor.)

Section No. 1—Lakefield end.

Gross amount of progress estimate for November, 1900..... $ 374,794 63

(Brown, Love & Aylmer, contractors.)

Section No. 2—Peterboro end.

Gross amount of progress estimate for November, 1900..... $ 357,793 53

(Corry & Laverdure, contractors.)

Steel Superstructure Hydraulic Lock.

Gross amount of progress estimate for November, 1900 ..... $ 65,578 99

(Dominion Bridge Co., contractors.)

Details of the work done and general information in relation to the canal, will be found in Superintending Engineer Rogers's report herewith.

CORNWALL CANAL.

ENLARGEMENT.

With the exception of the work of improving the upper entrance to this canal the enlargement works were practically completed at the date of my last annual report. A little work of cleaning up on section No. 4 remained and the protection, &c., of the guard gates at lock No. 20, which latter work was executed by Messrs. J. & R. Miller. The work of improving the upper entrance of this canal is composed of an extension of the entrance pier on the south side and the cutting away of the shore on the north side, thus straightening the entrance, and the building of a pier to enable vessels to enter the canal with greater safety. This work is being executed under contract by Messrs. Weddell & McAuliff, who are making fair progress with the work, which will occupy all next season to complete.

The following amounts have been paid to the several contractors up to December 1, 1900 :—

Section 2, Wm. Davis & Son	$	931,190 72
" 3 "		558,896 38
" 4 "		737,766 43
Sheik's Island "		433,957 00
Section 5, Gilbert Dredging Co		138,306 73
" 6 "		47,721 37
" 7 "		96,832 88
" 8 "		216,270 21
" 10 Jocks, DeLoremier & Co		439,854 60
Pier upper entrance, Wm. Davis & Son		8,693 65
Protection to guard gate, J. & R. Miller		16,034 57
Improvement of upper entrance, Weddell & McAuliff		52,180 00
	$	3,677,704 54
Total amount expended on the works of enlargement up to December 1, 1900	$	4,824,310 75

FARRAN'S POINT CANAL.

The work of enlarging this canal is practically completed, and it is believed will be entirely finished this season. Some delay has arisen in completing the masonry of the entrance pier at the lower entrance, owing to the water having stood at an unusually high level during the season ; it is now completed. The stone lining and sodding of the slopes of the prism are in progress, as well as the work of dredging the canal to the full depth and width required, all of which will, it is expected, be finished this season.

The following is a statement of the amount paid the contractors up to December 1, 1900, and of the total expenditures. :

Enlargement—The Canadian Construction Co	$	708,119 39
Total amount of expenditure on account of the works of enlargement of this canal up to December 1, 1900	$	720,426 75

RAPIDE PLAT CANAL.

The works of enlargement of this canal were so far completed at the date of my last annual report as to give uninterrupted 14 feet navigation ; since which the Weddell Dredging Co., contractors for section No 2, have proceeded with the work of lessening the bend in the canal by the removal of a portion of Mariatown Point, which when done will prove to be a great improvement to navigation. This work has not progressed very rapidly, but considerable advancement has been made. A contract has been entered into with the Messrs. Gilbert Brothers for improvements at the head of this canal, which consist of extending the southern entrance pier and the straightening of the entrance by digging into the shore line for some distance and building some cribwork. When these works are completed, which it is expected they will be next season, the entire enlargement works on this canal will be finished.

The following statements show the amounts paid the contractors and the total expenditure up to December 1, 1900 :—

Section No. 1, Poupore & Fraser	$ 917,026 01
" " 2, Weddell Dredging Co.	242,141 80
" " 3, Poupore & Fraser	263,442 10
Flaggs Bay, Wm. Broder	271,141 02
Total payments up to October 1, 1900	$1,693,750 93
Total expenditure on works of enlargement up to December 1, 1900	$1,911,413 97

GALOPS CANAL.

The work of enlarging this canal was divided into three sections, as follows, viz. :—

Iroquois Section—Iroquois to Presqu'ile.
Cardinal Section—Presqu'ile to Gates Point.
Upper entrance—Gates Point to Upper entrance.

The work on the Iroquois section is drawing close to a finish and there is every expectation of it being completed this season.

The work on the Cardinal section will not be completed this season, owing to the contractor having carried on his work in a very dilatory manner during two months this last summer. The work remaining to be done is largely composed of masonry to be built upon the cribwork in the Cardinal cutting, the building of a quantity of pitch stone facing on the slope of the cutting, removal of dam at the upper end of the cutting, forming a dam across old canal at the lower end of this cutting, and the straightening of the prism of the canal by cutting off the point of Glasfords Bay. These works will probably not be completed until the middle of next season, but navigation will be open through the cutting for vessels drawing 14 feet of water.

Upper entrance—This work may be considered practically completed, with the exception of straightening the canal by cutting away the point at McLaughlin's Hill, which work is now in progress, and will be completed next season.

The following is a statement of the amounts paid the contractors named below, and also the total amount expended on the works of enlargement up to December 1, 1900 :—

Iroquois section, Larkin & Sangster	$1,221,870 00
Cardinal section, Wm. Davis & Sons	1,037,570 00
Upper entrance, Murray & Cleveland	1,490,758 51
" William Allan	193,652 00
	$3,943,850 51
Total amount expended on enlargement works up to December 1, 1900	$4,319,684 37

GALOPS RAPID IMPROVEMENT.

The work of improvement authorized is very nearly completed, but owing to the lowering of the water in the St. Lawrence River it is recommended that the island shoal should be lowered another foot, and that no unnecessary delay should arise in proceeding with the work under the present contract.

Statement of amount paid the contractors up to December 1, 1900, and also showing the amount expended on this improvement to December 1, 1900:

Galops channel improvement, Wm. Davis & Son	$ 22,000 00
" " The Gilbert Bros.	797,349 92
Total	$819,349 92
Total amount expended on the Galops channel improvement to December 1, 1900	$827,684 00

NORTH CHANNEL.

This channel is being formed of a width of 300 feet in bottom, with a depth of 17 feet of water at extreme low water. The work now being done is the dredging on the south side of the channel, the building and sinking of cribs at the westerly or upper entrance, and the drilling and dredging of rock at the eastern or lower entrance. It will probably occupy the greater part of next season to complete the channel work, after which will remain to be done the forming of a dam to block or close up the channel between Galops Island and Adam's Island. This work cannot be proceeded with until it is approved by the American government, as the international boundary passes through this channel: the necessary permission is being sought.

The following is a statement of the amount paid to the contractor up to December 1, 1900:—

North channel, M. A. Cleveland	$906,800 00
Statement of amount expended in forming the north channel up to December 1, 1900	932,402 01

RIVER REACHES.

IMPROVEMENTS TO CHANNEL—LAKE ST. FRANCIS.

St. Regis section, 2½ miles east of Cornwall. Messrs. Manning & McDonald have the contract for the work of forming a channel through a shoal 1,100 feet long and 300 feet wide, protected with crib piers. This work is drawing near a close, and will be completed this season.

Hamilton Island section extends from the 7th to the 11th mile east of the foot of Cornwall Canal. Messrs. Manning & McDonald have the contract for this work, which is composed of the removal of the Middle Ground shoal at the 10th mile; the Highlander shoal at the 10½th mile; the Horse-back shoal at the 11th mile.

The channel of 300 feet wide and 700 feet long through the Middle Ground shoal is completed, but the protection of the Island crib is still incomplete.

The channel through the Highlander shoal will be 600 feet long and 300 feet wide. No work has been done on it for some time, but it is to be again resumed with a powerful dredge.

The removal of Clark's Island shoal being more important than the Horse-back shoal, it will be the first to be cut through, but as there is at present a channel around it, though a little circuitous, the new channel may possibly not be cut out this season, much depends on the weather.

Statement of amount paid contractors up to December 1, 1900:

River Reaches, Manning and McDonald... ..... $ 51,150 00

ST. LAWRENCE RIVER AND CANALS.

This term applies to the river and canals between Coteau Landing and Prescott. The St. Lawrence River has been surveyed with a double purpose:—First with the object of locating obstructions to navigation and having them removed; second with a view of marking out the channel. The obstructions to the passage of vessels drawing 14 feet of water have been removed and a clear channel obtained, as has been proved by a thorough system of sweeping.

Total amount charged to St. Lawrence River and Canals appropriation up to December 1, 1900, $2,247,278.27.

WELLAND CANAL.

A contract has been entered into with Messrs. Hogan and McDonnell, for improvements at the upper entrance to this canal at Port Colborne, by deepening the channel approach to give a depth of 22 feet of water up to the outer end of the east entrance pier and from that point, up to the guard lock, to give a depth of 16 feet of water; to construct two docks with two piers, 200 feet wide each, upon which to erect grain elevators for the transfer of grain cargoes from the heavy draught vessels drawing over 14 feet of water to those drawing 14 feet and under. I am most anxious to see the work of building the proposed breakwater, so necessary to protect vessels entering the canal and those lying at the elevators, started, and prosecuted with sufficient vigour to ensure its completion by the time the canal improvements are finished. I may say it is very difficult to carry on the work of deepening the entrance to the canal at this point until protection by a breakwater is given, as when even a mild wind is blowing it is difficult, and indeed almost impossible to work drills, on account of the sea that rolls in.

Amount paid the contractor up to December 1, 1900.. $84,660 00

Total amount expended in making this improvement up to December 1, 1900..... . ..... $87,380 26

A contract was entered into with Messrs. Rowan and Elliott, on April 5, 1900, for the substructure and approaches of a bridge over the canal at Humberstone and for the steel superstructure of this bridge.

The Hamilton Bridge Co. had the contract, which was dated May 21, 1900. The substructure is completed but the superstructure is not yet erected.

Statement of amount paid the contractor up to December 1, 1900:

Substructure, Rowan and Elliott	$22,604 92
Superstructure, Hamilton Bridge Co	3,600 00
Total	$26,204 92
Total expenditure on the work up to December 1, 1900	$27,571 21

SESSIONAL PAPER No. 20

CANADIAN GOVERNMENT CANALS.

MEMORANDUM of Expenditure on Construction up to December 1, 1900.

Canal.	Original Construction up to June 30, 1900.	Enlargement up to June 30, 1900.	Enlargement from June 30, 1900, up to December 1, 1900.	Total cost of Enlargement up to December 1, 1900.	Total Expenditure on original Construction and Enlargement up to Dec. 1, 1900.
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Lake St. Francis		41,961 46	12,153 21	54,114 67	54,114 67
Lachine	2,589,532 85	8,322,570 57	30,599 68	8,353,170 25	10,942,703 10
Lake St. Louis		261,772 18	1,686 79	263,458 97	263,458 97
Soulanges	5,792,066 67				6,046,407 88
Beauharnois	1,636,690 26				1,636,690 26
Cornwall	1,945,624 73	4,787,272 78	37,037 97	4,824,310 75	6,769,935 48
Farran's Point	80,041 21	686,646 38	33,783 37	720,429 75	800,470 96
Rapide Plat	426,882 15	1,889,799 71	21,614 26	1,911,413 97	2,338,296 12
Galops	813,732 18	4,138,636 65	191,360 72	4,329,997 37	5,143,729 55
Galops Channel		763,192 03	64,591 97	827,784 00	827,784 00
North Channel		858,316 15	74,085 86	932,402 01	932,402 01
Murray	1,247,470 26				1,247,470 26
St. Lawrence River and Canals	18,442 85	592,527 24	15,000 00	607,527 24	625,970 09
Welland	7,693,824 03	16,095,979 02	100,323 86	16,196,302 88	23,890,126 91
Sault Ste. Marie	3,769,671 67				4,070,437 39
Chambly	637,056 76				637,056 76
Carillon and Grenville	*63,053 64	4,114,108 67	574 44	4,114,683 11	4,177,736 75
Trent	2,877,823 48				2,997,325 30
Rideau	4,097,793 87				4,097,793 87
Tay	476,128 73				476,128 73
St. Ours	121,537 65				121,537 65
Culbute (canal abandoned)	382,579 46				382,579 46
Ste. Anne's	134,456 51	1,035,759 12		1,035,759 12	1,170,215 63
St. Peter's	248,762 84	399,784 30		399,784 30	648,547 14
	35,053,171 80	43,988,326 26	582,812 13	44,571,138 39	80,298,918 94

* Construction by Imperial Government not included, records relating to same were kept in Ordnance Office, Montreal, and were destroyed by fire in 1852.

CANALS.

OPERATION AND MAINTENANCE.

The canals have been successfully operated throughout the year, no serious delays to traffic having occurred, with the exception of the Lachine Canal to which I refer in its proper place. The necessary repairs and renewals have been executed.

STATEMENT showing the dates of closing and opening Canals.

Name of Canal.	Closed.	Opened.	Closed.	Opened.
	1898.	1899.	1899.	1900.
Sault Ste. Marie	9th December	26th April	20th December	23rd April.
Lachine	1st December	1st May	30th November	2nd May.
Beauharnois	1st December	1st May	1st December	1st May.
Soulanges			10th December	1st May.
Cornwall	9th December	24th April	8th December	22nd April.
Williamsburg	13th December	13th April	8th December	23rd April.
Welland	13th December	22nd April	15th December	27th April.
Chambly	1st December	1st May	4th December	2nd May.
St. Ours	26th November	22nd April	3rd December	24th April.
Ste. Anne's	27th November	27th April	26th November	24th April.
Carillon and Grenville	26th November.	1st May.	30th November.	1st May.
Rideau — at Kingston	23rd November	2nd May.	30th November.	1st May.
Rideau — at Ottawa	29th November.	2nd May.	24th November.	1st May.
Trent — on Central Reach	17th November.	1st May.	2nd December.	24th April.
Trent — on Lower Reach	26th November.	21st May	27th November.	24th April.
Murray	6th December	13th April	15th December	13th April.
	1899.		1900.	
St. Peter's	7th January	2nd April	24th January	24th April.

SESSIONAL PAPER No. 20

STATEMENT showing the dimensions of the locks of the Canals.

	Existing System.				Under Construction.			
	No. of Locks.	Length.	Width.	Depth of water on mitre sill.	No. of Locks.	Length.	Width.	Depth of water on mitre sill.
		Feet.	Ft.	Ft.		Feet.	Ft.	Ft.
Lachine	5	270	45	14				
Beauharnois	9	200	45	9				
Chambly	9	118 125	22·6·24	7				
St. Ours	1	200	45	7				
St. Anne's	1	200	45	9				
Carillon and Grenville	7	200	45	9				
Trent	13	134	33	5	6	134	33	6
Rideau	49	134	33	5				
Rideau, Perth Branch	2	134	32	5·6				
Murray (no locks)				11				
Cornwall (Old)	5	200	55	9				
Cornwall (New)	5	270	45	14				
	1	270	45	Guard.				
Farran's Point (Old)	1	200	45	9				
Farran's Point (New)	1	800	45	14				
Rapide Plat (Old)	1	200	45	9				
Rapide (New)	1	270	45	14				
	1	270	45	Guard.				
Galops (Old)	2	200	45	9				
Galops (New)	1	270	45	14				
	1	270	45	Guard.				
	1	800	45	14				
Welland (Old)	24	150	45	10·3				
	2	200	45	10·3				
	1	230	45	10·3				
Welland (New)	26	270	45	14				
Welland Feeder	1	150	26·6	9				
	1	200	45	9				
Welland, Port Robinson Branch	2	150	26·6	9				
Welland, Maitland Branch	1	185	45	11				
Sault Ste. Marie	1	900	60	20·3				
Soulanges	4	270	45	14				
	1	270	45	14				
St. Peter's	1	200	48	18				

NOTE.—The enlarged locks on the St. Lawrence and the Welland canals will accommodate vessels not exceeding 255 feet in length.

CANALS REVENUE AND INCOME ACCOUNT.

LACHINE CANAL.

OPERATION.

The traffic through this canal was successfully operated without any interruption to navigation during the year.

MAINTENANCE.

The cost of repairs made during the year ended June 30, 1900, is as follows:—

Ordinary repairs under the head of Staff and Repairs		$ 31,988 81
Special repairs under head of Income—		
Repairs to dredge, steam derrick and scows	$ 350 71	
Rebuilding masonry wall, basin 2	2,960 09	
Macadamizing 2½ miles Côte St. Paul Road	2,498 80	
Damages to barge *Georgia*	58 00	
Rebuilding a portion of south wall of canal at Atwater Avenue	6,343 28	
		12,210 88
	$	44,199 69

BEAUHARNOIS CANAL.

OPERATION.

On two different occasions the navigation through this canal was interrupted for several days, which was owing to the canal not having received the vigilant attention as regards its maintenance it would have had but for this fact that its use for navigation purposes was drawing to a close by reason of the substitution of the Soulanges Canal on the opposite side of the River St. Lawrence. The first detention to navigation that occurred was caused by the collapse, on August 1, 1899, of the waste weir at lock 10, when the traffic was interrupted for five days. The second interruption was caused by a washout at lock 12 on October 12, 1899. It occupied five days to make the repairs, during which time the canal was closed. At the close of navigation this season (1900) the canal will cease to be operated, as the traffic will, hereafter, take the Soulanges Canal route, which can give much greater despatch to business than the Beauharnois Canal.

MAINTENANCE.

The following statement shows the cost of repairs for the yearended June 30, 1900:—

Ordinary repairs under head of Staff and Repairs		$ 14,505 30
Special repairs under head of Income—		
Steel bridge and masonry at St. Timothy	$ 4,000 00	
Surveys and defining land boundaries	959 22	
		4,959 22
Total		$ 19,464 52

CHAMBLY CANAL.

OPERATION.

The interruption to navigation on this canal during the year was very slight, being only for 12 hours due to a leak sprung in the culvert under the canal at Little River des Iroquois, in October, 1899, which occupied twelve hours to repair. With this exception, navigation was uninterrupted.

MAINTENANCE.

The following is a statement showing the cost of repairs for the year ended June 30, 1900 :—

Ordinary repairs under head of Staff and Repairs		$13,995 00
Special repairs under head of Income—		
Drainage works at St. Johns, P.Q.	$ 3,925 18	
To build protection wall around head of St. Thérèse Island	1,523 70	
		5,448 88
Total		$19,443 88

ST. OURS LOCK AND DAM.

OPERATION.

There was no interruption to navigation at this lock during the year.

MAINTENANCE.

The cost of the repairs for the year were as follows :—

Ordinary repairs under head of Staff and Repairs	$ 2,681 10
Special repairs under head of Income—	
Building two new scows	1,596 88
Total	$ 4,277 98

STE. ANNE'S LOCK.

OPERATION.

There was no interruption to navigation at this lock during the year.

MAINTENANCE.

Ordinary repairs under head of Staff and Repairs	$ 2,679 21
Special repairs under head of Income	Nil.
Total	$ 2,679 21

CARILLON AND GRENVILLE CANALS.

OPERATION.

These canals have had no interruption to their navigation during the year.

MAINTENANCE.

Ordinary repairs under head of Staff and Repairs		$14,666 71
Special repairs under head of Income—		
Building four scows	$ 1,379 68	
Rebuilding dry wall at lock 6	3,096 82	
		4,476 50
Total		$19,143 21

LAKE ST. FRANCIS.

Special work under head of Income—		
Building protection wall on north side		$ 6,514 12
" " south side		5,774 27
Total		$12,288 39

TRENT CANAL.

OPERATION.

No interruption occurred to navigation during the year.

MAINTENANCE.

The cost of repairs for the year was as follows :

Ordinary repairs under head of Staff and Repairs		$ 9,989 26
Special repairs under head of Income—		
Constructing two concrete piers at Rosedale	$ 28 50	
Dredging shoals at Otonabee River	3,252 84	
Removing rock at Hastings channel	2,399 91	
Constructing entrance pier at Burleigh lock	1,162 56	
" " Lovesick lock	1,199 58	
		8,043 39
Total		$18,032 65

RIDEAU CANAL.

OPERATION.

No interruption occurred to navigation on this canal during the year.

MAINTENANCE.

The cost of repairs for the year was as follows :—

Ordinary repairs under head of Staff and Repairs		$30,237 09
Special repairs under head of Income—		
Deepening rock cut at Kilmarnock	$ 6,242 94	
Rebuilding hull of dredge *Rideau*	4,981 50	
Repairing damage by fire to collector's office, Ottawa	555 97	
		11,780 41
Total		$42,017 50

MURRAY CANAL.

OPERATION.

Vessels drawing 11 feet of water and under have a clear run through this canal, there being no lock upon it to impede navigation, and consequently nothing to damage which would block navigation.

MAINTENANCE.

The cost of repairs for the year was as follows :—

Ordinary repairs under head of Staff and Repairs	$ 2,777 60
Special repairs under head of Income	Nil.
Total	$ 2,777 60

CORNWALL CANAL.

OPERATION.

Navigation on this canal has been uninterrupted during the year.

MAINTENANCE.

The cost of repairs during the year was as follows :—

Ordinary repairs under head of Staff and Repairs	$13,998 29
Special repairs under head of Income	18,547 50
Total	$32,545 79

WILLIAMSBURG CANALS.

OPERATION.

These canals have been operated during the year without accident.

MAINTENANCE.

The cost of repairs during the year was as follows :—

Ordinary repairs under head of Staff and Repairs	$10,897 79
Special repairs under head of Income, constructing combined gate and two lifters	4,137 04
Total	$15,034 83

NORTH CHANNEL.

Navigation has been conducted through this channel during the year to the great advantage of transportation companies, and they express themselves greatly pleased with the work.

SOULANGES CANAL.

OPERATION.

This canal was opened for the passage of vessels drawing over nine feet of water and up to fourteen feet, on October 10, 1899, and has since been successfully operated. It is, I think I am correct in saying, the best and most completely equipped canal in this country.

MAINTENANCE.

The cost of repairs for the year is as follows :—

Ordinary repairs under head of Staff and Repairs	$2,679 21
Special repairs under head of Income	Nil.
Total	$2,679 21

WELLAND CANAL.

OPERATION.

No interruption has occurred on this canal to navigation during the year.

MAINTENANCE.

The cost of repairs during the year is as follows :—

Ordinary repairs under head of Staff and Repairs		$59,507 64
Special repairs under head of Income—		
Renewal of West pier at Port Dalhousie	$14,999 90	
Renewing docking superstructure at lock 1	10,284 68	
Renewing protection works at Allanburg	3,298 12	
" " Port Colborne and bridges between Port Robinson and Port Colborne	4,584 89	
Renewing slides on Deep Cut	3,997 25	
		37,164 84
Total		$96,672 48

ST. PETER'S CANAL.

OPERATION.

This canal was operated successfully and without detention to navigation during the year.

MAINTENANCE.

The cost of repairs during the year was as follows :—

Ordinary repairs under head of Staff and Repairs	$1,483 30
Special repairs under head of Income	Nil.
Total	$1,483 30

GENERAL OBSERVATIONS RESPECTING GOVERNMENT CANALS.

There has been a 14 foot navigation from Lake Erie to Montreal during the season of 1900. West of Lake Erie to Port Arthur or Duluth, vessels drawing 20 feet of water can navigate by passing through the American St. Mary's Canal, or drawing 17 feet 6 inches by passing through the Canadian Sault Marie Ste. Canal. The depth of water on the mitre sills in the American and in the Canadian Canals is, actually, the same, viz., 20 feet 3 inches. Very few vessels drawing over 9 feet of water have made use of this chain of canals during the year; one reason, no doubt, being that the pilots have not yet become familiar with the new channel down the St. Lawrence River, through which vessels drawing 14 feet of water would require to pass; but next season it is expected that with the complete system of buoying and lighting this channel, and the knowledge the pilots have acquired of it, a large fleet of the heavier draught vessels will traverse this route. The Soulanges Canal has passed a considerable volume of traffic in vessels of greater draught of water than could pass through the Beauharnois Canal; which traffic has been despatched in a most satisfactory manner. It has, for the most part, reached Coteau Landing by the Canada Atlantic Railway, the grain cargo having been transferred from the cars to the vessels through the railway company's elevator at that point.

SUMMARY.

Cost of maintenance and operation of the canal systems for the year ended June 30, 1900	$579,072 78
Net revenue of Canals, after deducting refunds	322,642 86
Excess of cost of maintenance and operation over revenue	$256,429 92

SURVEY IN VIEW OF IMPROVEMENTS TO NAVIGATION OF THE RIVER OTTAWA.

With a view to obtaining reliable information as to the present condition of the River Ottawa, in order to enable an estimate to be formed of the probable cost of securing a 14 feet navigation, Parliament voted

For 1899-1900	$10,000 00
For 1900-1901	10,000 00
Making a total of	$20,000 00

towards making a survey of the river. So soon as these sums became available, the Minister of Railways and Canals selected Mr. H. A. F. McLeod, as a suitable, experienced and reliable engineer, to take charge of the surveys, with Mr. Carr and Mr. Stanton as his assistants. They have, during the past two seasons, been engaged in making surveys, taking soundings, preparing plans and reports of the results of their labours upon the River Ottawa between Lake Deschenes and St. Annes. The work done makes it clear that a channel for vessels drawing 14 feet of water can be had at a cost which may be regarded as reasonable. The amount expended on these surveys up to December 1, 1900, has been—

During the year ending June 30, 1900	$9,994 90
From June 30, 1900, to Dec., 1, 1900	3,290 02
Total	$13,284 92

The staff of engineers is still in the field adding to the valuable information already obtained, and will continue the field work until the weather is unpropitious for such work, when they will be withdrawn from outside work, and placed in the office to prepare their plans and reports. For the full particulars in connection with these surveys, I refer you to Mr. H. A. F. McLeod's reports, which form an appendix hereto.

RAILWAY SUBSIDIES.

Subsidies to railways have in the last three sessions of Parliament been voted in such a form, that it is not possible to show the amount of cash subsidy granted, as the amount of subsidy will, in many cases, be based upon the cost of each road. For this reason I am again this year unable to give the amount of each subsidy available, but I shall, as heretofore, show the actual amount paid; also the number of miles of rail-

way for which subsidy granted, per mile, was available on the 1st July, 1899, and the number of miles of railway for which cash subsidy, per mile, was granted, built up to June 30, 1900. There will also be found the amount of subsidy paid up to October 31, 1900.

There will also be found a statement of cash subsidy, per annum, paid up to the 30th of June, 1900, with the number of miles built; also a statement showing the railways to which has been granted aid in land.

Amount of cash subsidy, per mile, paid up to June 30, 1900	$19,245,407 31
Number of miles of railway on which cash subsidy, per mile, was paid up to June 30, 1900.	$3,790\frac{05}{100}$
Amount of cash subsidy, per mile, paid up to October, 31, 1900	$20,855,014 49
Cash subsidy, per annum, paid up to June 30, 1900	2,052,600 00
Number of miles built on cash subsidy, per annum, up to June 30, 1900	252
Number of miles of railway to which aid, in land, has been authorized	$2,937\frac{21}{100}$
Number of acres of land, the grant of which in aid of railways, has been authorized	21,518,144

The foregoing statements do not include the grants in cash and land to the Canadian Pacific Railway, the Canada Central Railway and the Esquimalt and Nanaimo Railway.

These roads, as previously reported, received in cash as follows:

Canadian Pacific Railway (mileage 1,905)	$25,000,000 00
Canada Central Railway (mileage 120)	1,525,250 00
Esquimalt and Nanaimo Railway (mileage 71)	750,000 00
Total	$27,275,250 00

In land as follows:—

	Acres.
Canadian Pacific Railway	25,000,000
Esquimalt and Nanaimo Railway	1,900,000
Total	26,900,000

RAILWAY COMMITTEE OF THE PRIVY COUNCIL.

The report of the Secretary of the Railway Committee of the Privy Council enumerates the cases which have been before the Committee during the 11 months from November 1, 1899, to October 1, 1900. Within the period above named there were ten meetings of the Railway Committee, as follows :—

7th, 8th and 9th November, 1899.
15th November, 1899.
30th January, 1900.
20th, 21st and 22nd March, 1900.
8th and 9th May, 1900.
23rd and 25th " "
31st " "
21st June, 1900.
10th July "
26th September, 1900.

The character of the business before them was

1. For permission to make highway crossings over railways.
2. For permission for one railway to cross another railway.
3. For permission for one railway to form a junction with another railway.
4. For permission for railways to cross streets and highways.
5. For approval of plan and proposed site of bridges over navigable streams.
6. To hear complaints *re* discrimination on freight rates, &c.
7. For permission to use crossings and junctions before installation of interlocking appliances.
8. For permission to construct branch lines and spurs.
9. For running powers by one railway over another railway.
10. For protection at streets and highways crossed by railways.

All evidence is taken down by a stenographer and is placed in file on the department as a record for future reference.

CANAL STATISTICS.

These statistics are for the season of 1899 ; they have been prepared by Mr. R. Devlin, the officer in charge of the Canal Statistics office.

TABLE showing the tons of freight passing through each canal, the tolls collected, and the number of trips of vessels passing through each canal, for the year ending December 31, 1899 :—

Name of Canal.	Tons of Traffic passing through.	Tolls collected.	Number of trips of vessels passing through.
		$ cts.	
Lachine, Beauharnois, Cornwall, Williamsburg — St. Lawrence Canals	1,349,093	86,348 81	11,104
Welland	789,770	118,033 93	2,202
Chambly	362,635	26,000 10	2,846
Ste. Anne's, Carillon, Grenville — Ottawa River Canals	520,105	35,365 40	2,653
Rideau	69,905	5,704 22	2,468
Murray	16,788	714 49	729
Trent	40,160	1,240 70	2,432
St. Peter's	70,804	3,151 33	1,711
*Sault Ste. Marie	*3,006,664	*Free	3,769

* This canal was opened for traffic on September 9, 1895.

RAILWAY STATISTICS.

Difficulty continues to be experienced, in getting out the Annual Report of the department, owing to many of the railway companies failing to make the returns required by law and taking no notice whatever of the communications addressed to them from time to time, urging them to forward their returns. I again suggest that in future legal proceedings be taken to compel the delinquent railway companies to comply with the law ; the costs of the suits to be collected from them.

TABLE showing the growth of Railways from year to year, since the opening of the first line in 1836.

Year.	Miles in Operation.	Year.	Miles in Operation.
1835	0	1868	2,278
1836	16	1869	2,524
1837	16	1870	2,617
1838	16	1871	2,695
1839	16	1872	2,899
1840	16	1873	3,613
1841	16	1874	3,832
1842	16	1875	4,331
1843	16	1876	4,804
1844	16	1877	5,218
1845	16	1878	5,782
1846	16	1879	6,126
1847	54	1880	6,858
1848	54	1881	7,194
1849	54	1882	7,331
1850	66	1883	8,697
1851	159	1884	9,577
1852	205	1885	10,275
1853	506	1886	10,773
1854	764	1887	11,793
1855	877	1888	12,184
1856	1,414	1889	12,585
1857	1,444	1890	13,151
1858	1,863	1891	13,838
1859	1,994	1892	14,564
1860	2,065	1893	15,005
1861	2,146	1894	15,627
1862	2,189	1895	15,977
1863	2,189	1896	16,270
1864	2,189	1897	16,550
1865	2,240	1898	16,718
1866	2,278	1899	17,250
1867	2,278	1900	17,657

FATAL ACCIDENTS for Year ended June 30, 1900.

	Passengers Killed.	Employees Killed.	Others Killed.	Total Killed.
Falling from cars or engines	3	25	7	35
Getting on or off trains in motion	3	6	11	20
At work making up trains		11		11
Putting heads or arms out of windows		1		1
Coupling cars		16		16
Collisions and derailments		15	3	18
Striking bridges		3	1	4
Walking or being on track		18	103	121
Explosions				
Other causes	1	28	70	99
Total	7	123	195	325

SESSIONAL PAPER No. 20

The summary of railway statistical tables for the years ended June 30, 1899, and June 30, 1900, is as follows, viz. :—

	Comparative Statement.	
	June 30, 1899.	June 30, 1900.
Miles of railway completed (track laid)	17,358	17,824
" sidings	2,402	2,558
" iron rails in main line	178	130
" steel "	17,180	17,694
" " double track	562	591
Capital paid (including the four following items)	$964,699,784	$998,268,404
Government (Dominion and Provincial) bonuses paid	$165,534,800	$169,706,725
" " " loans paid	$20,468,245	$20,869,214
" (Provincial only) subscription to shares paid)	$300,000	$300,000
Municipal aid paid	$15,740,668	$15,884,542
Miles in operation	17,250	17,657
Gross earnings	$62,243,784	$70,740,270
Working expenses	$40,706,217	$47,699,798
Net earnings	$21,537,567	$23,040,472
Passengers carried	19,133,365	21,500,175
Freight carried (tons)	31,211,753	35,946,183
Train mileage	52,215,207	55,177,871
Passengers killed	20	7
Number of elevators	163	239
" guarded level crossings—public roads	197	169
" unguarded " "	11,813	12,879
" overhead bridges	430	431
" level crossings of other railways	276	244
" junctions with other railways	347	346
" " branch lines	234	251
" engines owned	2,142	2,179
" " hired	75	103
" sleepers and parlour cars owned	231	535
" " " hired	37	3
" first class cars owned	1,170	1,213
" " " hired	69	74
" second class and immigrant cars owned	621	640
" " " hired	19	1
" baggage, mail and express cars owned	639	632
" " " hired	29	30
" refrigerator cars owned	665	736
" " hired	122	207
" cattle and box freight car owned	38,839	39,112
" " " hired	3,112	3,426
" platform cars owned	15,434	14,947
" " hired	577	679
" coal and dump cars owned	5,540	5,730
" " hired	1,008	1,055
" conductors vans owned	42	133
" " hired	5	1
" tool cars owned	910*	872*
" " hired	8	.....
" snow ploughs owned	302	300
" " hired	2	.....
" flangers owned	186	311
" " hired	1	.....

*Including steam shovels, pile drivers, water tank cars, store cars, gravel cars, boarding cars, &c.

I have the honour to be, sir, your obedient servant,

COLLINGWOOD SCHREIBER,

Deputy Minister and Chief Engineer of Railways and Canals.

The Honourable A. G. BLAIR,

Minister of Railways and Canals.

No. 1.

RAILWAYS.

INTERCOLONIAL RAILWAY OF CANADA.
OFFICE OF THE GENERAL MANAGER,
MONCTON, N.B., November 14, 1900.

SIR,—I have the honour to submit the following report on the working of the Intercolonial Railway during the fiscal year ended June 30, 1900.

I inclose the report of the Chief Engineer on the works charged to capital account, the report of the General Superintendent and of the Engineer of Maintenance on the repair and renewal of the permanent way, buildings and works, and the report of the Mechanical Superintendent on the rolling stock, also the following statements of the accounts by the Chief Accountant and Treasurer :—

No. 1. Capital Account.
2. Revenue Account.
3. Locomotive Power.
4. Car Expenses.
5. Maintenance of Way and Works.
6. Station Expenses.
7. General Charges.
8. Special Votes.
9. General Stores.
10. General Balance.
11. Comparative Statement of Averages.

The length of railway in operation during the year was the same as last year, 1,314.67 miles

CAPITAL ACCOUNT.

The total cost of road and equipment on June 30, 1899, by last report was $56,750,843.89.

The additions during the year were as follows :—

Increased accommodation at Halifax	$ 22,714 07
" " St. John	449,854 20
" " Levis	79,999 95
" siding accommodation	102,501 53
" station "	14,519 50
" facilities along the line	59,881 89
Elevator at St. John	140,781 50
" Halifax	83,671 12
Extension to deep water at North Sydney	4,124 08

To provide sea wall protection along Cape Breton Railway	$ 10,036 59
Land and damages, Oxford and New Glasgow and Cape Breton Railways	149 49
Improvements at Point Tupper	435 71
" Mulgrave	14,906 71
Dredging at Pictou wharf	1,325 25
" Pictou Landing wharf	4,800 00
For a subway at Christies Crossing, Amherst	4,004 70
For finishing the upper flat of the general offices, Moncton	2,000 00
To provide new machinery, Moncton	4,598 01
To excavate the roof of Morrisey rock tunnel	3,011 29
For track scales at Pictou, Drummondville, and North Sydney	2,678 31
For strengthening iron bridges	77,091 10
To build rest houses at engine stations	244 15
Improving the telegraph service	4,932 18
Snow fences	4,997 80
Machinery at various points	11,582 11
To enlarge engine houses	3,623 69
To provide larger and stronger turntables	11,763 42
To provide drop pits	759 43
Rolling stock	533,223 40
Rolling stock, refrigerator cars	30,016 69
One first class passenger coach	10,378 26
Rolling stock, changing car couplers	7,130 00
" " to apply air brakes to freight cars	19,965 48
Changing the draw bars of freight cars	10,000 00
To provide apparatus in connection with lighting cars by Pintsch gas	4,315 50
For equipment of stations	6,273 89
Original construction	7 35
To pay McDonald & Moffatt's claim	1,074 00
To pay Ralph Jones interest, &c	847 50
Indiantown Branch	52,128 44
	$1,796,348 29
Making the total cost on June 30, 1900	58,547,192 18

The reports of the Engineers and the statements of the Mechanical Accountant give further information in regard to the foregoing expenditures.

REVENUE ACCOUNT.

The gross earnings and the working expenses for the year compare as follows :—

Gross earnings	$	4,552,071 71
Working expenses		4,266,710 22
Surplus	$	285,361 49

The gross earnings compare as follows with those of the previous year :—

In 1899-1900	$ 4,552,071 71
In 1898-1899	3,738,331 44
Increase	$ 813,740 27

The earnings from passenger traffic compare as follows :—

In 1899-1900	$ 1,404,469 87
In 1898-1899	1,167,453 16
Increase	$ 237,006 71

The earnings from freight traffic compare as follows :—

In 1899-1900	$ 2,912,790 52
In 1898-1899	2,348,096 58
Increase	$ 564,693 94

The earnings from mails and express freight compare as follows :—

In 1899-1900	$ 234,811 32
In 1898-1899	222,781 70
Increase	$ 12,029 62

The earnings by mile of railway compare as follows :—

In 1899-1900	$ 3,462 52
In 1898-1899	2,843 55
Increase	$ 618 97

The earnings by train mile compare as follows :—

	Cents.
In 1899-1900	82·10
In 1898-1899	76·57

The number of passengers carried compare as follows :—

In 1899-1900	1,791,754
In 1898-1899	1,603,095
Increase	188,659

The increase was in both local and through passengers.

The weight of freight carried compares as follows :—

	Tons.
In 1899-1900	2,151,208
In 1898-1899	1,750,761
Increase	400,447

The increase was in both local and through freight.

The following is a comparative statement of a few of the chief articles of freight, showing the quantity carried in this and in the previous year :—

Articles.	1898-99.	1899-1900.	Increase.	Decrease.
Barrels of flour and meal	1,157,250	1,234,076	76,826	
Bushels of grain	2,595,353	2,720,453	125,100	
Lumber in superficial feet	306,554,031	379,350,074	72,796,043	
Head of live stock	109,821	92,813		17,008
Coal in tons	494,206	603,209	109,003	
Manufactured goods in tons	399,527	507,024	107,497	
Cords of firewood	58,960	49,638		9,322
All other articles in tons	198,571	296,341	97,770	

There was an increase over last year in the quantity of the following articles carried :—Flour and meal, grain, lumber, coal, ore, stone, lime and cement, bricks, sand, iron and other metals, turnips, beets and carrots, butter and cheese, eggs, hay and straw, fresh and canned fish, molasses, pork both fresh and salted, salted meat, dry goods, hardware, groceries, and a decrease in the quantity of the following: Live stock, firewood, extract of hemlock bark, gypsum, potatoes, salted fish, dried fish, oysters, sugar, fresh meat, hides and skins, leather.

WORKING EXPENSES.

The working expenses compare as follows with the previous year :—

In 1899-1900	$4,266,710 22
In 1898-1899	3,465,686 21
Increase	$801,024 01

The averages compare with those of last year as follows :—

Per mile run by engines :—	cents.
In 1899-1900	62·49
In 1898-1899	58·02

Per mile run by trains :—	cents.
In 1899-1900	77·94
In 1898-1899	70·99

Expenditure per mile of railway :—	
In 1899-1900	$3,245 46
In 1898-1899	2,636 16

The rent paid to the Drummond County Railway Company and to the Grand Trunk Railway Company is not included in the above, as it would disturb the comparison with previous years ; no corresponding charge relating to the cost of any portion of the railway having been included in the working expenses in previous years.

The permanent way and structures and all the works of the railway received necessary repairs and are in good order.

In consequence of the increased weight of locomotives and of cars, and the increasing traffic, it was decided to relay the track with heavier rails than those in use, which weigh sixty-seven pounds to the yard. This was commenced during the year, and on twenty-four miles of track the rails weighing sixty-seven pounds to the yard were taken up and new rails weighing eighty pounds to the yard were laid in their place.

The number of ties renewed was 332,163.

Portions of the track on various parts of the line aggregating two hundred and seventeen and three quarter miles were reballasted.

Three miles of new sidings were laid at various places.

The bridges, wharfs, and buildings received necessary repairs.

The fences received necessary repairs, and eighty-eight and one-half miles of new fences were built.

The snow fences were repaired, and two thousand eight hundred and seventy-one rods of new snow fences were erected.

The snow sheds were repaired and one thousand lineal feet of new snow sheds were built.

Thirty-four new semaphores were erected at various stations.

The rolling stock received necessary repairs and is in good order.

Four locomotives were rebuilt in the railway shops, and five were purchased, on revenue account.

Two box freight cars, eight platform cars, seventeen coal cars, and two flanger cars were rebuilt in the railway shops ; and one hundred and fifty-five box cars, and two hundred platform cars were purchased on revenue account.

STORES.

The value of stores purchased was	$1,752,911 77
The value of stores used was	1,665,607 19
The value of old material sold was	188,330 27

The value of stores on hand at the end of the year was :—	
Ordinary stores including fuel	$661,102 08
Iron and steel rails and fastenings	309,952 52
Total	$971,054 60

In July, 1899, the Dominion Iron and Steel Company commenced the erection of large iron works at Sydney, and the construction of these is being energetically carried on. The starting of this industry caused great activity in business in the neighbourhood, and a large increase in the traffic of the railway, to accommodate which the works and equipment of the railway are being improved.

On March 2, 1900, a storm and high tide did some damage to a portion of the Dartmouth Branch.

On April 19, 1900, a freshet did some damage to a bridge over the Etchemin River.

On May 2, 1900, there was a fall of rock from the cliff near Hadlow.

All these damages have been repaired.

Two station houses were accidently destroyed by fire, the one at Salt Springs on May 26, 1900, and the other at Coal Branch on June 21, 1900.

The cost of clearing snow and ice from the track was more than in the previous year, amounting to eighty-nine thousand dollars.

I have the honour to be, sir,
Your obedient servant,

D. POTTINGER,
General Manager Government Railways.

COLLINGWOOD SCHREIBER, Esq., C.M.G.,
Deputy Minister and Chief Engineer, Railways and Canals,
Ottawa, Ont.

No. 1.—INTERCOLONIAL RAILWAY.

DR. CAPITAL ACCOUNT, Year ended June 30, 1900. CR.

1899.		$ cts.	$ cts.	1899.		$ cts.
June 30.	To cost of Intercolonial Railway to date	49,178,918 83		June 30.	By Dominion of Canada	56,750,843 89
	" Eastern Extension Railway to date	1,321,042 81				
	" Oxford and New Glasgow Railway to date	1,950,820 60				
	" Cape Breton Railway to date	3,875,640 47				
	" Cape Breton and Oxford and New Glasgow Railways to date	57,928 15				
	" Ferry Service at Strait of Canso to date	63,463 03				
1900.			56,750,843 89			
June 30.	Expenditure for current year :					
	Increased accommodation, St. John	149,854 20				
	" " Halifax	22,714 07				
	" " Lévis	79,999 95				
	Elevator at St. John	110,781 50				
	" Halifax	83,671 12				
	Strengthening Iron Bridges	77,091 10				
	Rolling Stock	533,223 40				
	Changing draw bars of freight cars from link and pin to M.C.B. Standard Couplers	10,000 00				
	Increased Siding Accommodation	102,561 53				
	" Station "	14,519 50				
	To enlarge engine houses	3,623 69				
	" excavate roof Morrisey Rock tunnel	3,011 29				
	" provide for the construction of a subway under the tracks at Christies' Crossing, Amherst	4,001 70				
	Improvements at Mulgrave	14,906 71				
	Extension to deep water North Sydney	4,121 08				
	Improvements at Point Tupper	435 71				
	To provide sea wall and cribwork protection to banks along line of C. B. Ry.	10,036 59				
	" provide larger and stronger turntables and strengthening some old ones	11,763 42				
	" provide new appliances and apparatus in connection with the installation of the Pintsch Gas Car lighting system	4,315 50				
	Land and Damages (O. & N. G. and C. B. Rys.)	149 49				
	Rolling Stock, to apply air brakes to freight cars	19,965 48				
	One first class passenger coach	10,378 26				
	Rolling Stock, refrigerator cars	30,016 69				
	To provide for finishing upper flat General Offices	2,000 00				
	Dredging at Pictou wharf	1,325 25				
	Original Construction	7 35				

To provide new machinery Moncton		4,598 01				
Dredging at Pictou Landing wharf		4,800 00				
To build coal houses at nine engine stations		214 15				
" provide and put up track scales at Pelton, Drummond ville and N. with Sydney		2,678 31				
Rolling Stock—changing car couplers		7,139 00				
To provide dry pits		759 43				
Improved facilities along the line		60,883 89				
Machinery at various points		11,582 11				
Improving telegraph service		4,992 18				
Snow fences		4,997 80				
To Indiantown Branch		82,198 14				
" pay McDonald and Moffatt claim		1,074 00				
" Improvement of stations		6,273 80				
" pay Ralph Jones—interest, etc		847 50				
		1,796,348 89				
		58,547,192 18				
				19 0.		
				June 30...	By Dominion of Canada	1,796,348 29
						58,547,192 18

E. & O. E.,
MONCTON, N.B., June 30, 1900.

T. WILLIAMS,
Chief Accountant and Treasurer.

No. 2.—INTERCOLONIAL RAILWAY.

DR. REVENUE ACCOUNT, Year ended June 30, 1900. CR.

Previous Year.	Expenditure.		Year ended June 30, 1900.	Previous Year.	Earnings.	Year ended June 30, 1900.
$ cts.			$ cts.	$ cts.		$ cts.
1,100,190 62	Locomotive power, Abst. No. 1.		1,385,069 90	1,167,453 16	Passenger traffic.	1,404,469 87
731,266 51	Car expenses	" 2.	1,010,256 87	2,348,096 58	Freight traffic....	2,912,790 52
849,322 51	Maintenance way & works	" 3.	962,978 41	222,781 70	Mails and sundries	234,811 32
453,971 00	Station expenses	" 4.	537,548 85			
258,039 66	General charges	" 5.	309,852 94			
72,896 11	Car mileage	" 6.	61,023 25			
3,465,686 21			4,266,710 22			
210,000 00	Rental of leased lines		164,694 47			
3,675,686 21			4,431,404 69	3,738,331 44		4,552,071 71
62,645 23	Balance		120,667 02			
3,738,331 44			4,552,071 71	3,738,331 44		4,552,071 71

E. & O. E.

MONCTON, N.B., June 30, 1900.

T. WILLIAMS,
Chief Accountant and Treasurer.

No. 3.—INTERCOLONIAL RAILWAY.

DR. LOCOMOTIVE POWER. (Abstract No. 1.) CR.

Previous Year.		Year ended June 30, 1900.
$ cts.		$ cts.
13,168 13	Mech'l. supt's salary, clerks, office and travelling expenses	16,755 60
317,748 69	Wages of drivers, firemen and cleaners	359,996 15
467,480 30	Fuel	601,867 63
20,846 39	Oil, tallow and waste and small stores	24,891 77
221,150 55	Repairs to engines, tenders and engine tools	316,999 78
32,325 07	Water, including pump and tank repairs	41,805 73
18,471 49	Miscellaneous	22,753 24
1,100,190 62		1,385,069 90

E. & O. E.

MONCTON, N.B., June 30, 1900.

T. WILLIAMS,
Chief Accountant and Treasurer.

No. 4.—INTERCOLONIAL RAILWAY.

Car Expenses.—(Abstract No. 2.)

Previous Year.		Year ended June 30, 1900.
$ cts.		$ cts.
74,687 97	Repairs to passenger cars	106,608 01
12,964 51	Repairs to postal, express and baggage cars	27,563 80
172,634 33	Repairs to freight cars and vans	338,202 78
5,090 40	Repairs to snow ploughs and flangers	5,851 81
317,994 42	Wages of conductors, train baggage masters and brakemen	360,585 01
13,395 32	Oil and waste for packing	5,473 20
91,442 71	Small stores and fuel	115,180 27
43,056 65	Miscellaneous	50,791 99
731,266 31		1,010,256 87

E. & O. E.

T. WILLIAMS,
Chief Accountant and Treasurer.

Moncton, N. B., June 30, 1900.

No. 5.—INTERCOLONIAL RAILWAY.

Maintenance of Way and Works.—(Abstract No. 3.)

Previous Year.		Year ended June 30, 1900.
$ cts.		$ cts.
10,041 95	Chief and asst. engineer's salaries, clerks, office and travelling expenses	9,558 42
125,872 93	Wages in repairing roadway, fences, semaphores, including new sidings laid in	505,534 75
38,624 71	Rails and fastenings, including new sidings laid in	35,565 81
99,163 85	Ties	69,298 95
111,967 43	Timber, lumber, etc., for repairs to bridges, cattle guards, snow sheds, fences, etc.	134,953 57
6,562 33	Repairs to wharfs	8,544 96
69,404 53	Repairs to buildings and platforms, including extensions and additions to same	86,546 97
14,516 00	Repairs to tools	19,776 01
70,104 71	Clearing snow and ice	88,873 51
3,964 56	Miscellaneous	4,325 46
849,322 51		962,978 41

E. & O. E.

T. WILLIAMS,
Chief Accountant and Treasurer.

Moncton, N. B., June 30, 1900.

No. 6.—INTERCOLONIAL RAILWAY.

STATION EXPENSES.—(Abstract No. 4).

Previous Year.		Year ended June 30, 1900.
$ cts.		$ cts.
365,429 78	Salaries and wages of station masters, agents, clerks, telegraph operators, station baggage-masters, yard-masters, switchmen and labourers	432,320 67
88,541 22	Fuel, oil and light, stationery, ticket and other incidental expenses	105,228 18
453,971 00		537,548 85

E. & O. E.

MONCTON, N.B., June 30, 1900.

T. WILLIAMS,
Chief Accountant and Treasurer.

No. 7.—INTERCOLONIAL RAILWAY.

GENERAL CHARGES.—(Abstract No. 5).

Previous Year.		Year ended June 30, 1900.
$ cts.		$ cts.
169,200 96	General manager, district superintendents, train despatchers, general freight agent, general passenger agent's salaries, clerks, office and travelling expenses	122,136 64
33,820 42	Chief accountant and treasurer, traffic auditor, paymaster, cashier's salaries, clerks, office and travelling expenses	36,508 71
14,871 25	Damages to men, animals and goods	16,770 31
28,712 42	Ferry service	40,296 64
5,184 30	Telegraph expenses, not including pay to operators	6,434 45
27,483 77	Miscellaneous, printing, advertising, &c.	35,609 35
38,766 54	Agency expenses	52,076 84
258,039 66		309,832 94

E. & O. E.

MONCTON, N.B., June 30, 1900.

T. WILLIAMS,
Chief Accountant and Treasurer.

No. 8.—INTERCOLONIAL RAILWAY.

SPECIAL VOTES.—(Abstract No. 6.)

Previous Years.	RENTAL OF LEASED LINES.	Year ended June 30, 1900.
$ cts.		$ cts.
140,000 00	Rent of Grand Trunk Railway—Chaudière Curve to Chaudière and Ste. Rosalie to Montreal, including the Victoria Bridge and terminals at Montreal	140,000 00
70,000 00	Rent of Drummond County Railway—Chaudière to Ste. Rosalie and the Nicolet Branch	24,694 47
	Operated as part of the Intercolonial Railway.	
210,000 00		164,694 47

E. & O. E.

MONCTON, N.B., June 30, 1900.

T. WILLIAMS,
Chief Accountant and Treasurer.

No. 9.—INTERCOLONIAL RAILWAY

DR. GENERAL STORES ACCOUNT—Year ended June 30, 1900. CR.

1899.		$ cts.	$ cts.	1900.		$ cts.	$ cts.
June 30...	To balance		553,177 72	June 30.	By Issues during year	1,665,607 19	
1900.					Sales, material, fuel, &c	29,058 68	
June 30...	To Purchases during year	1,752,941 77			Sales, old material	188,330 27	
	Charges from other departments	475,961 84					1,882,996 14
	Labour, etc	59,193 77			By Balance :—		
	Staff pay rolls	12,805 64					
			2,300,873 02		Ordinary stores, including fuel	661,102 08	
					Iron and steel rails and fastenings	309,952 52	
							971,054 60
			2,854,050 74				2,854,050 74

E. & O. E.

MONCTON, N.B., June 30, 1900.

T. WILLIAMS,
Chief Accountant and Treasurer.

No. 10.—INTERCOLONIAL RAILWAY.

General Balance, Year ended June 30, 1900.

Dr.	$ cts.	$ cts.	Cr.	$ cts.
To Cash		933 64	By Dominion of Canada	1,312,916 76
Stations		138,866 90	Suspense	3,535 65
General Stores			Central Railway of New Brunswick	67 49
Ordinary stores, including fuel	$661,102 08		Copper Crown Mining Company	114 05
Iron and steel rails and fastenings	309,952 52		Chatham Railway	0 07
		971,054 60	Newfoundland Railway	2 49
Dept. Accounts			Pennsylvania Company	3 34
Militia and Defence	$ 19,713 77		Canada Coals and Railway Company	15 60
Post Office	107 48		Salisbury and Harvey Railway	15 51
Marine and Fisheries	428 83		I. C. R. Employee's R. and I. A	156 15
Agriculture	117 25		Canadian Pacific Railway traffic	12,547 18
Interior	1,171 22			
		21,538 55		
Canadian Pacific Railway rolling stock		22,446 90		
Canada Eastern Railway traffic	$ 5,891 09			
" " general	5,998 54			
		11,889 63		
Canadian Pacific Railway general	$ 10,993 04			
" " (N.B.D.) general	4,000 21			
		14,993 25		
Grand Trunk Railway traffic	$ 7,720 89			
" " general	2,271 80			
		9,992 69		
Rents		1,295 96		
Unclaimed freight		20 96		
Quebec Central Railway		3,071 55		
Dominion Atlantic Railway general		617 34		
Caraquet Railway		865 94		
Bay Chaleur Railway		5,760 35		
N.B. and P.E.I Railway		10 88		
Boston and Maine Railway		352 68		
Buctouche and Moncton Railway		74 83		
Tobique Valley Railway		2,739 25		
Maine Central Railway		2 33		
Canada Atlantic Railway		146 59		
Detroit, Grand Haven and M. Railway		2 03		
Swift Refrigerator Line		5 16		
Kent Northern Railway		5,766 10		
Nova Scotia Central Railway		1 69		
New York Central and Hudson River Railway		17 82		
Midland Railway of Nova Scotia		90 40		
Imperial Tank Line		0 81		
National Despatch Line		1 10		

Restigouche and Western Railway		6 48
Northern Pacific Railway		0 54
Temiscouata Railway		888 94
Prince Edward Island Railway		936 95
St. Martins and Upham Railway		1 93
Great Eastern Fast Freight Line		2 55
Pennsylvania Railway		56 56
Inverness and Richmond Railway		3,165 99
Grand Trunk Railway—suspense		98 75
Lake Shore and Michigan Southern Railway		2 99
Allegheny Valley Railway		2 21
Central Vermont Railway		0 45
Wisconsin Central Lines		1 13
Illinois Central Railway		2 68
Texas and New Orleans Railway		1 04
Wabash Railway		9 93
Drummond County Railway		2,843 38
Southern Railway		1 15
Western New York and P. Railway		9 99
P. E. I. Steam Navigation Company		1 39
Delaware and Hudson Co.		5 00
Toronto, Hamilton and Buffalo Railway		8 11
Pittsburg, Cincinnati, C. and St. Louis Railway		3 56
Minn., St. Paul and Sault Ste. M. Railway		7 55
Fitchburg Railway		8 86
Detroit and Lima Northern Railway		4 33
New York, Chicago and St. Louis Railway		0 20
West Shore Railway		0 50
Lake Erie and Detroit River Railway		0 25
Elgin and Havelock Railway		71 15
Chicago, Milwaukee and St. Paul Railway		1 84
St. Louis and Cairo Short Line Railway		0 53
Cleveland, Lorraine and Western Railway		0 26
Boston and Albany Railway		0 65
Western Counties Railway—general	8 15,803 35	
" traffic	64 57	
		15,957 92
Springhill and Parrsboro Railway		3,161 99
Halifax and Cape Breton Railway		1,151 42
Elgin Branch Railway		726 10
Acadia Coal Co.		2,864 86
Canadian Express Co.		6,287 19
Intercolonial Coal Co.		14 70
Cumberland Railway and Coal Co.		68 59
Dominion Coal Co.		352 82
Steamer *Admiral*		1,522 26
Car *Ottawa*		3 00
St. François Bridge Co.		49 57
Western Union Telegraph Co.		131 28
Town of Fraserville		48 13

No. 10—INTERCOLONIAL RAILWAY.

DR. GENERAL BALANCE, Year ended June 30, 1900—*Concluded.* CR.

	$ cts.	$ cts.
To Dominion Iron and Steel Co	4,801 69	
Baldwin Locomotive Works	181 10	
Canadian Locomotive and Engine Co	691 02	
Municipality of Kings, N.B	60 00	
People's Heat and Light Co	3 60	
SS. *Manchester City*	19 48	
SS. *Verda*	50 78	
SS. *Lake Ontario*	17 04	
SS. *Ardora*	3 00	
SS. *Assyria*	10 04	
City of Moncton	36 85	
Great North-western Telegraph Co	78 88	
Record Foundry and Machine Co	223 60	
Wagner Palace Car Co	5,770 58	
Allan SS. Line	1,892 13	
Union Bearing Co	928 18	
Halifax Cotton Co. Siding	5,801 97	
Poulson Iron Works	273 25	
Town of Dartmouth	32,000 00	
St. John Street Railway Co	31 00	
Ontario Car and Foundry Co	1,276 00	
Remittances destroyed	788 81	
Schooner *Mary Jane*	71 30	
Coldbrook Rolling Mills Co	1,967 41	
Stations:—		
Nauwigewauk	$ 3 00	
Glengarry	5 00	
Bloomfield	25 21	
Coal Branch	65 84	
Weldford	55 00	
Ste. Luce	80 00	
Bic	22 00	
Nappan	40 00	
St. Arsene	107 12	
Dalhousie	19 69	
Valley	6 65	
Iona	72 71	
Kent Junction	28 38	
Isle Verte	25 00	
Gloucester Junction	78 87	
Campbellton (freight)	25 00	
Derby Junction	231 04	
Ste. Louise	0 66	

Nicolet	3 00	
Rivière du Loup (freight)	136 82	
St. Alexandre	25 90	
Rivière du Loup (ticket)	16 00	
New Castle	102 75	
Red Pine	20 00	
Memramcook	7 54	
St. John (freight)	3,996 46	
Amherst (freight)	3 31	
Sackville	10 17	
Boisdale	7 80	
Wentworth	33 24	
Rockingham	27 47	
New Glasgow	633 90	
Halifax (freight)	887 49	
Nash's Creek	5 00	
Shediac	34 70	
Eureka Mills	13 56	
Athol	4 44	
		5,960 72
Individual accounts		10,057 90
Total		1,329,343 09

E. & O. E.

MONCTON, N.B., June 30, 1900.

Total	1,329,343 09

T. WILLIAMS,

Chief Accountant and Treasurer.

No. 11.—INTERCOLONIAL RAILWAY.

INDIVIDUAL ACCOUNTS, Year ended June 30, 1900.

DR.	$ cts.	$ cts.
The Gray & Lawrence Bros. Co.		6 75
F. E. Cane		2,760 70
T. A. S. DeWolf & Son		3 50
F. D. Corbett & Co.		11 86
H. A. McKeown		150 00
Geo. McDougall & Co.		1,466 00
L. R. Harrison		1,343 41
Pickford & Black		132 28
J. N. Pouliot		352 20
R. A. & J. Stewart		41 39
J. Richards & Son		116 24
Wallace Ross		33 70
T. Cook & Son		19 80
P. E. Gallant		173 36
A. Forbes		82 18
H. J. Cameron		1,679 07
J. J. McLeod		644 16
H. M. Hamilton		316 66
R. Hamilton		1,131 52
H. Atkinson		12 80
T. Atkinson		49 87
		10,527 45
CR.		
J. B. Snowball	6 14	
Dubs & Co	98 63	
Robb Engineering Co.	20 00	
M. J. O'Brien	344 78	
		469 55
		10,057 90

No. 12.—INTERCOLONIAL RAILWAY.

COMPARATIVE STATEMENT of Averages, Year ended June 30, 1900.

		1899.	1900.
Mileage of railway		1,314·67	1,314·67
Engine mileage		5,974,170	6,828,005
Train mileage		4,881,695	5,473,710
Car mileage		53,422,606	63,810,012
Receipts per engine mile	Cents.	62·57	66·67
Receipts per mile of railway	Dollars	2,843·55	3,402·52
Percentage of passenger earnings to gross earnings		31·23	30·85
" freight " "		62·81	63·99
" other " "		5·96	5·16
Expenses per engine mile :—			
Drivers, firemen and cleaners' wages	Cents.	5·32	5·27
Fuel	"	7·83	8·81
Oil, tallow, waste and small stores	"	·50	·37
Repairs to engines	"	3·70	4·65
Water and tank repairs	"	·54	·61
Miscellaneous	"	·31	·33
Total		18·20	20·04
Mechanical superintendent's salary, office and travelling expenses		·22	·25
Total		18·42	20·29
Locomotive power per engine mile	Cents.	18·42	20·29
Car expenses "	"	12·24	14·80
Maintenance way and works per engine mile	"	14·22	14·10
Station expenses "	"	7·60	7·87
General charges "	"	4·32	4·53
Car mileage "	"	1·22	·90
Total		58·02	62·49
Rental of leased lines		3·51	2·41
Total per engine mile		61·53	64·90
Locomotive power per train mile	Cents.	22·53	25·30
Car expenses "	"	14·98	18·46
Maintenance way and works per train mile	"	17·40	17·59
Station expenses "	"	9·30	9·82
General charges "	"	5·29	5·66
Car mileage "	"	1·49	1·11
Total		70·99	77·94
Rental of leased lines		4·30	3·01
Total per train mile		75·29	80·95
Working expenses per mile of railway :—			
Ordinary	Dollars.	2,636·16	3,245·46
Rental of leased lines	"	159·74	125·27
		2,795·90	3,370·73

E. & O. E.

MONCTON, N.B., June 30, 1900.

T. WILLIAMS,
Chief Accountant and Treasurer.

INTERCOLONIAL RAILWAY OF CANADA,
OFFICE OF THE GENERAL SUPERINTENDENT,
MONCTON, N.B., September 11, 1900.

SIR,—Replying to your letter of July 14, I send herewith the annual report on the maintenance of way and works for the year ended June 30, 1900.

I have the honour to be, sir,
Your obedient servant,

J. E. PRICE,
General Superintendent.

D. POTTINGER, Esq.,
General Manager, Government Railways,
Moncton, N.B.

INTERCOLONIAL RAILWAY OF CANADA,
OFFICE OF THE ENGINEER OF MAINTENANCE,
MONCTON, N.B., August 14, 1900.

SIR,—I have the honour to submit the report of maintenance of way and works department for the year ending June 30, 1900.

TRACK.

During the year 24 miles of track laid with old 4½-inch steel rails weighing 67 pounds to the yard, were taken up and replaced with new five (5) inch rails weighing 80 pounds to the yard; and one mile of old 4¼-inch rails weighing 58 pounds to the yard, was taken up and replaced with new four and a-half inch (4½) rails, weighing 67 pounds to the yard.

Twenty two miles of rails which had become worn at the ends, were taken up, cut and relaid.

TIES.

During the year, 332,163 ordinary ties, and 316 sets of switch ties were renewed.

BALLASTING.

During the year, 226,383 cubic yards of ballast were distributed over 217¾ miles of track on various parts of the line.

SEMAPHORES AND SWITCHES.

New distant semaphore signals were erected at the following stations: Halifax (2), Brookfield, Truro, Ferrona Junction, Antigonish, Mulgrave, Belmont, Westchester, Springhill Junction, Calhoun's, Apohaqui (2), Sackville, Amherst, Buctouche Crossing, Hampton, St. John (3), Harcourt, Barnaby River, Rogersville (2), Kent Jnnetion, (2), Metapedia, St. Anaclet, Rimouski, Trois Pistoles, Old Lake Road, Drummondville (2), Ste. Rosalie Junction.

The number of new switches put up on the various divisions during the year was as follows :—

Between	Halifax and Stellarton	26
"	Stellarton and Mulgrave	20
"	Pictou and Oxford Junction	5
"	Truro and Painsec Junction	17
"	Point du Chêne and St. John	23
"	Moncton and Newcastle	15
"	Newcastle and Campbellton	15
"	Campbellton and Ste. Flavie	14
"	Ste. Flavie and Riv. du Loup	9
"	Riv. du Loup and Lévis	13
"	Chaudière and Ste. Rosalie	13
	Total switches renewed	170

New station telegraph signals were provided at the following stations :—Richmond, Enfield, Stewiacke, Truro, Glengarry, Avondale, James River, South River, Pomquet, Heatherton, Bayfield Road, Sydney, Leitches Creek, North Sydney Junction, Boisdale, Grand Narrows, Iona, Orangedale, River Denys, West Bay Road, McIntyre's Lake, Point Tupper, Oxford, Pugwash Junction, Pugwash, Wallace, Tatamagouche, Denmark, River John, Meadowville, Scotsburn, Anagance, St. Anaclet, Ste. Luce, Rimouski, Bic, St. Fabien, St. Eloi, Isle Verte, Riv. du Loup, Carmel.

Necessary repairs were made to all other semaphores, switches and station telegraph signals throughout the line where required.

SIDINGS.

During the year, three (3) miles of additional siding accommodation was provided at different points throughout the line.

FENCING.

Eighty-eight and one-half (88½) miles of new woven wire, Anchor wire and Page wire fencing, were erected at different points of the line during the year. Heavy repairs were also made to existing fences.

SNOW SHEDS AND SNOW FENCES.

During the past year, 47,385 feet of new snow fencing, and 1,000 feet of new snow shedding has been erected. Heavy repairs were also made to existing snow sheds and fences where found necessary on different sections of the line.

WHARFS AND TRESTLES.

At Pier No 3, deep water terminus, Halifax, a number of mooring posts were renewed.

At Pier No 4, the wharf and shed were overhauled and repaired, and some defective piles renewed. The trestle on wharf was also overhauled, jacked up and surfaced.

At Pier No 6, new sills were provided where required, and necessary repairs made to roof of shed on pier.

At Piers 1, 2, 3, 4, and 5, life saving ladders have been provided and hung in place : life buoys have also been provided at each of the piers.

At Richmond, the pier was overhauled and repaired, piles were driven where necessary, and a portion of the covering renewed.

The coal shed trestle was also overhauled and received necessary repairs. Two bents were renewed, the trestle blocked up and the hand railing repaired.

At Mulgrave, the north corner of wharf which had been damaged, was renewed with hardwood timber and birch sheathing. It was also found necessary to renew about 20 feet of the sheathing on the outer side of the wharf. The crib work on the shore side of Mulgrave dock damaged by the ss *Mulgrave*, was overhauled and repaired with hardwood sheathing.

At Pirate Harbour, the coal shed and trestle were overhauled and repaired, and two doors were placed in the roof for unloading coal into shed.

At Pictou, extensive repairs were made to the crib work of wharf.

At Point Tupper, the wharf was overhauled, and repaired where found necessary.

At Amherst, the coal trestle was overhauled, and heavy repairs made to same.

At Dorchester, extensive repairs were made to the wharf, and necessary repairs made to the coal trestle.

At Point du Chêne, the top of steamboat landing wharf was recovered with pine plank, and other extensive repairs made to wharf.

At St. John, a portion of the top of the ballast wharf was recovered with 4 inch hemlock deals; the hoisting run was also replanked. Heavy repairs were also made to the other portions of the wharf.

New timbers and cross ties were placed under tracks of coal trestle, and the roof of coal shed was renewed with three inch deals, and a new pitch and gravel roof provided.

At Dalhousie, general repairs were made to the wharf where found necessary.

At Campbellton, the coal trestle was overhauled and repaired, and new ties placed under the track where required.

At St. Charles Junction, necessary repairs were made to the coal trestle.

At Lévis, some filling was put in the cribs of wharfs, and other repairs made where found necessary.

At Pointe Lévis, the planking on the top of Princes Pier was repaired.

BUILDINGS AND PLATFORMS.

At North Street station, new galvanized iron bars were placed in sky-lights on east side of roof, and necessary repairs made to sashes and glass on roof. A new floor was laid in the baggage room. Necessary repairs were made to the train shed doors, and the waiting room papered and painted.

At Richmond, one side of the car shed roof was recovered with shingles, and repairs made to floors and sills of building. New stringers were placed on some of the engine pits in the round house and machine shop, and the floor repaired. The roof of railway tenement house was recovered with shingles, and the interior of building overhauled and repaired. Two section men's hand-car houses were built during the past year.

At the Deep Water Terminus, a large loading platform 200 feet long by 25 feet wide was provided, having inclined approaches at either end.

The car cleaning platform was renewed.

At Rockingham, the platform was overhauled and extended, and necessary repairs made to the station building and coal shed.

At Prince's Lodge, the platform was repaired, and extended 50 feet.

At Fall River, a flag station was erected, and the platform extended 60 feet.

At Bedford, the platform was overhauled and repaired, and some slight repairs made to the station agent's dwelling apartments.

At Windsor Junction, the roof of freight shed was reshingled, and necessary repairs were made to the station building. An extension was made to the north end of passenger platform of some 70 feet. A new hardwood floor was laid in the kitchen, and the walls sheathed.

At Milford, new hardwood floors were laid in the station master's office and waiting room, and the walls and ceilings were sheathed. The freight house was overhauled and repaired, and the floor raised 18 inches. A new cattle pen was erected.

At Enfield, the roof of station was overhauled and repaired.

At Elmsdale, the platforms were overhauled and repaired where necessary.

At Stewiacke, new sills were placed under the station, and repairs made to platform.

At Hilden, the freight platform was renewed, and made the standard height. Necessary repairs were made to the station building, coal shed and section men's hand car house.

At Truro, the passenger platform was renewed, the freight platform overhauled and repaired, and an enlargement was made to the freight house office.

At Alton, the passenger platform was renewed.

At Valley, the interior and exterior walls of station were overhauled, repaired and painted. Necessary repairs were made to the cattle pen.

At Riversdale, the station building was overhauled, repaired and painted, and some new sills provided. Outside sashes were provided for the station master's dwelling apartments.

At Glengarry, the roof of station was reshingled, and repairs made to the doors, windows, &c., &c.

At Stellarton, the walls of station master's office and waiting room were sheathed and painted. The station building was overhauled and repaired, and the trimmings painted. The freight house was repaired and painted.

At New Glasgow, necessary repairs were made to the woodwork of station building and platform. A small office was provided for freight handlers.

At Woodburn, the platform was renewed, and the passenger shelter repaired.

At West Merigomish, the station building was overhauled, repaired and painted, and the platform renewed. The interior walls of the waiting room were painted.

At Merigomish, the station platform was renewed.

At Piedmont, necessary repairs were made to the station building, coal shed, &c., and the interior walls of waiting room painted.

At Avondale, the exterior walls of station building were overhauled, repaired and painted. The waiting room, station master's office, coal shed and w. c. were also painted

At Barney's River, the north side of station was reshingled, sponting was provided for the station, and the building overhauled, repaired and painted. The interior of station building was also painted.

At Marshy Hope, the platform was overhauled and repaired.

At James River, the south side of station building was reshingled, and the station building and freight shed overhauled, repaired and painted. The interior walls of the waiting room and office were also painted.

At Antigonish, the station and other buildings were overhauled, repaired and painted, together with the waiting room and station master's office. Necessary repairs were made to the cattle pen, and a high platform for loading sheep into cars was provided.

At South River, the station was overhauled and repaired, and the exterior walls, the station master's office and waiting room painted. The platform was renewed.

At Pomquet, necessary repairs were made to the roof and exterior walls of station building, and the building painted outside and inside. The coal shed and other buildings were also painted.

At Heatherton, the roof and walls of station were overhauled, repaired and painted. The station platform was repaired. Some filling was placed around the approaches to the station grounds, to make better accommodation for the public. The cattle pen was also repaired.

At Bayfield Road, the station building was overhauled and repaired, and the exterior and interior walls painted. The platform was renewed.

At Afton, repairs were made to the station, and the platform was renewed.

At Tracadie, one-half of the station platform was renewed. The station master's office, and waiting room were repaired and painted.

At Monastery, the station platform was renewed.

At Harbour au Bouche, necessary repairs were made to the dormer windows in the roof of station. New floors were laid in the dwelling apartments upstairs, and the walls of two of the rooms were sheathed. The station building, coal shed, &c., were painted. The platform was renewed.

At Mulgrave, necessary repairs were made to the passenger platform and to the exterior walls of freight shed, and the shed and ice house painted.

Necessary repairs were made to all station buildings and platforms between Point Tupper and Sydney.

At Pictou, a new top was placed on the station platform, and the engine house and freight shed overhauled and repaired. Necessary repairs were also made to the turntable.

At Scotch Hill, the passenger platform was overhauled and repaired.

At Wallace and Tatamagouche, extentions were made to the freight houses. At the latter station, new hardwood floors were laid in the station master's dwelling apartments.

At Sylvester, an extension was made to the loading platform, and the station building repaired.

At Scotsburn, River John and Meadowville, the passenger platforms were renewed.

At Pugwash, the station building, and freight shed on wharf were overhauled, and necessary repairs made to same.

At Westchester, a new water closet was provided for the station

At Thompson, the kitchen was raised, and new sills placed underneath.

At River Philip, the top of loading platforms, 100 feet long by 18 feet wide, was renewed.

At Oxford Junction, the wood-work of roof of round house was overhauled and repaired, and a new Sparham roof was put on. The trimmings of station building and baggage room, and the station master's office and waiting room were painted. The old floor of the round house was taken up, and the space filled in with cinders.

At Spring Hill Junction, an enlargement was made to the ladies waiting rooms, and an office provided for the baggage master. Modern flush water closets were placed in the ladies and gentlemen's waiting rooms, and also in the dwelling apartments of the station master. The roof of the repair shop was recovered with shingles, repairs were made to the coal delivery shed and a new Sparham roof put on. The wood-work of the station master's office, ladies waiting room and water closets was painted.

At Salt Springs, the exterior walls of station were overhauled and repaired.

At Nappan, the station building was overhauled and repaired, the floor of the freight shed raised and a portion of the roof reshingled. The station building, freight shed and coal house were painted.

At Maccan, new sills were placed under the station building, and the exterior walls and roof of station overhauled and repaired. The station master's office and waiting room were painted.

At Sackville, the station and freight house were overhauled, repaired and painted.

At Athol, the roof of station building was reshingled, and the exterior walls of station repaired and painted.

At Evans, the flag station was moved, and the exterior walls papered and covered with shingles. A heavy canvas roof was placed on the building.

At College Bridge, the station building was overhauled and repaired, and one side of the roof recovered with shingles.

At Upper Dorchester, new sills were placed under the station building, the floor of the freight house was renewed and the exterior walls of both buildings overhauled, repaired and painted. The ceiling and walls of waiting room were sheathed.

At Moncton, a tinsmith's shop was erected in one of the sections of the old round house. The government building occupied by the mechanical superintendent was overhauled and repaired, and the roof recovered with shingles. A number of the government cottages were provided with coal houses. General repairs were made to all other buildings where required.

The building used by the stores department as an oil store had the interior reconstructed, the old tanks taken out and replaced by new ones; a counter was also provided and a number of pumps put in.

At Humphrey's Mills, the passenger platform was repaired, and one half of the loading platform renewed.

At Boundary Creek, a loading platform, 20 feet by 12 feet, was provided, and the passenger platform repaired.

At Salisbury, both the loading and passenger platforms were entirely renewed; the latter 368 by 16 feet, and the loading platform 200 by 12 feet. At Petitcodiac, heavy repairs were made to the station building, and a portion of the platform 200 feet by 12 feet was renewed.

At Anagance, extensive repairs were made to the station building and the platform was renewed.

At Sussex, the station building which was damaged by fire received extensive repairs, and one-half of the station platform was renewed.

At Chalet and Dunsinane, new passenger platforms were erected, 75 feet long by 8 feet wide.

At Dorchester Road, a new passenger shelter was provided and the platform repaired.

At Pollet River, Bloomfield and Rothesay, the platforms were overhauled and repaired.

At Torryburn, the platform was renewed, 146 feet by 16 feet.

At St. John, general repairs were made to all the government tenement buildings. The loading platform on the ballast wharf, 100 feet by 12 feet was renewed, also the exhibition platform, 30 feet by 14 feet.

A new platform was laid in the train shed, 470 feet long and 9 feet wide. The passenger platform in station, 125 feet by 12 feet was also renewed. Necessary repairs were made to the coal shed and trestle, round house, and freight shed on ballast wharf. A new hardwood floor was laid down in the restaurant, and repairs made to the floor of baggage room. Heavy repairs were made to the loading platform in St. John yard. The wooden flooring under the old closets and urinals in the station building having become rotten and offensive by reason of leakage, it became necessary to remove it. The old flooring was torn up and replaced with a flooring of old rails overlaid with concrete, on top of which was placed a tile flooring. This has made a first-class substantial job. The old plumbing and woodwork of closets was removed, and new self flushing closets and urinals provided, also new wooden stalls, &c., for the closets. Two partitions were taken down, and some other small repairs made. The whole work presents a first-class appearance.

At Berrys Mills, the station building and platform were overhauled and repaired.

At Canaan, a new platform was provided.

At Coal Branch, the exterior walls of station building were overhauled and repaired, and a new cattle pen was provided.

At Adamsville, necessary repairs were made to the station building and platform.

At Harcourt, the station building and freight shed were overhauled and repaired where found necessary. The platform was also repaired.

At Kent Junction and Acadieville, the platforms were renewed.

At Tunnel Siding, a flag station and passenger platform were provided.

At Rogersville, the roof of freight shed was reshingled, and the platform repaired.

At Barnaby River, necessary repairs were made to the exterior and interior walls of station building. The freight shed was overhauled and repaired, and the platform renewed.

At Chatham Junction, the station building was repaired. The platform was also overhauled, repaired and extended.

At Indiantown, necessary repairs were made to the station, and a new hardwood floor was laid in the waiting room. The engine shed was overhauled and repaired and the roof reshingled.

At Millerton, the station building and kitchen were repaired, and the roof of the latter building reshingled.

At Newcastle, the roofs of station building, oil-house and blacksmith shop were repaired and recovered with shingles. A new hardwood floor was put down in the station. Necessary repairs were made to the round house, blacksmith shop and turntable in the round house. The station platform was renewed.

At Gloucester Junction, storm windows were provided for the dwelling apartments of station.

At Beresford and Nigadoo, passenger shelters were provided.

At Bathurst, the woodwork of stationmaster's office, waiting-room and dwelling apartments was overhauled, repaired and painted. General repairs were made to the coal shed and pump house. An office was provided in the freight house for the use of the agent The loading platform was taken down and removed to a new site to make room for extending the freight sidings.

At Petit Rocher, the station building was overhauled and repaired where found necessary.

At Belledune, a well was dug to provide a water supply for the station master.

At Jacquet River, the exterior walls of station building were overhauled, repaired and painted. A new cattle pen was provided.

At Nash's Creek, the interior woodwork of station building was painted and necessary repairs made to the coal shed.

At New Mills, the station master's office was repaired and painted

At Charlo, the tank building was overhauled and repaired, and the roof re-shingled. Necessary repairs were made to the dwelling apartments of the station master.

At Eel River, the passenger platform was lowered and extensive repairs made to same.

At Dalhousie, the interior walls of engine house were sheathed.

At Dalhousie Junction, the interior woodwork of station was overhauled, repaired and painted, and three outside sashes provided.

At Campbellton, the water supply pipes and drainage of the house occupied by Superintendent Rennels was overhauled and put in a good state of repair. The interior walls of the following offices were sheathed and painted: Superintendent Rennels's, despatchers' and conductors' lobby. A new hardwood floor was laid down in the trackmaster's office. The locomotive foreman's and station master's dwellings were overhauled and repaired. The baggage master's office was enlarged, and a chimney provided in same. The freight shed and ice house were overhauled and repaired. The turntable and engine pits in the round house were repaired where found necessary, and repairs were made to the roof of building.

At Metapedia, the roof of station was reshingled, and some repairs made to the interior of building. The station platform was overhauled and repaired.

At Millstream, the station building and section foreman's house were overhauled, repaired and painted

At Assametquaghan, necessary repairs were made to the exterior walls of station and the building painted. The two section foremen's dwellings were also painted.

At Causapscal, the walls of station master's office and ladies' waiting room were sheathed, and the old freight shed converted into a gentlemen's waiting room. The exterior walls of station building were overhauled, repaired and painted. A two stall w. c. was provided, and the roof of coal shed reshingled. The platform was overhauled and repaired, and an extension of 75 by 8 feet wide was made to same.

At Salmon Lake, a loading platform was erected, and the station building over-hauled and repaired.

At Amqui, the passenger platform was overhauled and extensive repairs made to same.

At Sayabec, the station building was overhauled and repaired, and the interior woodwork of station and dwelling apartments painted.

At St. Moise, necessary repairs were made to the roof, and the exterior walls of station building overhauled, repaired and painted.

At Little Metis, general repairs were made to the station building, a new cattle pen provided, and the platform overhauled and repaired where necessary.

At St. Octave, the station building was overhauled and repaired, and a portion of the platform renewed.

At Ste. Flavie, general repairs were made to the station, and to some of the engine pits in the round house. Necessary repairs were also made to the coal shed.

At Ste. Luce, the station building and platform were overhauled and repaired.

At St. Anaclet, necessary repairs were made to the station building.

At Rimouski, the station building was overhauled and repaired, also the office on Rimouski wharf and the ice house at the station.

At St. Fabien, general repairs were made to the station building and freight shed, and the platform renewed.

At St Simon, some sheathing was done to the interior walls of station

At St. Arsène, the roof of station building was partially recovered with shingles and the interior and exterior walls of station overhauled and repaired.

At Riv. du Loup, general repairs were made to the station building, blacksmith shop and coal shed. The top timbers of some of the engine pits in the round house were renewed, and a new coal shed platform was provided, 300 feet long by 30 feet wide.

At Old Lake Road, the passenger platform was repaired.

At St. Alexandre, new hardwood floors were laid in the station master's office, waiting room and kitchen, and a storm porch provided.

At St. André, the station and freight platforms were overhauled and repaired.

At St. Philippe de Néri, new hardwood floors were laid in the station master's office, waiting room and kitchen.

At River Ouelle, Ste. Anne and St. Jean Port Joli, the station platforms were overhauled and repaired.

At Cape St. Ignace, a storm porch was provided for the station and the station master's office sheathed.

At Montmagny, an extension was made to the freight shed, and a hand car house provided for the section men.

At St. François, the station master's office was sheathed and painted.

At St. Valier, necessary repairs were made to a part of the old station platform.

At St. Michel, the waiting room and station master's offices were sheathed and painted.

At St. Charles Junction, a storm door was provided, and new hardwood floors were laid in the station master's office and waiting room.

At Chaudière Curve, extensive repairs were made to the roof and interior and exterior walls of the government tenement house, and the foundation walls overhauled and pointed.

At Chaudière Junction, a hand car house was provided for the section men, and new doors placed on the scale house. The blacksmith shop was overhauled and repaired, and an extension of 50 by 12 feet was made to the building.

At Hadlow, an extension of 100 feet was made to the station platform, 12 wooden smoke stacks were placed in the round house, and a number of stringers of the engine pits were renewed.

At Point Lévis, the government tenement house occupied by Mr. King received extensive repairs. Necessary repairs were made to the exterior walls of the car repair tool house, and a new hardwood floor provided.

At Harlaka Juntion, a new cattle pen was provided.

At Lévis, three offices were made in the second flat of station building in the part formerly used as a restaurant. The roofs of the electric light building and coal shed were recovered with shingles, and an extension of 40 by 12 feet was made to the store room.

At St. Apollinaire, a new coal shed was erected.

At Moose Park, necessary repairs were made to the station building and platform which were damaged by a train which ran off the track at that place.

At Maddington Falls, an extension of 137 feet was made to the platform.

At St. Leonard Junction, a new cattle pen was provided.

At Nicolet the engine house was overhauled and repaired.

At Drummondville, a store room was provided, and a small building erected for the use of the fuel men. Necessary repairs were made to the engine house and coal shed, and the trestle raised two feet.

At Ste. Rosalie, a platform 60 feet long was erected.

BRIDGES AND CULVERTS.

The masonry of retaining wall from North Street to overhead bridge, Campbell Road, Halifax, was overhauled, repaired and pointed.

Two abutments of Rawdon River bridge were overhauled, repaired and pointed up.

At Grand Lake, necessary repairs were made to the masonry of box culvert.

A crib retaining wall was built at each end of Stewiacke bridge.

Dry masonry retaining wall were erected at abutments of Malcolm's, Enfield, and Wellington bridges.

An iron guard rail was placed on the standard top of Beaver River bridge.

The culvert west of Milford station was overhauled and repaired, and a new concrete bottom put in.

A passage was made for cattle under the railway embankment at Dewis siding, 20 feet long, 6 feet high, and 4 feet 6 inches wide. Necessary repairs were made to the ends of five culverts between Barney Brook and Milford.

The stringers, ties, and wall plates of five culverts between Elmsdale and Stewiacke were renewed.

Dry retaining walls were built to the abutments of four small bridges between Elmsdale and Milford.

A new wooden box culvert about 2 ft. by 2 ft. was laid through Elmsdale station yard to carry off the surface drainage.

The masonry of an old culvert near Enfield was removed and replaced with 24 inch cast iron pipe 24 feet long, with 12 feet of masonry at either end.

Necessary repairs were made to the masonry of three culverts in the vicinity of Shubenacadie Station.

The masonry of retaining walls of arch culvert near Stewiacke was overhauled, repaired and pointed, and repairs made to paving of same.

On account of increasing the length of the siding at Hilden, two abutments of bridge at this place had to be extended ; some 70 cubic yards of masonry were required in the work.

A 2 ft. by 2 ft. box culvert near Truro, which had broken down, was cleaned out and rebuilt.

Two new abutments were provided for Lydia Brook bridge.

Five 2½ by 2 feet cedar box culverts were renewed between Landsburg and Hopewell.

The bridge crossing the brook at West River yard, 18 feet wide and 23 feet long, and having wooden abutments 4 feet high was renewed.

At Pine Tree, 150 feet of the old pile bridge was renewed with creosoted piling, and a standard hard pine top placed on same. Cedar crib abutments were built at the west end of bridge. An under crossing for winter use was provided under the bridge.

Three cedar box culverts were put in between Merigomish and Avondale to replace defective stone culverts damaged by freshets.

At Antigonish, the trestle bridge 745 feet long, was renewed in hard pine.

At McDonald's Cove, the old pile bridge was replaced by a 12 foot beam culvert with cedar abutments, and the rest of the bridge filled in.

New hard pine ties were placed over the beam culvert near South River, and the walls faced up with cement.

Necessary repairs were made to the walls and covers of three culverts between South River and Pomquet.

At Pomquet trestle, one new bent was put in, and a number of new posts were put in to strengthen the old bents.

New cedar ballast timbers were provided at each end of Pomquet through bridge.

At Pettipas Cove and Gerrior's Cove, 5 by 6 ft. cedar box culverts were put in to replace the old pile bridges, and the balance of bridges filled in.

At Gerrior's Marsh, two old pile bridges were replaced with cedar box culverts 6 by 8 ft., and 5 by 6 ft., respectively, and the balance of bridges filled in.

At Monastery and Black River, the stone abutments of the bridges were overhauled and pointed.

Between Tracadie and Monastery, a big arch culvert had the wing walls of one end rebuilt. The abutments of a 20 foot span had the abutments overhauled and pointed, and a new hard pine top provided.

At Tracadie Road, stone abutments and retaining walls have been built at the big trestle, which is to be replaced by a steel plate girder bridge.

The woodwork, towers, and apron, of the transfer ferry truss bridge at Mulgrave were painted.

At Little River, hard pine ballast timbers were placed at each end of the deck bridge.

General repairs were made to all the bridges and culverts where found necessary between Point Tupper and Sydney.

The masonry of several culverts between Stellarton and Pictou was overhauled, repaired and pointed.

At French River, a casing of concrete was placed round the four piers.

New standard hard pine tops and guard rails were placed on the following bridges on the O. & N. G. Division : West River, Middle River, Harris and Gut bridges.

Necessary repairs were made to Waugh's River bridge.

At Pugwash, the masonry of abutments and one pier was overhauled and pointed.

Extensive repairs were made to a 3 by 4 foot stone culvert near Oxford. Three culverts in the vicinity of Pugwash Junction had the stone coverings repaired, and ends pointed up.

At Tatamagouche, Nos. 1, 2, and 3 culverts had the old masonry walls and ends torn down and rebuilt. New covers were also placed on these culverts.

Between Scotch Hill and Brown's Point six culverts were overhauled, repaired and pointed

Necessary repairs were made to the end walls and new paving provided in an 8 foot arch culvert on the Pugwash Branch.

At Truro, one of the abutments of the 'Y' bridge was taken down and rebuilt.

At Belmont, extensive repairs were made to the centre pier of bridge, which had become scoured out on one side.

At Onslow, cribwork was erected along the top of embankment, 155 feet long and 5 feet 6 inches in height, and filled with stone.

A large cedar box culvert was put in between Oxford Jct. and Thomson.

Necessary repairs were made to the tunnel at Caldwell's Brook.

The masonry of a number of box culverts between Truro and Painsec Jct., was overhauled, repaired and pointed.

At Calhoun's Bridge, ballast walls were erected, and the masonry of bridge overhauled and pointed.

A new hard pine standard top was placed on Beau's Creek bridge near Memramcook.

A new floor was laid on the overhead bridge at McLean's Corner.

One of the stone abutments of the overhead bridge at Mountain Road, Moncton, was taken down and rebuilt.

Heavy repairs were made to bridge on branch leading to Portage ballast pit, which had been damaged by freshets. Necessary repairs were made to masonry and superstructures of Harris, Mill Stream, Brookville, Quispamsis, and McCafferty's Bridges.

One end of arch culvert near Painsec Junction was taken down and rebuilt, also made repairs to two arch and two box culverts near this station.

At Cook's Brook, a new 4 by 2½ foot stone culvert 22 feet long was put in.

The masonry of six stone culverts between Moncton and Boundary Creek was overhauled, repaired and pointed.

Two new stone culverts, one 35 feet long and 6 feet wide, and the other 25 feet long by 2 feet 6 inches wide, were built a short distance west of Salisbury station.

A new cedar box culvert was put in near Bloomfield station.

At Lakeside near Hampton, a new floor was laid on the overhead bridge, and wooden bents placed under the ends.

At St. John, the overhead bridges carrying Stanley and Wall Streets across the railway were overhauled and repaired.

Necessary repairs were also made to the swing bridge on the harbour extension.

A cedar box culvert near Berry's Mills, which had become broken down was renewed.

At Coal Branch, a portion of the tops of the east and west bridges were renewed with hard pine.

A number of cedar box culverts between Rogersville and Coal Branch were overhauled and repaired where found necessary.

At Derby, a number of the hard pine stringers were renewed in overhead bridge.

The masonry of the following bridges between Moncton and New Castle was overhauled, repaired, and pointed: North and South Cocagne, Buctouche, South Forks, North Brook, Main River, Kouchibouguac's, 3rd crossing, Barnaby River, Barnaby River bridge, and the north and south-west Miramichi bridges.

A new hard pine standard top with guard rails was placed on the Nepisiguit Bridge, and a new stone ballast wall built at the east end of this bridge.

The masonry of Tatagouche bridge was overhauled, repaired and pointed.

The hard pine stringers of a number of open culverts between Bathurst and Jacquet River were renewed.

A hand railing was provided for Moffat's bridge, near Campbellton.

Between Metapedia and Mill Stream the hard pine stringers and ties of twelve open culverts were renewed.

A number of hard pine ties in top of McKinnon's Brook bridge were renewed.

Eight open culverts between Assametquaghan and Amqui had the hard pine stringers and ties renewed.

A new cedar culvert was built in Amqui station yard, and an extension was made to culvert in Cedar Hall station yard.

New masonry of the following bridges was overhauled, repaired and pointed:—Restigouche, Gilmore's, Clarke's Brook, Mill Stream and McKinnon's.

The masonry of abutments of Ste. Anne and L'Islet bridges was overhauled, repaired and pointed.

At Boyer Bridge one new bent was put in, and 15 bridge ties were renewed.

At Chaudière Curve, a stone culvert which had partially fallen down, was rebuilt, and another stone culvert repaired and pointed.

At St. Romuald, a new floor was placed on the bridge.

At Hadlow, Welsh's Mill Brook bridge was renewed with iron girders.

Between River du Loup and Hadlow the hard pine stringers and ties of 32 culverts were renewed.

Three new cedar box culverts were put in between Aston and St. Leonard Junctions.

At St. Eugène and St. Edward station yards, new cedar box culverts were placed under the tracks, and between St. Leonard Junction and Carmel, 3 new cedar box culverts were put in.

Where the track was raised on the Drummond division last year, it became necessary to raise a large number of open culverts, and between Forestdale and Drummondville, some 81 culverts were overhauled, repaired and new stringers placed on them.

The following bridges were overhauled, scraped and painted:—

	Spans.
Drummondville bridge	3
West Trois Saumons bridge	2
Bridge 2 miles east of Ste. Louise	2
Fourge River bridge	1
Bridge 1 mile west of Ste. Louise	1

	Spans.	
Mill Creek bridge	2	
River Ouelle "	9	
Langelier "	1	
Kamouraska "	2	
Riv. du Loup Branch	1	
Bras St. Michel bridge, near Montmagny	4	
Montmagny bridge	7	
" "	15	
Tobicote "	1	
Charlo (overhead)	1	
West Jacquet River bridge (overhead)	1	
Richibucto River bridge	3	
Buctouche River "	1	
North and South Cocagne bridge	1	
North River	1	
Chapman's Brook	1	
Petitcodiac River	2	
Lakeside	1	
Bridge (1 mile west Lakeside)	1	
Hammond River	3	
Bridge, two miles east Quispamsis	1	
St. John station yard (overhead)	1	
Wall Street (overhead)	1	
Stanley Street "	1	
McManus Brook bridge	1	
Fort Lawrence "	1	
Little Forks "	1	4 girders
Sodom "	1	
Westchester "	1	
Bridge (east of Folleigh station)	1	
Sackville	3	
Harris Brook bridge	7	
Mulgrave transfer bridges		

During the working season, a gang of riveters have been at work at various places throughout the line, tightening up rivets, putting in lateral bracing, and making other necessary improvements and repairs to iron bridges.

GENERAL.

At Halifax Deep Water Terminus, eight new buffers were erected at the ends of sidings.

The scows and boats used in connection with the dredging and wharf work at the Deep Water Terminus, Halifax and Richmond, were overhauled and repaired.

A cesspool was provided at Springhill station, and a six inch drain pipe was put in leading from the station building to the same.

Derailing switches were put in at Beau Rivage, and at the coal shed siding, Campbellton.

New mail bag catchers were put up at the following stations :—Millstream, Assametquaghan, Beau Rivage, Causapscal, Salmon Lake, Amqui, Cedar Hall, Sayabec and St. Octave. Eight were also erected at various points between Chaudière and Ste. Rosalie.

A number of old box cars were obtained from the Mechanical Department and sent to various stations along the line, where they were set up, repaired and painted, and converted into section men's hand car and tool houses.

During the past year, a large number of farm crossing gates and cattle guards were renewed throughout the line, and repairs made to others where necessary.

CAPITAL ACCOUNT.

The following works chargeable to capital account, were carried out by the maintenance department:—

SNOW FENCING.

9,355 feet of new stone fencing, also 13,200 feet of portable snow fencing, were erected at various points of the line.

BUILDINGS, PLATFORMS, ETC.

At Halifax, a building was erected to hold Pintsch gas reservoirs and fittings.

At North Street, a quantity of rock was excavated and used in connection with the sidings laid down during the past year.

A large amount of grading was done at the deep water terminus, both for the tracks and approaches to the new pier, No. 3.

Four hose reels were made and stationed at various points around the railway property at this station for fire protection purposes.

A fence 8 feet high was put up on three sides of the grain elevator.

At Waverley, a well, together with pump and fittings, was provided for the accommodation of the station master.

At Miller's brick yard a platform was erected.

At New Glasgow, an ice house, 40 by 20 feet was erected. A watchman's shanty was also provided at this station.

At Merigomish, an extension of 220 by 8 feet wide was made to the passenger platform.

At Avondale, a new loading platform, 130 feet long, with cedar crib front and ballast filling was erected, to be used in loading heavy timber, deals, &c.

At James River, the passenger platform was extended 90 feet long by 8 feet wide. A new loading platform of the same dimensions, and similar to that built at Avondale was also provided.

At Heatherton, an extension was made to the passenger platform, 100 feet long by by 8 feet wide.

At Bayfield Road, the passenger platform was extended 120 feet long by 8 feet wide.

At Afton, a kitchen was built at the rear of the station for the accommodation of the station master.

At Tracadie, an extension 100 feet long by 8 feet wide was made to the pasesnger platform.

At Harbour au Bouche, the passenger platform was extended 100 feet by 8 feet.

At Sydney, an extension of 100 feet was made to the freight shed.

At Wallace and Tatamagouche, necessary extensions were made to the passenger platforms.

At Ferguson's Crossing, a platform 60 feet long by 8 feet wide was provided.

At Scotsburn, a new freight shed 50 by 25 feet was erected.

At Debert, a loading platform was provided.

At Westchester, a loading platform 50 feet long faced with cedar and filled with earth was erected.

At Spring Hill Junction, the necessary land for a 'Y' was purchased and the 'Y' put in.

At Shediac, a baggage room 16 by 27 feet was erected.

At Millerton, an extension was made to the passenger platform, and a water supply provided for the station master.

At Green Point, a shelter was put up for the accommodation of passengers.

At New Mills and Charlo, an extension of 100 feet was made to the passenger platforms.

At Armstrong's Brook, a platform was provided.

At Campbellton, an extension of 150 feet was made to the freight platform.

At Cedar Hall, a new freight house 40 by 30 feet was built, also a platform 250 long by 4 feet wide.

At St. Moïse, a new freight shed 40 by 20 feet was erected.

At Old Lake Road, an extension of 75 feet was made to the passenger platform.

At Ste. Hélène and St. Paschal, new loading platforms 70 feet long by 14 feet wide were erected.

At River Ouelle, an extension was made to the passenger platform of 75 feet.

At Ste. Anne, the passenger platform was extended 100 feet.

At St. Jean Port Joli, a new passenger station was erected, and the station platform extended.

At L'Islet, an extension of 25 feet was made to the passenger platform.

At Cap St. Ignace, the platform was extended 50 feet.

At Montmagny, alterations and improvements were made to the freight shed.

At St. François, the passenger platform was extended 100 feet.

At St. Valier, a new station was erected.

At St. Michel, an extension of 100 feet was made to the passenger platform.

At Hadlow, a new ash pit was provided.

At Duncan, a freight house and platform were provided.

At River Sauvage, a combined station and freight shed 40 by 20 feet was erected.

At Laurier, Aston Junction and Kingsburg Junction, dwelling houses were provided for the accommodation of the station masters.

At George's River, a small kitchen was built at the rear of the station for the accommodation of the station master.

At Gondola Point, a platform was erected.

SIDINGS.

New sidings and extension of sidings were made at the following stations:—Rockingham, Bedford, Enfield, Stewiacke, Shubenacadie, Brookfield, Hilden, West River, Albion, Acadia, Marshy Hope, Tracadie, Avondale, Granton, Pomquet, Brierly Brook, Cape Porcupine, Rockway, Sydney, Pugwash, Onslow, Greenville, Salt Springs, Springhill Junction, Evans, Jones Crossing, Torryburn, Berry's Mills, Canaan, Coal Branch, Harcourt, Kent Junction, Rogersville, Lakeland, Chatham Junction, Barnaby River, Newcastle, Beaver Brook, Red Pine, Gloucester Junction, Bathurst, Petit Roche, Belledune, Jacquet River, New Mills, Charlo, Eel River, Morrisey's Rock Tunnel, Millstream, Moffat's, Metapedia, Beau Rivage, Assametquaghan, Amqui, Causapscal, Sayabec, Cedar Hall, Kempt, St. Moise, Ste. Luce, St. Anaclet, Rimouski, Bic.; St. Simon, Trois Pistoles, St. Eloie, Isle Verte, St. Arsène, Riv. du Loup, Old Lake Road, Ste. Hélène, River Ouelle, Ste. Anne, Ste. Louise, St. Jean Port Joli, L'Islet, Cap St. Ignace, Montmagny, St. Pierre, St. François, St. Valier, St. Michel, St. Charles, Hadlow, St Nicholas, Moose Park, Maddington Falls, River Sauvage, Aston Junction, St. Leonard Junction, Drummondville, St. Eugéne, Bagot, St. Edward, Ste. Rosalie, Fountain Road, St. Hughes, Bécancour River.

The total mileage of new sidings and extensions is about 18¾ miles.

I have the honour to be, sir,

Your obedient servant,

T. C. BURPEE,

Engineer of Maintenance.

J. E. PRICE, Esq.,

General Superintendent, I.C.R.,

Moncton, N.B.

INTERCOLONIAL RAILWAY OF CANADA,

OFFICE OF THE CHIEF ENGINEER,

MONCTON, N.B., October 16, 1900.

SIR,—I have the honour to submit the following report of the engineering department on capital appropriations for the year ending June 30, 1900.

Increased Accommodation, Halifax.—The creosoted pile wharf about 600 ft. by 160 ft. with a warehouse 525 ft. by 126 ft. was complete i. About one-half of the inside of the monitor roof has been sheathed and white-washed The bulkhead between pier No. 2 and pier No. 4 has been raised and the front sheathed. A complete system of electric lighting has been installed in shed No. 3. Nearly three miles of new sidings have been laid.

Grain Elevator, Halifax.—The Halifax grain elevator has been completed according to contract. The main building, conveyor and interior walls and ceilings of power house have been painted with two coats of Carson's anti corrosion oxide of iron paint. A coal shed has been built and necessary connecting sidings have been laid down.

Land damages, Oxford and New Glasgow and Cape Breton Divisions.—Two claims in Cape Breton, one for a crossing, the other for land damages, were settled.

Extension to deep water at North Sidney.—Dredging was done here to afford 20 feet of water at low tide on both sides of the terminal wharf.

To provide for sea-wall and cribwork protection to banks on C. B. Railway.—Plans were prepared in October, 1899, tenders called for early in November, and the contract let to the lowest tenderer in December of the same year. The amount of cribwork called for by the specification is between Iona and McKinnon's Harbour, 830 lineal feet, and at Jamesville, 900 ft. Work was done on this contract to the extent of the money available.

To provide and put up track scales at Pictou, Drummondville and North Sidney.—Three 100 ton scales were purchased by tender from the Gurney Scale Company, and other necessary materials for foundations, &c., were also purchased and are on hand. Instead of putting the new heavy scale on the Oxford and New Glasgow division, it was decided to replace the scale at Moncton by a heavy scale, and send the Moncton scale to the Oxford and New Glasgow division. Part of this work on the Moncton scale was done. The scale sent from Moncton will be amply heavy to meet the requirements on the O. & N. G. division for some years to come. Nothing was done at North Sidney and Drummondville.

Improvements at Point Tupper.—With the exception of taking soundings and making a thorough examination of the bottom, nothing was done on this account.

Improvements at Mulgrave.—In connection with the improvements here, a thorough examination and record was kept of the tides, run of ice, &c., in the Strait of Canso, and a full report made thereon. Plans for a cribwork addition to the present wharf were prepared in December, and tenders were called in the same month. In January, 1900, the contract was awarded to the lowest tenderer. The work was started with as little delay as possible, and carried on until the amount of money available was expended. Considerable still remains to be completed next year.

Dredging at Pictou and Pictou Landing.—Dredging was done here by the Public Works dredge *St. Lawrence*, and shipping facilities very much improved.

Strengthening iron bridges.—The doubling up of Folleigh bridge was completed. The masonry of the bridge over the Sackville River near Bedford was strengthened by

the addition of concrete and No. 9 wire lacing. An iron beam bridge, 16 feet clear span, was put in at Welch's Cove, near Hadlow. Stone abutments were built at Lydia Brook, and at Mulgrave Road crossing These are to support new plate girder spans to take the place of the present wooden trestle bridges. A new self-propelling pile-driver was purchased to drive pile false work for erecting new steel bridges. A universal hydraulic punch was also purchased for bridge work. Hard pine timber and channels required to double up present deck bridges were purchased, and are on hand.

A contract was let for seven through Warren truss spans, 108 to 110 ft. over all. These spans were ordered to replace present spans at :—Debert 2 spans, Nappan 1 span, Barnaby River 1 span and Beau Rivage 3 spans. Owing to the difficulty in getting material this contract was not completed, and only part payments on account were made on the Barnaby River, Nappan and Beau Rivage bridges. A contract was let for three spans deck plate girders, 56 feet long over all, for the Sackville River, near Bedford station. This contract was completed. Contracts were also let for a 70 foot deck plate girder span for Mulgrave Road undercrossing on the Eastern Extension, and an 87 foot deck plate girder span for Lydia Brook, near Truro. These are now on hand.

Nothing was done in the way of doubling up present bridges on account of the late delivery of the new spans.

Provide and Construct a Subway Under Tracks at Christie's Crossing, Amherst.—Plans were prepared, tenders advertised and a contract let for the masonry, abutments and necessary grading. About three-quarters of the work was done. Rolled steel 'I' beams for a 20 foot clear span were purchased and are now on hand.

To Provide Larger and Stronger Turntables, and Strengthen Some Old Ones, to Meet the Requirements of the Modern Heavy Engines at the Various Points.—A new traverse table was provided at Rivière du Loup. The turntable at Hadlow was strengthened. New turntables were let by contract for the following places :—Truro, Hadlow, Rivière du Loup, Moncton and Stellarton. These were delivered but not erected in place.

To Provide New Engine Houses and Enlarge Others.—With the exception of work done on plans for a new brick engine-house at Stellarton, and survey of ground, nothing was done on this vote. The expenditure was charged to the vote to enlarge engine-houses.

To Enlarge Engine Houses.—At Moncton several engine pits were extended by adding outside wooden bays with shed roofs. Plans were prepared and tenders asked for addition to Stellarton engine-house. It was, however, decided not to build this wooden addition, but build a new brick engine-house. Materials were purchased for roof supporting girders for enlargement of engine-houses at Campbellton and Ste. Flavie. The girder for Campbellton was completed, and the one for Ste. Flavie partly completed.

Plans were prepared for the enlargement of Campbellton engine-house, and tenders were asked for the work.

To Provide Drop Pits.—With the exception of a little labour done at Moncton, all the money expended on this account was done by the mechanical department.

To Build Rest Houses at Nine Stations.—On this account several proposed plans for different places were prepared, but nothing definite was settled, and no further work was therefore done.

To Provide for Finishing the Upper Flat of General Offices.—The third flat of the general offices was thoroughly finished up in every detail, providing four large offices and four small ones. Two water-closets were provided as well as a blue-printing room, complete. The different offices were provided with all the necessary furniture, and the vault fitted to suit the departments using them. The extra necessary heating apparatus was put in. All materials were purchased for electric bells, lighting and telephones, and tubing for same placed. The money was provided for this work in the account named above, and an item in the supplementary estimate for 'increased facilities.'

Increased Accommodation at St. John.—The valuators appointed investigated and reported in February 1900, on the value of the property required, the greater part of which has been paid for.

New Wharf. Cribs Nos. 1, 2, 3, 4, 5, and 6 have been sunk and topped out to a considerable extent. Cribs Nos. 7 and 8 to complete west arm of wharf, have yet to be sunk. The east arm and harbour front of wharf was almost completed.

Dredging. The dredging was practically completed.

Submarine rock blasting. In part of the west dock and for the northern portion of the west arm of the crib wharf, the rock blasting was about one-quarter completed. The timber for trestle for two tracks within the wharf was almost all on hand.

The new main line. This work was well advanced last year and was completed. A small highway bridge was built to improve the approach to the new wharf property. The pile trestles for tracks to new wharf were completed. Tracklaying and ballasting about four-fifths completed. The new freight house on the wharf was about one-third completed. The driveway from Long Wharf and York Point Wharf to the new wharf was completed. A set of railroad crossing gates were put up at Gilbert's Lane.

Elevator at St. John.—The excavation for elevator and tracks was completed and tracks laid. The elevator and conveyor were completed, but have not yet been taken over by the railway department.

Indiantown Branch.—To pay amount of award of Walter Shanly of $34,675.23, and interest thereon from December 1, 1886, to July 1, 1899, to the Honourable J. B. Snowball. This award with interest was paid by the department at Ottawa.

To Excavate Roof Morrisey Rock Tunnel.—Plans were prepared, tenders called, contract let and work completed. Since the completion of this work it is possible to carry classes of work which before it was necessary to refuse, and the clear headroom here no longer limits the loaded height.

Increased Accommodation at Lévis—Plans were prepared for the cribwork and filling required, tenders asked and contract let. Part of this work was done. Plans were prepared for new station. Survey made and plan prepared of property required, and part of the property purchased. Plans were prepared for the property to be expropriated and for that to be deeded.

Cape Breton Railway.—To pay McDonald & Moffat in full settlement of claim for extra work on the Terminal Wharf at Sydney.

This matter was attended to by the department at Ottawa.

Increased Station Accommodation.—At St. Valier, land was purchased, new freight shed 25 ft. by 50 ft. built.

Cap St. Ignace, an addition to freight shed 18 ft. by 25 ft. was made.

St. Philippe de Néri, land was purchased.

At St. Anaclet, a new freight shed 20 ft. by 30 ft. was built.

At Cedar Hall, old coal shed was converted into a freight house.

At St. Germain, land was purchased for station yard purposes.

At Causapscal, improvements were made to the station.

At Flatlands, improvements were made to the station and a new freight shed built.

At Painsec Junction, a new covered platform was built.

At Chatham Junction, an addition to present freight shed was made.

At Plumseweep, a combined station and freight house 20 ft. by 40 ft. was built.

At Jacquet River, an addition was made to the station building.

At Westchester, land was purchased and some improvements to yard made.

At Truro, a watchman's box was provided.

At Westville, a water supply was put in station.

Passenger platforms were built or extended at the following places:—Afton, Iona, Amherst, Memramcook, Canaan.

Loading platforms were built or extended at the following places:—Eel River, Moffatts, St. Valier, St. Luc and Ste. Hélène.

Increased Facilities Along the Line.—At Sydney, land was purchased for the extension of the station yard, and an icehouse 18 ft. by 38 ft. built.

At Boisdale, land for water supply was bought and a tank and water service provided.

At West Bay Road, a tank and water service was provided.

Westville, a set of railroad crossing gates were erected.

Painsec Junction, right of way and use of spring was purchased.

Canaan, land for water supply was bought.

Tunnel Siding, a freight shed was provided.

Rivière du Loup, a baggage building, 21 feet by 100 feet, for baggage and other purposes was provided. The station building was remodelled and thoroughly fitted up, and is now a first class station.

St. Alexandre, a new freight shed, 20 feet by 60 feet, was built.

Old Lake Road, a new freight shed, 20 feet by 30 feet, was built

St. Philippe de Néri, a new freight shed, 20 feet by 60 feet, was built.

Bagot, land for stock yard was purchased.

St. Leonard, a tank and water service was provided.

Carmel, land for borrow-pit was purchased.

St. Eugène, land was purchased for the enlargement of station ground.

Ste. Hélène, land was purchased for the enlargement of the station yard.

General Offices, Moncton, the finishing of the third flat was completed, and furniture for offices provided.

Moncton, the office in freight shed was enlarged.

Track scales, some labour was performed, a new 100-ton scale provided and materials for foundation purchased.

Machinery at various points, at Point Tupper and Mulgrave, machinery was provided to work the transfer bridges.

Equipment of Stations.—All the expenditure on this account was on the Drummond division, and consisted of track tools, handcars, rails to extend siding, track jacks, rail braces, office furniture and tools at the different stations.

Oxford and New Glasgow Railway.—This vote was to pay the claim of Ralph Jones, and was settled by the department at Ottawa.

I have the honour to be, sir,
Your obedient servant,

WM. B. MACKENZIE,
Chief Engineer.

D. POTTINGER, Esq.,
General Manager, Government Railways,
Moncton, N.B.

INTERCOLONIAL RAILWAY OF CANADA,
OFFICE OF THE MECHANICAL SUPERINTENDENT,
MONCTON, N.B., October 6, 1900.

SIR,—I beg to submit for your information the following statements prepared by the mechanical accountant:

Statement showing the number of locomotives, and the various classes of cars.
Locomotive and car mileage.
Abstract of locomotive returns.
Locomotive power for each month.
General statement of expenses of mechanical department.
Also a summary of the principal work done in drawing office, Moncton locomotive and car shops, shops at Richmond and Rivière du Loup.
Complete statement of renewals and repairs to the water service, on the whole system, for the year ending June 30, 1900.

Yours truly,

G. R. JOUGHINS,
Mechanical Superintendent.

D. POTTINGER, Esq.,
General Manager,
Moncton.

DRAWING OFFICE.

Work done in the drawing office from June 30, 1899, to June 30, 1900.
Partial detail drawings for four new passenger engines.
Further detail drawings for four Mogul engines.
New draft rigging for converting link and pin couplers of freight cars to M. C. B. automatic couplers.
New draft rigging for converting Miller couplers of passenger cars to M. C. B. automatic conplers.
Detail drawings of first-class passenger cars.
General arrangements with details of new 100,000 lbs. capacity platform cars.
Details for refrigerator cars.
New stock car, 35 feet long with details.
New furnace for smith shop.
New drop pits and air jack for enlarged round houses.
New transfer table for erecting shop, Moncton,
New overhead hoists " " " "
Machine for testing cast iron wheels.
Arrangement of new water service, with new boiler and pump house, Moncton.
Altering of roof supports, erecting shop, Moncton.
New shop appliances, &c., and miscellaneous detail drawings for locomotive and car repair work.
Specifications for freight cars and locomotives.
Register of locomotive repairs, and water service report.
Specifications and special drawings supplied to stores to order on, and all material so ordered checked and listed.

MONCTON LOCOMOTIVE SHOPS.

Four new freight locomotives, Nos. 3, 90, 91 and 92, were rebuilt new complete. Two new tenders complete.

93 locomotives received heavy repairs and 36 had specific repairs, the following new parts being supplied :—25 driving wheel centres, 67 driving tires, 39 driving axles, 13 truck axles, 4 main rods, 2 slab side rods, 29 crank pins, 5 new cylinders and half saddles, one set W. a. brakes, 10 new cabs, 50 new pilots, 202 new tubes, 2 new tube sheets, 3 new half fire box door sheets, 8 half side sheets put in fire boxes, 1 new smoke box. 134 locomotives were tested, 8,584 tubes were pieced, 54 fire boxes were patched, 277 pairs of driving tires were turned, 93 locomotives and tenders were repainted and varnished.

MONCTON BRASS FOUNDRY.

Output :—99,565 lbs. of castings, 157,259 lbs. of brass bearings.

MONCTON CAR SHOPS.

The following cars received heavy repairs :—

Five parlour cars, 15 sleeping cars, 4 dining cars, 1 official car, 56 first-class cars, 56 second-class cars, 21 postal cars, 28 baggage cars, 38 freight vans, 3 flangers, 1 wing plough, 7 snow ploughs, and 567 freight cars.

The following cars received light repairs :—

Fourteen sleeping cars, 5 dining cars, 32 first-class cars, 52 second-class cars, 22 postal cars, 14 baggage cars, 30 freight vans, 1 flanger, 1 wing plough and 3,994 freight cars.

The following were repainted or stained and varnished :—

Three parlour cars, 1 sleeping car, 24 first-class cars, 39 second-class cars, 13 postal cars, and 9 baggage cars.

The following were renovated and varnished :—

Two parlour cars, 12 sleeping cars, 29 first-class cars, 4 dining cars, 17 second-class cars, 10 postal cars, 15 baggage cars.

The following cars were repainted :—

Ninty-eight box cars, 184 platform cars, 84 gondola cars, 33 hopper cars, 39 freight cars, 7 snow ploughs, 1 wing plough and two flangers.

The following cars were rebuilt :—

One flanger, 1 box car, 8 platform cars and 18 gondola cars.

Special work was done as follows :—

Ten new iron trucks, and 47 new wooden trucks built.
Four hundred new axles turned and 1,271 old axles trued up.
1,116 steel wheels turned.
2,514 new wheels pressed on axles and 954 old wheels pressed on axles.
5,668 wheels pressed off axles.
Forty-nine 60,000 lb. new cars boxed for carrying coal.

Thirty-nine 40,000 lb. new cars boxed for carrying coal.

Fifteen passenger cars changed from Miller to National M.C.B. passenger coupler with Miller combinations.

Nine passenger cars changed from Miller to Hien passenger coupler.

Twenty-four passenger cars fitted with air signal.

Thirty-nine freight cars changed from link and pin to M.C.B. coupler.

In addition to the lumber prepared for the above repairs, 300,000 feet was milled according to store orders. Also a large amount of work was done to freight and baggage trucks, chairs, foot boards, ticket cases and station furniture on account of No. 1 store.

RICHMOND SHOPS.

Heavy repairs, engines	22
Medium repairs, engine	1
Specific repairs, engines	71
Fire box, patched, engine	1
Boilers tested, engines	18
Tires turned, pairs	139
New driving axles turned	2
New driving tires turned	4
New crank pins turned	54
New pilots	3
New tender frames	1
Bolts forged	26,550
Bolts screwed	37,850
Studs screwed	740
Engines and tenders painted	17

RIVIERE DU LOUP SHOPS.

Heavy repairs, engines	22
Medium repairs, engines	3
Specific repairs, engines	31
Boilers tested	39
Engines and tenders painted	19
New tube sheet	1
Tires turned, pairs	196
Tires, new	28
Bolts forged	14,800
Bolts screwed	14,800
Studs screwed	3,600
New half side sheets, fire box	2
Tubes put in	1,441
Fire boxes patched	3
New tender frames	6
New main rods	1
New crank pins	2
New pilots	6

WATER SERVICE, FROM JULY 1, 1899, TO JUNE 30, 1900.

ALTON.

One $1\frac{1}{4}$ nipple. $1\frac{1}{2}$ elbow. One $1\frac{1}{2}$ x $1\frac{1}{4}$ bushing. Eight feet rubber hose. One box metal polish. Tested boiler No. 23 to 100 lbs. pressure.

AMHERST.

October, 1899. Moved crane from freight siding to No. 1 siding. Eighteen feet 8 in. cast iron pipe. New cedar crib. Cleaned out reservoir. New copper strainer. Rebuilt fence around reservoir.

March, 1900. Repaired tank pipe.

ARMOUR'S ROAD.

Nil.

ASSAMETQUAGHAN.

September, 1899. Cleaned out reservoir and repaired leak in water pipe.

December, 1899. Repaired tank stove. Thirteen lengths and 4 elbows, 7 in. galvanized stove pipe.

ANTIGONISH.

August, 1899. New galvanized stove pipe on top of tank.

October 1899. One new No. 16 Globe stove. One fire shovel.

December, 1899. Repaired tank pipe. Put in new valve chain.

BAYFIELD ROAD.

September, 1899, Cleaned out reservoir. Put in new copper strainer.

November, 1899. Repaired tank stove. One padlock. One new leather on tank valve.

December, 1899. Tank pipe repaired.

January, 1900. Tank pipe repaired.

March, 1900. Tank pipe repaired. New valve lever.

BATHURST.

July, 1899. Repaired tank pipe.

November, 1899. Two No. 16 Globe stoves. Five joints and 2 elbows, 7 in. stove pipe. Repaired tank pipe.

December, 1899. No. 16 Globe stove put in.

January, 1900. New smoke pipe and elbow for top of boiler.

February, 1900. Repaired tank pipe and No. 16 stove.

March, 1900. Repaired tank stove.

April, 1900. Repaired foot valve on suction pipe, and water piston in steam pump.

May, 1900. Took out boiler No. 111 and shipped to Moncton for repairs. Put in boiler No. 16 and tested it to 100 lbs. pressure, May 16, 1900.

BELLEDUNE.

July, 1899. Repaired water and steam pump.

February, 1900. Tank burned. Shipped boiler and steam pump (No. 3 Knowles) to Moncton for repairs. Put in temporary boiler No. 16 and No. 5 Knowles steam pump. 25 feet $2\frac{1}{2}$-in. rubber hose.

BAGOT.

July, 1899. Repairs to inspirator pipes.
August, 1899. New check valve on inspirator.
October, 1899. Repaired injector and pipes.
May, 1900. Tested boiler No. 32 to 100 lbs. pressure.

BOISDALE.

November, 1899. Put in 2,000 feet 4-in. cast iron pipe. Two 4-in. water gates. One 6-in. water gate. Thirty-six-inch cast iron pipe. Ninety feet $\frac{3}{4}$-in galvanized pipe. Three thousand feet pine deal. Built reservoir and connected water pipe with the tank and station. Took down the windmill and repaired tank pipe.

BEAVER BROOK.

May, 1900. Tested boiler No. 12 to 100 lbs. pressure. O K.

CAMPBELLTON.

July, 1899. Repaired water pipe in engine house. Repaired leak in water main and pipes in station.
August, 1899. Repaired tank pipe. Put in new 4-in. valve in main water pipe. Cleaned out reservoir and put new coverings on reservoir. New smoke pipe top of tank.
October, 1899. Repaired water pipes for washing passenger cars.
December, 1899. Repaired water pipe in engine house.
May, 1900. Steam pump. New set of valves and springs for water end.

CANAAN.

February, 1900. Repaired tank pipe.
May, 1900. Tested boiler No. 7 to 100 lbs. pressure. May 14, O. K.

CARLETON—(BAIE DES CHALEUR BRANCH.)

Nil.

CHARLO.

April, 1900. Repaired tank pipe and chains.
May, 1900. Tested boiler No. 9 to 100 lbs. pressure. May 18, O. K,

CHAUDIERE (CURVE).

November, 1899. Repaired windmill pump.
April, 1900. New windmill pump.

CAUSAPSCAL.

July, 1899. Cleaned reservoir.
August, 1899. New galvanized smoke pipe in top of tank.
September, 1899. Repaired tank pipe, cleaned out reservoir and put in new copper strainer.
February, 1900. Repaired tank pipe.

CEDAR HALL.

October, 1899. Repaired tank pipe.
November, 1899. Two thousand six hundred feet 4-in. cast iron pipe. Thirty-six feet 6-in. cast iron pipe.
December, 1899. Repaired tank pipe.
January, 1900. Finished laying 2,600 feet 4-in. pipe, and finished reservoir.
February, 1900. Laid 215 feet 1-inch pipe, galvanized, to King Brothers house, connected water pipe with same, and connected water pipe with station.

DALHOUSIE JUNCTION.

July, 1899. Repaired reservoir.
December, 1899. Twelve joints, 2 elbows, 7-in. galvanized stove pipe, and repaired valve.

DRUMMONDVILLE.

October, 1899. Repaired tank valves.
January, 1900. Repaired tank pipe and valve.
February, 1900. " "
March, 1900. " "

FORESTDALE.

November, 1899. Repaired tank valve.
January, 1900. " "
May, 1900. " "

FOLEIGH.

August, 1899. New trestle under tank, cut and riveted hoops.
September, 1899. Painted tank.
December, 1899. Repaired tank pipe.
March, 1900. Washed out boiler.
April, 1900. Repaired tank pipe. Tested boiler No. 20 to 100 lbs. pressure.

RICHMOND (HALIFAX).

December, 1899. New leather on tank valve.

HAMPTON.

November, 1899. Smoke pipe for top of tank.
April, 1900. One new tank pipe. One new tank pipe repaired.

HARCOURT.

July, 1899. New bolts in tank valve.
January, 1900. New valve chain on tank, repaired feed pipe and washed out boiler.
April, 1900. Repaired steam pump and floor in tank.
May, 1900. Tested boiler No. 14 to 100 lbs. pressure. O.K.

HADLOW.

August, 1899. Repaired tank valve.
September, 1899. " " "
November, 1899. Repaired suction pipe to steam pump.
December, 1899. Repaired and put in No. 6 Knowles pump. Took out a No. A. pump. New large copper strainer. One nipple 4 in galvanized pipe.
February, 1900. Repaired and put in a No. A. steam pump and shipped old pump to Moncton.
April, 1900. Repaired steam pump and suction pipe in river.

INDIANTOWN.

January, 1900. New smoke pipe for top of tank.
February, 1900. Repaired hand pump.

ISLE VERTE.

July, 1899. Repaired tank valve.

JACQUET RIVER.

Nil.

LONDONDERRY.

July, 1899. Took No. 3 Knowles steam pump, and put in and repaired No. 3 Knowles steam pump. One copper strainer. Eighteen feet of galvanized 2 in. pipe. One galvanized 2 in. nipple.
March, 1900. Washed out boiler.
April, 1900. Tested boiler No. 22 to 100 lbs. pressure.

LITTLE METIS.

August, 1899. New galvanized pipe for top of tank.
November, 1899. Four joints 7 in. galvanized stove pipe.
January, 1900. Repaired tank pipe.

L'ISLET.

December, 1899. New leather on tank valve.

LEVIS.

October, 1899. Repaired steam pump.
February, 1900. Put in repaired No. 5 Knowles steam pump. Shipped one taken out to Moncton.

METAPEDIA.

November, 1899. One new No. 16 Globe stove, 15 joints, 2 elbows, 7 in. galvanized stove pipe.

June, 1900. Put on new copper strainer and barrel of gravel over strainer to filter water.

MONCTON.

July, 1899. Repaired stop cock boxes on north line.

April, 1900. Repaired leak in 6 in. pipe, north supply.

May, 1900. Rebuilt water crane at main line, and cleaned 300 feet of 6 in. sewer pipe. Put in 6 in. water gate.

June, 1900. Rebuilt crane and box around base of crane at old engine house. Repaired crane pipe. New covers on fire stop cock boxes.

MULGRAVE.

September, 1899. Repaired water pipes in wharf. One new valve, $2\frac{1}{2}$ in. Sixteen feet galvanized $2\frac{1}{2}$ in. pipe.

November, 1899. Repaired tank stove. New leather on tank valve.

January, 1900. Thirty feet 2 in. iron pipe. Cleaned out reservoir at engine house. One Globe $2\frac{1}{2}$ in. valve on the wharf.

March, 1900. New valve chain and lever.

April, 1900. Repaired water pipes at engine house.

June, 1900. Repaired tank pipe. Repaired water pipes on wharf. Cleaned strainer in reservoir.

MILLSTREAM.

July, 1899. Repaired tank valve.

September, 1899. Cleaned out reservoir and repaired it.

December, 1899. Repaired tank stove.

MCKINNON'S HARBOUR.

February, 1900. Repaired tank pipe. Rebuilt windmill.

NEWCASTLE.

July, 1899. Repaired tank pipe.

December, 1899. Repaired water pipe in engine house. New roof on tank at station. Roof painted.

March, 1900. Repaired tank pipe.

April, 1900. " " "

NEW GLASGOW.

May, 1900. New crane pipe. One water gate, 4 in.

NORTH SYDNEY.

February, 1900. Laid 1,300 ft. of 6 in. cast iron pipe. Put in 1 fire hydrant. Thirty-six feet 4 in. cast iron pipe. Thirty feet $2\frac{1}{2}$ in. galvanized pipe to connect with town water supply. One $2\frac{1}{2}$ in. valve. One 2 in. ball cock. Repaired tank pipe.

April, 1900. Repaired tank pipe.

OXFORD JUNCTION.

October, 1899. One new No. 16 Globe stove. Five joints 7 in. galvanized iron stove pipe.

February, 1900. Put in No. 6 Knowles steam pump (repaired). Took out No. 6 pump and shipped to Moncton. Repaired ladder for tank and floor in pump house.

April, 1900. New floor in pump house. Boiler No. 29 tested to 100 lbs. pressure. Seven feet $1\frac{1}{4}$ in. pipe. New chain on valve and new foot lever. Repaired tank valve.

PETITCODIAC.

July, 1899. New leather on tank valve.

August, 1899. New galvanized pipe on top of tank.

October, 1899. Repaired tank valve and stove.

March, 1900. Repaired tank pipe, and washed out boiler.

May, 1900. Tested boiler No. 21 to 100 lbs pressure O. K.

PUGWASH JUNCTION.

September, 1899. Rebuilt fence around reservoir.

November, 1899. New trestle under tank, cut and riveted hoops, painted tank, repaired tank pipes. New leather on valve. 1 plug cock, 3 in.; 1 $2\frac{1}{2}$ in. valve. 5 feet $2\frac{1}{2}$ in. galvanized pipe, 1 elbow $2\frac{1}{2}$ in.

December, 1899. Five joints 7 in. galvanized stove pipe.

PIEDMONT.

December, 1899. One No. 16 Globe stove. Smoke pipe for top of tank.

February, 1900. Repaired tank pipe.

March, 1900. Repaired tank pipe and new valve leather.

PICTOU LANDING.

June, 1900. Rebuilt fence around reservoir.

PICTOU.

December, 1899. One No. 16 Globe stove, 4 joints, 7-in. galvanized stove pipe.

January, 1900. New brass plug in 4 in. cock. Repaired trestle under tank. New tank pipe.

ROGERVILLE.

April, 1900. Repaired tank pipe.

May, 1900. Repaired tank pipe and steam pump. Tested No. 13 boiler.

RED PINE.

December, 1899. One new tank pipe, repaired tank stove.

January, 1900. Repaired tank pipe.

May, 1900. Tested No. 10 boiler to 100 lbs. pressure. O. K. Repaired boiler feed pipes.

RIVER JOHN.

July, 1899. Repaired windmill and pump.
October, 1899. New smoke stack, galvanized, 4 joints, 7-in. galvanized stove pipe.
November, 1899. Repaired tank stove.

RIVIERE DU LOUP.

July, 1899. Repaired water pipes in machine shop. Cleaned water pipes in despatcher's office.
August, 1899. Repaired water pipes in shop and cleaned out well and repaired foot valve.
September, 1899. Cleaned out well.
November, 1899. Repaired station water closets and steam pump.
June, 1900. Repaired water pipes in buildings. New exhaust pipe from steam pump. New covers on tank valve.

RIMOUSKI.

July, 1899. Repaired station water pipes.
August, 1899. Repaired station water pipes in station.
December, 1899. Six joints 7in. galvanized stove pipe.
February, 1900. Repaired tank pipe.

RIVIERE DU CHENE.

July, 1899. Cleaned out well and repaired pump. Old boiler, no number, was sold for scrap.
November, 1899. Repaired foundation and repaired steam pump.
March, 1900. Repaired steam gauge and steam pump.
May, 1900. Tested boiler No. 31 to 100 lbs. pressure.

SUSSEX.

January, 1900. Repaired smoke pipe in top of boiler. Put in 20 new tubes.

SPRINGHILL JUNCTION.

August, 1899. Put in galvanized smoke pipe, top of boiler, tubes exhausted. Repaired valve lever and put in new post for same.
November, 1899. Repaired tank pipe.
January, 1900. Repaired tank pipe.
April, 1900. One tallow pot, 1 engine oiler, $1\frac{3}{8}$ in. Globe valve. Repaired feed pipe to boiler. Tested boiler No. 8 to 100 lbs. pressure. Exhausted tubes in boiler.
June, 1900. One new tank pipe. Took down old crane. One new weight rest.

ST. MOISE.

July, 1899. Repaired steam pump.
May, 1900. Tested boiler No. 28 to 100 lbs. pressure. O.K. Repaired auxiliary feed pump. New grate for boiler.

ST. FABIEN.

July, 18 9. Repaired water pipes in station.
August, 1899. Cleaned out well and repaired water pipes.
March, 1900. Repaired steam pump.
May, 1900. Tested No. 3 boiler to 100 lbs. pressure. O. K. Exhausted tubes in boiler. 1 padlock.

ST. VALIER.

September, 1899. Repaired steam gauge and pump.
January, 1900. Repaired steam pump and put in new steam valve.
May, 190 . No. 2 boiler tested to 100 lbs. pressure. O. K.
June, 1900. Repaired steam pump and tank pipe chains.

STE. LUCE.

September, 1899. Took down windmill and pump.

ST. PIERRE.

August, 1899. Repaired wind port in boiler.
November, 1899. Put in new No. 6 Knowles steam pump, and took out old pump.
February, 1900. Repaired tank valve.
April, 1900. Repaired steam pump.
May, 1900. Tested boiler No. 1 to 100 lbs. pressure. O. K.

STE. FLAVIE.

August, 1899. Repaired tank valve.
December, 1899. Five joints, 7-in. stove pipe, galvanized, put in.
February, 1900. Put in No. 6 Blake steam pump. Took out old pump.
May, 1900. Put in No. 6 Knowles steam pump. Took out No. 6 Blake steam pump.

ST. PASCHAL.

March, 1900. Repaired water crane.

ST. CHARLES.

August, 1899. Repaired steam pump.
September, 1899. Repaired steam pump and foot valves.
November, 1899. Washed out tank boiler.
December, 1899. Put new gauge glass mountings on boiler.
January, 1900. Built trestle and foundation of new tank.
February, 1900. Repaired steam pump.
May, 1900. Tested boiler No. 6 to 100 lbs. pressure. O. K.

STELLARTON.

July, 1899. New tank pipe put in.
November, 1899. Repaired tank pipe.
December, 1899. Repaired tank pipe, one 3-in. Globe valve.
January, 1900. Repaired tank pipe.

SYDNEY.

November, 1899. Repaired tank pipe. Put in new tank pipe.

STE. ANNE.

December, 1899. Repaired ball cock.

STE. HELENE.

October, 1899. Put in new smoke pipe.
September, 1899. Repaired tank pipe and chains.
March, 1900. Repaired ball cock.

SACRE CŒUR.

December, 1899. Repaired crane.

ST. LEONARD JUNCTION.

February, 1900. Finished foundation of 50,000 gallon tank and built the trestle.

ST. APOLLINAIRE.

July, 1899. Repaired tank pipe and chains.
April, 1900. New tank pipe and chains put in.
May, 1900. Tested boiler No. 30 to 100 lbs. pressure. Exhausted 20 tubes on top end of boiler. Put in pipe to wash out boiler.

TATAMAGOUCHE.

December, 1899. Put on storm door and shutters on windows.

THOMPSON.

December, 1899. Put in No. 16 Globe stove, new.

TROIS PISTOLES.

December, 1899. Repaired tank and valve rod.
May, 1900. Repaired ball cock.

TRURO.

September, 1899. Galvanized smoke pipe put in for top of tank.
November, 1899. Put in two 2-in. Globe valves.
January, 1900. Smoke pipe complete for top of tank. Repaired tank cock.
June, 1900. Repaired leak in engine house.

WINDSOR JUNCTION.

April, 1900. Four rubber valves for pump put in. 5½ feet of ⅜-in. copper pipe put in. One cock.

WEST RIVER.

December, 1899. Repaired tank pipe.
February, 1900. Smoke pipe complete for top of tank put in.
April, 1900. Five feet ½-in. pipe. One ½-in. nipple. One ½-in. union. One ½-in. elbow. One bush, 1¼ in. x 1-in. One 1¼-in. safety valve. Tested boiler No. 26 to 100 lbs. pressure. Repaired tank pipe.

WESTCOCK.

October, 1899. Repaired tank pipe.
September, 1899. Galvanized smoke pipe put in.
November, 1899. Repaired feed pipe to boiler. One ¾-in. Globe valve.
April, 1900. Repaired tank pipe. Tested boiler No. 27 to 100 lbs. pressure.

WEST BAY ROAD.

February, 1900. Built pump house. Took down wind mill. Put in boiler No. 18 and No. 5 Knowles steam pump repaired. 40 feet 2½ in. galvanized pipe, 15 feet of 3 in. galvanized pipe Repaired tank valve.
April, 1900. Repaired tank pipe. Boiler No. 18 tested to 100 lbs. pressure.

A.—INTERCOLONIAL RAILWAY.

STATEMENT showing the Number of Locomotives and of the Various classes of Cars on July 1, 1899, and on June 30, 1900.

	Locomotives.	The Various Classes of Cars.																							
		First Class Sleepers.	Second Class Sleepers.	Parlour.	Dining Cars.	First Class Passengers.	Second Class Passengers.	Postal and Smoking	Express and Baggage.	Box.	Refrigerator.	Platform, 10, 15, 20 and 30 tons.	Hoppers, 6 tons.	Gondolas, 20 tons.	Coal Cars, 20 tons.	Stock Cars, 20 tons.	Auxiliary and Tool Cars.	Vans.	Total.	Snow Ploughs.	Wing Ploughs.	Flangers.	Steam Ploughs.	Total.
On hand July 1, 1899, serviceable	227	23	7	5	4	95	94	25	42	2,276	...	2,183	963	152	624	93	... 98		6,684	49	10	22	2	83
Condemned July 1, 1899	...	...	...	...	...	...	...	...	...	45	...	136	36	177	123	10	... 1		528	...	...	...	...	...
Total	227	23	7	5	4	95	94	25	42	2,321	...	2,319	999	329	747	103	... 99		7,212	49	10	22	2	83
Received on capital account	1	...	12	...	...	7	...	3	3	420	28	...	...	...	...	...	...		473	...	...	...	...	...
Transferred from second class to auxiliary	...	...	...	...	...	...	*1	...	...	...	...	...	...	...	...	...	1		...	...	...	...	...	...
Transferred from box to auxiliary	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8		...	...	...	...	...	...
Transferred from box to refrigerator	...	...	...	...	...	...	...	...	...	*37	37	...	...	...	...	...	...		...	...	...	...	...	...
Gondolas replaced by box	...	...	...	...	...	...	...	...	...	100	...	...	...	*100	...	...	...		...	...	...	...	...	...
Total	228	23	19	5	4	102	93	28	45	2,796	65	2,319	999	229	747	103	9	99	7,685	49	10	22	2	83
Condemned July 1, 1899	...	...	...	...	...	...	...	...	...	41	4	136	36	177	123	10	... 1		528	...	...	...	...	...
" during year	11	...	...	...	...	...	...	...	2	44	2	76	26	80	61	5	...		296	...	...	2	...	...
	11	...	...	...	...	...	...	...	2	85	6	212	62	257	184	15	... 1		824	...	...	2	...	...
Rebuilt	9	...	...	...	...	...	...	...	...	57	...	208	...	Box 100	17	...	...		382	...	...	2	...	...
To be rebuilt	2	...	...	...	...	...	...	...	...	28	6	4	62	157	167	15	... 1		442	...	...	...	...	...
Add serviceable replaced	226	23	19	5	4	102	93	28	43	2,768	59	2,315	937	72	580	88	9	98	7,243	49	10	22	2	83
	228	23	19	5	4	102	93	28	45	2,796	65	2,319	999	229	747	103	9	99	7,685	49	10	22	2	83

*Deduct.

MONCTON, June 30, 1900.

JOHN SUTTON,
Mechanical Accountant.

E.—INTERCOLONIAL RAILWAY.

STATEMENT of Locomotive and Car Mileage, Year ended June 30, 1900.

	Months.	Locomotive Mileage.		Car Mileage.				Snow Ploughs.	Average	
		Passenger.	Freight.	Passenger.	Express, Postal and Baggage.	Freight.	Total.		Passenger.	Freight.
1899	July	147,580	251,343	761,212	342,008	3,310,261	4,416,481	93	7 50	13·17
	August	151,674	265,226	792,196	351,438	3,646,798	4,790,432	130	7 54	13 75
	September	143,932	278,355	777,735	329,456	3,882,849	4,990,040	1,110	7 69	13·95
	October	129,203	309,322	664,824	317,786	4,531,274	5,513,884	209	7 80	14 65
	November	123,379	323,907	589,612	296,408	4,736,296	5,622,316	1,201	7 18	14 62
	December	125,783	322,923	585,553	292,808	4,552,032	5,430,393	3,154	6 99	14 09
1900	January	134,761	336,681	645,202	298,032	4,314,474	5,257,708	16,198	6 69	13 01
	February	122,709	314,996	735,284	277,107	4,097,552	4,909,943	18,005	6 62	13 01
	March	138,786	370,713	625,887	301,823	4,737,129	5,664,839	30,540	6 69	12 78
	April	127,315	379,220	596,739	288,068	5,231,106	6,118,913	1,588	6 95	13 80
	May	133,866	365,942	625,041	313,362	4,806,485	5,744,888	.....	7·01	13 14
	June	151,066	325,028	686,102	336,571	4,327,499	5,350,172	.....	6 77	13·31
	Total	1,630,054	3,843,656	7,888,387	3,744,867	52,176,758	63,810,012	172,181	7 13	13 58

JOHN SUTTON,
Mechanical Accountant.

MONCTON, June 30, 1900.

C.—INTERCOLONIAL RAILWAY.

Abstract of Locomotive Returns for Year ended June 30, 1900.

Months.	Hours in Steam.	Locomotive Mileage.	Consumption.				Average Consumption per 100 Miles.				
			Tons of Coal.	Pints of Oil.	Pints of Valve Oil.	Pounds of Waste.	Miles run to 1 hour in Steam.	Pounds of Coal.	Pints of Oil.	Pints of Valve Oil.	Pounds of Waste.
1899—July	46,217	493,618	14,761	17,880	10,272	9,740	10·68	6,698	3·62	2·08	1·97
August	49,433	517,90[illegible]	15,824	19,004	11,150	10,259	10·48	6,844	3·67	2·15	1·98
September	50,673	524,12	16,627	19,068	11,356	10,141	10·34	7,106	3·64	2·17	1·94
October	53,094	542,130	17,639	17,019	9,691	10,519	10·21	7,388	3·14	1·79	1·94
November	54,382	554,476	19,013	17,776	9,348	10,618	10·20	7,681	3·21	1·69	1·91
December	55,256	558,807	20,103	18,127	9,487	10,485	10·11	8,058	3·24	1·69	1·88
1900—January	58,328	588,188	21,692	20,653	10,578	11,476	9·57	8,261	3·51	1·80	1·95
February	56,040	550,606	20,591	21,566	10,594	11,465	9·83	8,523	3·92	1·92	2·08
March	67,952	645,188	24,443	23,828	12,188	11,343	9·49	8,486	3·69	1·89	1·76
April	64,049	633,165	21,872	22,589	12,530	11,589	9·89	7,738	3·56	1·98	1·83
May	62,494	627,098	20,079	21,959	10,150	12,218	10·03	7,172	3·50	1·62	1·95
June	57,231	592,701	17,710	22,096	10,260	12,441	10·36	6,693	3·73	1·73	2·10
	675,149	6,828,005	230,354	241,565	127,604	132,294	10·11	7,557	3·54	1·87	1·94

Moncton, June 30, 1900.

JOHN SUTTON,
Mechanical Accountant.

D.—INTERCOLONIAL RAILWAY.

STATEMENT of Locomotive Power for each month July 1, 189 , to June 30, 1900.

Months.	Miles run by Engines.	Mechanical Superintendent's Salary, Clerks and Office Expenses.	Enginemen's Wages.	Fuel.	Oil and Waste.	Repairs to Engines, Tenders, and Tools.	Water.	Engine Houses and Turntables.	Total.	AVERAGE PER 100 MILES.							
										Mech'l Supt. Salary.	Wages.	Fuel.	Oil and Waste.	Repairs.	Water.	Engine Hos & Turntabs	Total.
1899.		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.								
July	193,618	1,269 35	27,369 16	35,920 26	2,211 71	25,990 87	1,487 62	1,337 61	95,577 58	26	5 54	7 28	45	5 26	30	27	19 36
August	517,907	1,334 90	28,229 98	29,416 74	2,130 58	31,529 09	4,231 90	1,572 77	108,475 96	26	5 45	7 62	41	6 09	82	30	20 95
September	524,121	1,380 16	28,031 91	41,138 43	2,116 60	32,913 66	4,150 19	1,591 70	111,322 65	26	5 35	7 85	41	6 28	79	30	21 24
October	542,130	1,313 16	27,868 76	44,467 75	1,686 46	30,839 45	3,947 73	1,474 68	111,597 99	24	5 14	8 20	31	5 69	73	27	20 58
November	554,476	1,276 39	27,817 23	46,905 85	1,620 97	33,229 54	5,790 27	2,253 08	118,893 33	23	5 02	8 46	29	5 99	1 01	41	21 41
December	558,807	1,250 76	28,975 31	51,324 61	1,911 65	22,139 60	5,377 90	2,323 90	113,303 73	22	5 19	9 18	34	3 96	96	42	20 27
1900.																	
January	588,188	1,380 18	31,478 24	61,189 84	2,353 71	27,138 03	3,857 58	2,069 34	129,466 92	23	5 35	10 40	40	4 62	66	35	22 01
February	550,606	1,412 20	28,663 94	58,498 58	2,413 32	24,148 40	5,529 62	3,661 38	124,327 44	26	5 21	10 62	44	4 38	1 00	67	22 58
March	645,188	1,572 41	34,864 72	69,968 48	2,614 56	21,709 13	2,103 91	2,675 16	135,508 37	24	5 40	10 84	41	3 36	33	42	21 00
April	633,165	1,482 70	33,367 47	54,541 07	2,037 76	21,973 91	913 54	1,591 10	115,907 55	23	5 27	8 61	32	3 47	15	25	18 30
May	627,098	1,574 41	32,171 63	50,706 69	1,716 26	18,048 74	281 77	645 65	105,145 15	25	5 13	8 09	28	2 88	1	10	16 77
June	592,701	1,508 98	31,166 80	47,759 33	2,078 19	27,339 36	4,133 70	1,556 87	115,543 23	26	5 26	8 06	35	4 61	69	26	19 49
Total	6,828,005	16,755 60	359,996 15	601,867 63	24,891 77	316,999 78	41,805 73	22,753 24	1,385,069 90	25	5 27	8 81	37	4 64	61	33	20 28

MONCTON, June 30, 1900.

JOHN SUTTON,
Mechanical Accountant.

E.—INTERCOLONIAL RAILWAY.

GENERAL STATEMENT of the Expenses of the Mechanical Department Year ended June 30, 1900.

The miles run by trains	5,473,710
" engines	6,828,005
" cars	63,810,012
" snow ploughs	72,181
Cost of locomotive power	1,385,069 90
Cost of cars repairs :—	
Repairs to passengers cars	106,608 01
" postal express and baggage	27,563 80
" freight cars and vans	338,202 78
" snow ploughs and flangers	5,851 81
Oil waste for packing	5,473 20
	483,699 60
The cost of locomotive power :—	
Per 100 miles run by trains	25 30
" " engines	20 28
" " cars and ploughs	2 17
The cost of repairs to cars and ploughs :—	
Per 100 miles run by train	8 73
" " engines	7 00
" " cars and ploughs	0 75
The cost of oil and waste for packing :—	
Per 100 miles run by train	0 10
" " engines	0 08
" " cars and ploughs	0.0085
The cost of repairs to cars per 100 miles run by them :	
Passenger	1 35
Postal, express and baggage	0 74
Freight cars and vans	0 65
Ploughs and flangers	8 11

JOHN SUTTON,
Mechanical Accountant.

MONCTON, June 30, 1900.

64 VICTORIA, A. 1901

INTERCOLONIAL

RETURN of Accidents and Casualties which have occurred in Canada on the

Date.	Time of Day.	Number of Train.	Description of Train.	Name of Conductor.	Name of Driver.	No. of Engine.
1899.						
July 1	12 30		Special	I. L. Barnhill	J. B. Champion	101
" 1	16·55	33	Express	W. A. Mitchell	J. Houston	81
" 5	10·45	3	Q. C. Railway	C. Lawrence	J. Smith, (Q.C.R.)	14
" 10	19 45	34	Express	G. C. Johnston	G. Findlay	152
" 10	5·30					
" 18	3 00		Special	I. L. Barnhill	H. McDonald	106
" 20	7 00		Shunter	Geo. Sullivan	J. McLellan	44
" 22	24·10		Special	B. Wood	J. Stewart	206
" 26	Morning					
" 31	18·20		Special	G. Bouchard	J. Couturier	136
Aug. 2	15 35	147	Accommodation	J. Rioux	M. Normand	195
" 4	11 00		Ballast	C. Couchy	D. Boucher	2
" 4	16·55	19	Express	C. Craigie	A. McLeod	56
" 7	12 40		Ballast	J. Wilson	G. Lamothe	204
" 7	23 45		Special	A. Arcand	J. Dion	229
" 8	11·15		"	J. Henderson	J. McAulay	53
" 8	14 37	137	Accommodation	L. E. Proulx	J. O. LeBel	192
" 9	11·30		Shunter		H. Como	123
" 10	19·30		"	H. McDaid	W. H. Anderson	189
" 12	11 00		Special	J. Henderson	P. McKenna	53
" 16	11 00		Shunter			
" 16	16 04		Special	R. Hunter	T. Wilkins	54
" 16	11·15	49	Freight	J. Dionne	G. Topping	8
" 17	10 45					
" 17	16 40	147	Accommodation	P. Frechette	M. Normand	81
" 20	5·00		Special	S. Bernier	W. F. Duncan	211
" 23	1·50	75	Accommodation	T. W. Johnston	R Wilson	130
" 31	22·30	151	Express	L. Proulx	O. Jolivet	199
Sept. 4	14·40	3	Accommodation	G. Chesley	G. W. Anderson	65
" 12	13·35		Special	J. Baxter	R. Ferguson	10
" 14	8·15	26	Express	—McGovern	Thompson, (C.P.R.)	173
" 17	23 50		Special	J. F. Kelly	H. Stewart	176

SESSIONAL PAPER No. 20

RAILWAY.

line of the Intercolonial Railway during the Year ended June 30, 1900.

Place of Accident.	Name of Person injured.	Whether Passenger or Employee.	Particulars of Accident.	Extent of Injury.	Verdict of Coroner's Jury.
McLeod's Siding	T. Pierce	Employee	While coupling cars	Finger jammed	
Belœil	AE.J.Globensky	Neither	Trying to board train in motion.	Leg cut off	
Levis Station	A. Francœur	"	" "	Foot slightly injured.	
Pt St. Charles	Thos. Mahon	"	Struck by train at crossing	Fatal	Accidental.
Leitches Creek	C. Jefferson	Employee	Knocked off hand car	Hip dislocated and broken.	
Albion	C. Scothorn	"	While shunting jumped from car.	Ankle sprained	
Richmond Car Shop.	R. Whebby	"	While shunting struck head on cross-beam.	Head badly cut	
Stellarton	A. R. Gordon	"	While coupling cars	End of finger taken off.	
Folleigh Bridge	F. Mitchell	"	Fell off the bridge	Seriously injured	
Moose Park	L. Filteau	"	Collision, Bouchard's special and Varvell's working train.	Slightly injured.	
St. Eugene	Mrs. F. Morin	Passenger	While leaving train fell on arm of car seat.	Considerably injured.	
Mitchell	T. Sinjohn	Brakeman	Trying to board train in motion, fell between cars.	Fatal	Accidental.
4 miles east of Riv. Denys.	Mr. McKenzie	Neither	Lying along track; on approach of train scrambled and fell down embankment.	Face bruised	
4 miles west of Bic.	N. Pelletier	Employee	While unloading ballast, fell between cars.	Fatal	Accidental.
Chaudiere Jct	O. Langlois	"	While coupling cars	Left hand badly crushed.	
Amherst Yard	C. B. Clarke	"	While shunting, stepped on broken bottle.	Bottom of right foot badly cut.	
Duncan	L. Therrien	"	While unloading cheese, fell down on platform.	Leg hurt	
St. John	J. Maber	"	While coupling cars	Three fingers smashed.	
"	J. Proctor	"	While shunting	Hand jammed	
Amherst	F. McKinnon	"	While shunting, fell off front of engine.	Left leg and right hip bruised.	
Deep water terminus, Halifax	C. E. Mitchell	Neither	Run over by flat car	Leg badly hurt	
Lawlor's Lake	T. Hourihan	Employee	Cars left the track	Fatal	Accidental.
King Siding	Jos. Proulx	"	While shunting	Two fingers cut off left hand.	
River du Loup	T. Rossignol	"	Struck in the back by moving car.	Fatal	Accidental.
Ste. Hyacinthe	P. Vandal	Neither	Crossing track in team, in front of engine shunting.	Left hand slightly injured.	
2 miles east of Sayabec.	Ferdinand Bosse.	"	Found dead on track	Fatal	Accidental.
½ mile east of Truro.	Pat Reynolds	"	Lying on track, run over by train.	"	Accidental.
St. Jean Port Joli.	Mrs. Pelletier	Passenger	Getting off train while in motion.	Considerably injured.	
St. John, Mill Street.	P. Duffy	Employee	Crossing track, struck by engine.	Arm broken, head cut. Since died.	No inquest.
New Glasgow Bridge.	R. Ferguson	"	While looking at rear of train, head struck bridge.	Skull fractured, died next day.	Accidenta
St. John	R. Elliott	"	While coupling	Hand smashed	
2½ miles east of Stellarton.	D. McMaster	Neither	Struck by train	Fatal	Accidental.

INTERCOLONIAL

RETURN of Accidents and Casualties which have occurred in Canada on the

Date.	Time of Train.	Number of Train.	Description of Train.	Name of Conductor.	Name of Driver.	No. of Engine.
1899.						
Sept. 22..	23·45	.....	Shunter.....	J. Jackson.....	A. McGrath.....	191
" 23..	6·30	.....	Special.....	W. McClafferty	P. O'Toole.....	159
" 26..	16·20	13	Accommodation.....	F. Davidson.....	J. McLellan	173
" 28..	13·00	.....	Working.....	G. Lamkie.....	A. Cook	208
" 30	23·15	84	Accommodation.....	J. Berry.....	J. Brownell.	184
Oct. 3..	.....	.....	.....	.....	.....	.....
" 5..	10·30	.....	Shunter.....	.....	J. Moody	94
" 7..	16·20	.....	Special.....	V. Roy.....	J. Bruce.....	113
" 11..	11·30	.....	Shunter.....	W. Bovard.....	A. McCabe.....	74
" 13..	18·00	23	Freight	J. Buchanan	M. White.....	175
" 15	24·30	.....	Special.....	A. Begin.....	E. Henry.....	211
" 18 .	17·00	148	Accommodation	A. Bonneau	J. Foley.....	193
" 20..	15·00	105	Freight	J. McDonald.....	A. Proulx.....	9
" 23..	27·30	.....	Special.....	A. Desjardins.....	E. Thomas	225
" 22.	22·30	.....	"	A. Dumas	C. Mercier.....	223
" 23..	10·00	147	Accommodation	J. Rioux.....	J. O. LeBel.....	192
" 25 .	17·40	8	Express.....	R. Hunter	F. Whitney	55
" 30..	17·00	.....	Shunter.....	J. C. Carter.....	J. Leonard.....	23
Nov. 1..	17·00	46	Accommodation ...	F. Laliberté	C. E. Sawyer.....	171
" 2..	17·45	6	Freight.....	J. Henderson	W. Gross.....	137
" 2..	18·45	19	Express.....	J. Craigie.....	A. McLeod.....	129
" 3..	16·30	.....	Ballast.....	Coulombe	F. N. Rioux.....	204
" 7..	11·00	.....	.....	.....	.....	.....
" 7..	17·00	.....	Shunter.....	.....	A. McLeod	129
" 8..	1·15	51	Accommodation	E. S. Vye.....	J. Oakleaf.....	53
" 8..	15·57	34	Express.....	P. Corbett.....	H. Atkinson	153
" 10..	15·50	140	Accommodation	A. Calder.....	J. Sproule.	78
" 16..	20·15	.....	Special.....	G. Soucy.....	A. Goulet.....	205
" 17..	9·50	153	Accommodation	L. S. Proulet.....	A. Doig.....	15
" 17 .	16·30	.....	Special	J. C. Gillespie.....	L. Starratt.....	174

SESSIONAL PAPER No. 20

RAILWAY.

line of the Intercolonial Railway during the Year ended June 30, 1900—*Continued.*

Place of Accident.	Name of Person injured.	Whether Passenger or Employee.	Particulars of Accidents.	Extent of Injury.	Verdict of Coroner's Jury.
Richmond.....	W. Vaughan....	Employee ..	Slipped between cars, wheel ran over leg.	Leg badly cut..	
1 mile west of Antigonish.	A. McGillivray..	" ..	Train struck hand car.....	Legs and arm broken, shoulder dislocated.	
Near Millview Platform.	Dimock Clinton	Passenger...	Jumped from train in motion.	Face and hands scratched.	
Jacquet River Yard.	L. Vinean	Employee ..	Fell between flat cars.....	Slightly injured	
Nappan.....	E. Ripley	Passenger...	Jumped from train in motion.	Fatal.....	Deathcaused by jumping from train.
St. Leonard bridge.	C. H. Bousquet	Employee ..	Fell from bridge	Seriously injured	
St. John Yard..	H. A. Doherty..	Neither....	Crossing track in team. Struck by engine.	Head cut; otherwise injured.	
Pt. St. Charles..	A. Lalibate.....	Employee ..	Fell between cars while passing bell cord over.	Knee badly injured.	
Newcastle.....	W. Stewart (boy)	Neither	Attempting to get on train in motion.	Foot crushed amputation necessary.	
Painsec.....	B. Ripley.....	Employee ..	Coupling cars..	Hand badly jammed.	
Cedar Hall.....	J. Raymond ...	" ..	While shunting.....	Left hand jammed.	
Chaudière Curve	Etienne Nadeau	Neither.....	Attempting to board train in motion.	Left arm badly crushed.	
Sydney.....	D. McKenzie...	Employee ..	While shunting.....	Hand badly injured.	
Salmon Lake...	F. Blackquere ..	" ..	Uncoupling car from engine	Hand slightly jammed.	
Ste. Flavie.	L. Pettigren.. ..	" ..	While coupling cars.....	Two fingers crushed.	
St. Hyacinthe ..	L. Gingras.	" ..	While shunting.....	Hand badly injured.	
Hampton.	J. McManus....	" ..	Tripped and fell on track..	Leg badly injured	
Truro....	J. McKay Hill .	" ..	While coupling cars.....	Fingers injured..	
Rimouski. .. .	J. A. Levasseur.	" ..	While shunting, slipped...	Sprained ankle..	
Petitcodiac.	Walter Clarke..	" ..	While coupling cars.....	Left hand jammed.	
Grand Narrows..	Mrs. Levisconte.	Passenger ..	In getting on train walked over edge of platform of car on opposite side.	Hip dislocated. Seriously injured.	
Montmagny . ..	Honoré Drolet..	Labourer...	Fell off ballast train while trying to board it in motion.	Feet crushed....	
St. John.....	Thos. Hastings..	Employee ..	Fell from roof of coal shed.	Ankle broken...	
Sydney.....	W. Grantmyre..	" ..	While shunting.....	Two fingers badly injured.	
Dalhousie. . .	W. W. Doherty.	Passenger ..	Walking from passenger car to van fell between cars.	Leg slightly injured.	
Between Berry's Mills & Moncton.	Mrs. O'Dell.....	" ..	Fell in sleeping car 'Shubenacadie.'	Arm dislocated at elbow.	
Stellarton ..	Andrew Small..	" ..	Attempting to board train in motion.	Fatal	Accidental.
1 mile east St. Henri Station.	W. Conturier...	Employee ..	Fell from moving train ..	"	Accidental.
St. Charles.....	F. Nolin..	" ..	While coupling cars.....	Leg badly crushed.	
Stellarton	Roy Bond ...	" ..	While shunting	Hand badly injured.	

INTERCOLONIAL

RETURN of Accidents and Casualties which have occurred in Canada on the line

Date.	Time of Day.	Number of Train.	Description of Train.	Name of Conductor.	Name of Driver.	No. of Engine.
1899.						
Nov. 17	16·30		Working	G. Lamkie	L. Bradshaw	208
" 21	18·30				C. McHugh	118
" 24	9·00	58	Freight	J. Pollock	R. Kennedy	108
" 24	17·40		Shunter	F. Ritchie	J. Walsh	87
" 25	20·00		Special	W. L. Irish	P. Scott	49
" 26	7·00				J. Scott	117
" 26	15·30	33	Express	F. Derouin	L. Dutil	200
" 28	17·05	22	Accommodation	D. McIntosh	J. H. Campbell	50
" 29	23·55		Special	C. D. Phillips	P. W. Hennessy	108
Dec. 2	11·00		"	B. McLellan	A. Robbins	142
" 2	15·15				J. S. Cote	96
" 6	18·45		Pilot	M. Varville	G. Goddard	120
" 12	20·12		Special	L. E. Proulx	G. Goddard	38
" 13	10·00					
" 13	16·45				R. J. Wilkins	94
" 13	20·30		Special	W. C. Irish	James Stuart	49
" 14	8·55	25	Express	R. Cummings	S. Trider	150
" 14	14·30		Working	J. Therrien	D. Boucher	20
" 22	12·20		Special	J. Hughes	J. Donald	42
" 22	1·00		"	G. Soucy	O. Gagnon	205
" 27	8·00	24	Freight	J. Daly	J. McAuley	160
" 27	8·45	87	Accommodation	W. Foster	J. J. Ferguson	80
1900.						
Jan. 2	9·00		Pilot	J. Therrien	H. C. Goddard	120
" 3	2·00				N. White	121
" 13	12·00		Pilot	T. Coke	N. Parsons	98
" 13	17·00		Shunter		N. White	121
" 16	11·10		"		S. Watson	75
" 16	13·00	6	Freight	J. B. Crockett	W. Gross	136
" 18	15·30		Shunter		J. Phinney	23
" 20	17·00		"		G. Roberge	126
" 22	1·10				S. Stewart	23
" 22	13·50		Special	N. Hopper	W. Hanway	216
" 27	22·25					

*Killed by I. C. R. train at crossing, signals not sufficiently given. Recommend that rules be more

SESSIONAL PAPER No. 20

RAILWAY.

of the Intercolonial Railway during the Year ended June 30, 1900—*Continued.*

Place of Accident.	Name of Person Injured.	Whether Passenger or Employee.	Particulars of Accident.	Extent of Injury.	Verdict of Coroner's Jury.
4 miles east of Bartibogue.	G. Chamberlin..	Employee ..	Fell from moving train...	Face & shoulder slightly injured	
Moncton yard ..	P. E. Ables.....	" ..	While coupling	Hand injured...	
Stewiacke	Percy Ambrose..	Neither.....	Riding on hopper car. Fell off.	Fatal.	No inquest.
North St Halifax	M. Pendergast..	Employee ..	While shunting.....	Hand injured ..	
Meadowville....	W. F. Landry..	" ..	While coupling cars. . .	Three fingers injured.	
Rivière du Loup yard.	D. Laplante....	" ..	While coupling..	Two fingers crushed.	
¾ mile east of St. Eugene.	R. Champagne..	Neither....	Crossing track in team struck by train.	Fatal.....	
Stellarton	F. Black.	Employee ..	Fell from car..	Sprained ankle..	
Albion.....	S. Lane	" ..	While coupling; felt under cars.	Seven fingers crushed.	
Bedford.....	J. Cooper	" ..	While coupling cars.	Leg jammed....	
Rivière du Loup yard.	A. Beaulieu	" ..	While coupling..	Foot badly sprained.	
Forrestdale. ...	E. Dupont.....	Employee ..	While shunting.....	Left hand hurt..	
¼ M. W. Hadlow	Arthur Duperré.	Neither	Found dead on the track..	Fatal...	Accidental..
Near St. Moise.	P. Charest.....	Employee ..	Fell while carrying boards across ditch.	Head injured....	
St. John yard...	J. L. Coulon....	"	While coupling cars	Finger smashed.	
James River ..	R. Swetnam ...	"	Collision; Baxter's east bound freight and pay train.	Jaw fractured and arm cut.	
Truro	J. Jacobs.....	"	While coupling cars.....	Collar bone broken; otherwise injured.	
Rivière Sauvage.	J. Hamel.... ..	"	While unloading rails. Rail fell on foot.	Foot injured ...	
Amherst..	M. Wryn.... ..	"	While shunting.....	Slightly injured	
St. Pierre.....	J. Castonguay..	"	While shunting; jumped from train.	Leg slightly hurt	
Calhouns..... .	J. Boyce..	"	Loading a case on car.....	Finger badly smashed.	
2 miles west Tatamagouche.	Miss McEachran	Neither.....	Crossing track in team. Struck by train.	Forehead seriously cut.	
Drummondville.	Z. Langlois... .	Employee ..	While shunting.....	Thumb cut off..	
Truro....	P. Leonard.....	"	" "	End of finger cut off.	
Lévis	E. Morin..... .	"	While coupling cars	Right hand crushed.	
Truro yard.....	R. Payne.....	"	While shunting..... ...	Two fingers badly injured.	
Moncton yard..	G. Henderson...	"	While coupling cars.....	Slightly injured.	
Nauwigewauk ..	Chas. Green....	"	While unloading freight from train.	Eye cut with bar of iron.	
Truro..... . ..	W. Layton.....	"	While coupling; caught between cars.	Arm considerably injured.	
Chaudière Jct. yard.	F. Fontaine.....	"	Disconnecting airbrake between cars.	Seriously injured	
Truro yard.	Jas. Spears.....	"	Run over by shunting engine.	Fatal	Accidental
Thomson..	H. Bruce.....	"	Fell from engine in motion.	Slightly injured.	
St. John.....	M. J. McGuire..	Neither.....	Struck by train.....	Arm cut; amputation necessary.	

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INTERCOLONIAL

RETURN of Accidents and Casualties which have occurred in Canada on the line

Date.	Time of Day.	Number of Train.	Description of Train.	Name of Conductor.	Name of Driver.	No. of Engine.
1900.						
Jan. 29...	14·05	.....	Express.....	C. J. Rhodes.....	E. White.....	156
" 29...	23·40	.....	Shunter	R. Whebby.....	C. Skinner.....	188
Feb. 3...	12·15	.....	.....	J. Rouselle.....	E. B. Price.....	135
" 3...	24·00	.....	.....	.....	J. G. McDonald ...	121
" 5...	14·30	.....	Special.....	A. J. Welling.....	J. Donald	42
" 9...	10·20	.....	.....	.....	W. Fitzpatrick	91
" 11...	20·00	.....	.....	.....	J. Hessian..	89
" 14...	18·50	33	Expresss.....	J. Berry	J. W. Nairn	119
" 14...	23·00	.....	Shunter.....	J. Currie.....	C Skinner.....	191
" 25...	16·45	.....	Special.....	A. Rioux.....	G. Toppng	104
" 19...	5·30	.....	Shunter...	P. Clarke.....	G. Spear.....	22
" 27...	9·15	50	Freight.....	J. Dionne.....	J. Dube.....	158
Mch 2...	19·15	.....	Special.....	C. Couchy	J. Fohy..... 190 A. LeBel..... 170 J. C. Cloutier. ... 112	
" 4...	1·10	.....	"	L. Hicks.....	J. Brownell..... ...	59
" 7...	19·30	.....	Shunter	D. McDonald	J. McRury.....	123
" 14...	14 30	24	Freight.....	J. Daley	J. McAuley	178
" 15...	3·30	33	Express.....	P. E. Heine.....	J. Morton.....	173
" 15...	3·30	.....	Special.....	F. Dixon.....	A. Connell.	135
" 16..	12·45	26	Express	J. Millican.....	H. Tait.....	164
" 17..	16·20	25	"	"	J. Stewart	147
" 20..	17·25	.....	Special.	J. B. Michand.....	J. Cameron.....	167
" 23..	9 30	.....	"	J. Swetnam.....	S. Black.....	140
" 27..	10·00	.....	.....	F. Cote.....	D. Boucher.....	97
" 29..	14·30	34	Express	J. Berry	J. Ross.....	153
April 1..	14·15	.....	Special.....	A. Arcand.....	J. Dion	158
" 11..	7·15	.....	"	W. W. Irvin.....	A. Wood.....	226
" 12..	6·40	54	Accommodation....	E. S. Vize.....	P. Scott.....	187
" 14..	11·40	20	Express	W. McClafferty...	H. McAuley.....	159
" 20..	24·30	.....	Special.....	J. W. Coles.	A. Fryers.....	139
" 23..	8·55	20	Express	J. Craigie.....	A. McLeod.....	129
" 27..	16·00	.....	Special.....	J. H. Pushie.....	R. Phinney.....	3

SESSIONAL PAPER No. 20

RAILWAY.

of the Intercolonial Railway during the Year ended June 30, 1900—*Continued.*

Place of Accident.	Name of Person Injured.	Whether Passenger or Employee.	Particulars of Accident.	Extent of Injury.	Verdict of Coroner's Jury.
Old main line Moncton.	J. E. Masters...	Neither.....	While walking on track. Struck by engine.	Slightly injured.	
Deep water terminus Halifax.	A. McDonald.	Employee ..	While coupling cars.....	Finger jammed.	
Ste. Flavie yard.	P. Charette	"	Caught between two cars..	Fatal	Accidental..
Truro yard.....	A. McKenzie...	"	While coupling cars.....	Three fingers of right hand jammed.	
Amherst..	L. G. Berryman.	"	While shunting.	Hips badly injured.	
Near Round House Moncton	T. Mitton .. .	"	Struck by engine.....	Seriously injured	
Richmond..	Chas. Gough....	"	Slipped while getting on engine.	Foot jammed, amputation necessary.	
1¼ mile W Springhill Jct.	J. Langill . .	Neither....	Walking on track: struck by train.	Fatal	Accidental..
D. W. Terminus Halifax.	E. O'Grady.. ..	Employee .	Jumped from train in motion.	Knee injured...	
Near Trois Pistoles.	Pierre Rio IX....	"	Struck by snow-plough ..	Leg broken.....	
Moncton yard..	Don Gay..	"	While coupline cars	Hand badly jammed.	
Chaudière Jct...	J. Dube... ...	"	Fell from engine in motion.	Arm cut off.	
½ mile west of Hadlow.	C. Lemelin.....	"	While uncoupling.	Leg slightly jammed.	
Amherst..... ..	G. Gould..	Neither.....	Run over by train.....	Fatal	Accidental.
Sydney	D. McDonald...	Employee ..	While coupling cars.	Hand badly jammed.	
Between Salt Spring and River Philip.	T. Furlong.	"	Pin fell from tender of engine and hit him.	Slightly injured.	
Dalhousie Jct.	Mr. Corbett....	"	Collision between No. 33 train and Dixon's snow-plough special.	Seriously injured	
" "	F. Dixon	"		Slightly injured.	
	N. Lutes.....	"		Ankle slightly injured.	
St. John..... ..	G. Galletly... .	"	Coupling engine to train...	Hand injured...	
Nauwigewauk ..	A. Saunders. .	Neither....	Trying to cross track, struck by train.	Fatal	Accidental.
Campbellton yd.	V. Le Brun.....	Employee .	Fell on window seat in van.	Forehead badly hurt.	
Catamount.....	E. Steves.....	" ...	Jumped from engine in motion.	Wrist badly injured.	
St. Joseph	G. Lebreaux....	" ..	While shunting; drop brake fell on fingers.	Two fingers jammed.	
Brookfield	H. McKay	Neither. ...	Crossing track with team; struck; by train.	Fatal.	Accidental.
Pt. Lévis.	C. Gauvin.....	Employee ..	While setting off cars.....	Thumb crushed	
Jacquet River..	B. Hachey.....	" ...	While shunting.....	Finger crushed..	
Dalhousie Jct...	A. Cameron. ...	" ...	" "	Hand slightly jammed.	
Har. au Bouche.	F. Phillips (Indian).	Passenger ..	Trying to board train in motion.	Toes smashed. ..	
Hampton	C. M. Sweeney .	Employee ..	While coupling cars... ...	Two fingers injured.	
Alba..	Mrs. D. Campbell	Passenger ..	Stepped from train before it stopped.	Seriously injured	
McKinnon's Har	C. McDonald ..	Employee ..	Slipped in front of engine..	Head badly hurt	

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INTERCOLONIAL

RETURN of Accidents and Casualties which have occurred in Canada on the

Date.	Time of Day.	Number of Train.	Description of Train.	Name of Conductor.	Name of Driver.	No. of Engine.
1900.						
April 28..	20·00	.....	... .	.....	S. Stewart	23
May 1.	16·35	25	Express	J. Millican.....	J. Stewart.....	147
" 2..	16·40	34	"	W. A. Mitchell.....	H. Atkinson.....	113
" 2..	16·40	34	"	"	"	.....
" 2..	15·30	.....	... .	.....	.....	....
" 4.	8·30	.....	Special.....	F. Dixon.....	R. C. Colpitts	220
" 12..	8·55	.....	"	J. A. Davidson.....	T. Rippey	218
" 16	17·15	.....	Shunter	C. Steel	M. Tobin.....	188
" 18.	9·50	157	Accommodation. ..	E. L. Watts	J. Scott...	187
" 22.	14·50	147	"	J. Rioux	J. O. LeBel.....	197
" 22.	14·50	147	"	"	"	197
" 22.	9·00	.....	Working	J. Royer.....	T. Matheson.....	204
" 23.	20·00	.....	Shunter	.....	M. F. O'Brien.. ..	127
" 24	14·55	.....	Special.....	D. McKenzie	H. Cummings.....	53
" 26.	21·05	84	Accommodation...	G. N. Armstrong.....	Geo. Manning.. ..	59
" 29.	16·38	34	Express	F. Derouin.....	S. G. Ferguson..	6
" 30..	12·35	26	"	J. Millican.....	H. Tait	164
June 3..	9·45	.....	Special.....	P. Coffey.....	Geo. Morrison.....	176
" 3..	9·45	.....	"	"	"	176
" 5..	14·35	128	Accommodation.....	J. J. Daley.....	J. Stockall.....	42
" 13..	24·45	.....	Special.....	C. Rioux.....	O. Gagnon..	235
" 17..	13·50	33	Express	W. A. Mitchell...	Jas. Houston.....	125
" 20..	18·50	.....	.....	.....	.....	.....
" 21..	15·15	.....	Special.....	A. B. Vance.....	R. Wilson.....	155
" 22..	... ..	.....	.....	.....	.....	.....
" 24..	5·30	.....	Shunter	.....	F. W. Nelling.....	118
" 26..	4·40	.....	Special.....	J. F. McDonald.....	J. Gallivan.....	210
" 26..	9·35	86	Express	R. F. Rutherford.....	A. McLeod..... ..	218
" 29..	.....	.....	Shunter	.....	D. Matheson.	123

* Killed by engine running contrary to Sunday law. Censures railway for running engine fast and

General Manager's Office,
Moncton, N. B., October 4, 1900.

SESSIONAL PAPER No. 20

RAILWAY.

line of the Intercolonial Railway during the Year ended June 30, 1900—*Concluded.*

Place of Accident.	Name of Person injured.	Whether Passenger or Employee.	Particulars of Accident.	Extent of Injury.	Verdict of Coroner's Jury.
Truro	J. McKay Hill	Employee	Whil coupling cars	Left hand injured.	
St. John	Mrs. Rhind	Passenger	Fell while getting off train	Ankle sprained.	
Hadlow	H. Atkinson	Employee	Train wrecked on account of landslide.	Hip dislocated	
"	V. Dussault	Neither	Train wrecked on account of landslide. Baggage car struck his house throwing him to the floor.	Neck slightly scratched.	
New Mills	A. McCormack	Employee	Fell from hand car, in motion.	Head and shoulders hurt, rib broken.	
Newcastle	Miss Smallwood (little girl)	Neither	Running across track, struck by car.	Forehead and nose slightly bruised	
Jacquet River	P. Rippey	Employee	Fell while getting off his engine.	Shoulder dislocated	
Halifax	Mr. Now	Neither	Struck by engine while walking on track.	Face bruised	
Dalhousie	Jerome Roy	Employee	While making up train.	Right foot sprained.	
St. Cyrille	W. Parenteau	Neither	While loading a car.	Slightly injured.	
"	E. Denouche	"	" "	"	
Sayabec	A. Deschamplain	"	Run over while shunting	Fatal	No inquest.
Moncton	J. E. Prites	Employee	While coupling cars.	Left hand smashed.	
Prenton	Harvey Bruce	"	Jumped from train in motion.	Slightly injured.	
Springhill	J. A. Stronach	Passenger	While shunting	Ankle sprained.	
½ mile west of Hadlow	Jos. Collin	Neither	Walking on track; struck by train.	Fatal	Accidental.
1 mile west of Riverside.	Mrs. Pierce	"	Walking on track; struck by train.	"	"
Norton	Mrs. B. Graham	"	Crossing track in team; struck by engine.	"	"
"	Miss Graham	"	Crossing track in team; struck by engine.	"	"
Burnside and Dartmouth	N. Mosley (little girl.	"	Struck by train on main road crossing.	"	No inquest.
St. Charles Jct.	Ernest Pnize	Employee	While shunting	Left foot injured	
Kingsburg Jct.	W. Blanchet	"	Fell from engine	Slightly injured.	
Lévis	J. Connelly	"	Fell while shunting with Q. C. Ry. engine.	Right leg cut below knee and toes of left foot injured.	
½ mile east of Rockingham	Mr. George	Neither	Struck by train	Fatal	"
Near Antigonish	R. McIsaac	"	Found cut in two on track; supposed by train.	"	Accidental.
Moncton	John Boyce	Employee	Run over while shunting	"	"
Sydney	Frank Moffatt	"	While coupling cars	Toes crushed; leg bruised.	
Near Sydney	F. Richardson	Neither	Crossing track in team; struck by train.	Seriously injured; since died.	
Sydney	A. McKenzie	Employee	While coupling cars	Arm injured; body jammed.	

recommends that Mr. Graham be compensated for the loss of his wife and daughter.

WINDSOR BRANCH RAILWAY.

OFFICE OF THE GENERAL MANAGER OF GOVERNMENT RAILWAYS,

MONCTON, N.B., October 12, 1900.

SIR,—I have the honour to submit the following statements showing the results of the working of the Windsor Branch Railway for the year ended June 30, 1900:

No. 1. Revenue account.
" 2. Maintenance of way and works.
" 3. General balance.
" 4. Statement of earnings.

I also send you the report of the engineer of maintenance on the condition of the permanent way and works.

This line, 32 miles in length, was operated during the year by the Dominion Atlantic Railway Company on the same terms as last year, the company being allowed to retain two-thirds of the gross earnings, the balance, one-third, being paid over to the government, the latter maintaining the line.

The gross earnings accruing to the government were	$	47,351 43
The expenses of maintenance were		13,891 56
Net earnings	$	34,459 87

There was an increase of earnings when compared with last year as follows:—

Earnings, 1899–1900	$	47,351 43
" 1898–1899		42,474 03
Increase	$	4,877 40

The earnings from passenger traffic increased $335 34 and the earnings from freight traffic increased $4,542.06.

The permanent way and works have been well maintained and are in good order.

Some new rails were laid.

8,412 ties were renewed.

Some ballasting was done.

Bridges and buildings were repaired.

I have the honour to be, sir,
Your obedient servant,

D. POTTINGER,
General Manager Government Railways.

COLLINGWOOD SCHREIBER, Esq., C.M.G.,
Deputy Minister and Chief Engineer, Railways and Canals,
Ottawa, Ont.

OFFICE OF THE ENGINEER OF MAINTENANCE,

MONCTON, N.B., September 11, 1900.

SIR,—I have the honour to submit herewith the report of the maintenance of the Windsor Branch for the year ending June 30, 1900.

TRACK.

During the past year 2,500 feet of new four and a quarter inch steel rails have been laid down in the main line, and 106 feet of four and a quarter inch steel rails which had the ends worn, have been taken up, cut, and relaid.

TIES.

8,412 ordinary ties and 8 sets of switch ties have been renewed during the year.

BALLASTING.

1,325 cubic yards of ballast has been distributed at various points along the branch during the past year.

SEMAPHORES AND SWITCHES.

New semaphores were erected at Windsor Junction, and Windsor station, and switches were renewed at the following stations:—Windsor Junction (2), Mount Uniacke (2), Newport, Windsor (2). Switches were also renewed at the following sidings:—Bennette, Wilkins and Campbell's. The station telegraph signals at Windsor Junction, Mount Uniacke and Windsor were overhauled, repaired and supplied with new lamps. Repairs were made to all other signals where found necessary.

SIDINGS.

During the year additional siding accommodation to the extent of 388 feet was provided.

FENCING.

Thirty-six rods of Page wire fencing, and 427 rods of woven wire fencing were erected on the branch during the past year, and the existing fencing overhauled and repaired.

BUILDINGS AND PLATFORMS.

At Windsor Junction, the freight platform was renewed; also a portion of the passenger platform. The clapboards on west side of station building were renewed and painted, and a new water closet was provided. At Beaverbank, necessary repairs were made to the plaster in station master's office and dwelling apartments, and the freight shed platform renewed.

At Mount Uniacke, the interior woodwork of station master's office and waiting rooms was painted, and the walls and ceilings kalsomined. Repairs were also made to the chimneys of station building. At Ellershouse, new sills were placed under the station building, and new hardwood floors were laid down in the waiting room and station master's office. Necessary repairs were made to the broken plaster. At Newport, new sills were placed under the station building and freight shed. A bow window was

built on the front of station to provide a better view of the track for the agent. New hardwood floors were laid in the station master's office and waiting room. Two new sashes were placed in station building, and the interior woodwork overhauled and repaired.

At Windsor, the station building and freight shed were overhauled and repaired; the interior walls of the office in the latter building were sheathed. New sills and posts were placed under the coal shed. The doors of engine shed and baggage room were repaired. Necessary repairs were also made to the station and freight house platform.

BRIDGES AND CULVERTS.

One of the abutments and one of the piers of St. Croix bridge were overhauled and painted.

The timbers of small bridge at Stillwater siding were renewed.

The stringers and wall plates of four culverts between Stillwater and Mount Uniacke were renewed.

GENERAL.

A number of sectionmen's tool-houses were reshingled, and otherwise repaired.

Two new sets of cattle-guards, and fourteen new farm crossing gates were provided. Repairs were made to all others along the branch where found necessary.

I have the honour to be, sir,
Your obedient servant,

T. C. BURPEE,
Engineer of Maintenance.

J. E. PRICE, Esq.,
General Superintendent,
Moncton, N.B.

No. 1.—WINDSOR BRANCH RAILWAY.

REVENUE ACCOUNT, Year ended June 30, 1900.

Previous Year.	Expenditure.	Year ended June 30, 1900.	Previous Year.	Earnings.	Year ended June 30, 1900.
$ cts.		$ cts.	$ cts.		$ cts.
12,873 09	Maintenance way and works	12,891 56	15,668 57	Passenger traffic	16,003 91
29,600 94	Balance	34,459 87	25,653 62	Freight traffic	30,195 68
			1,151 84	Mails	1,151 84
42,474 03		47,351 43	42,474 03		47,351 43

E. & O. E.

MONCTON, N.B., June 30, 1900.

T. WILLIAMS.
Chief Accountant and Treasurer.

No. 2.—WINDSOR BRANCH RAILWAY.

MAINTENANCE OF WAY AND WORKS, Year ended June 30, 1900.

Previous Year.	——	Year ended June 30, 1900.
$ cts.		$ cts.
8,475 34	Repairs of track	9,551 69
285 10	Rails and fastenings	1,058 27
1,308 50	Ties	714 06
701 76	Bridges	7 60
30 67	Signals	14 58
238 74	Culverts, cattle guards, &c	182 82
13 00	Wharf at Windsor	28 40
815 13	Buildings and platforms	322 40
6 21	Hand cars and trolleys	
319 72	Removing snow and ice	187 14
149 70	Tools and repairs of same	156 67
55 15	Fencing	200 74
461 78	Accountant's office and expenses	445 49
12 29	Miscellaneous	21 70
12,873 09		12,891 56

E. & O. E.

MONCTON, N.B., June 30, 1900.

T. WILLIAMS,
Chief Accountant and Treasurer.

No. 3.—WINDSOR BRANCH RAILWAY.

GENERAL BALANCE, Year ended June 30, 1900.

1900		$ cts.	1900.		$ cts.
June 30.	To stores	2,163 97	June 30.	By Dominion account	2,180 14
	" old rails	16 17			
		2,180 14			2,180 14

E. & O. E.

MONCTON, N.B., June 30, 1900.

T. WILLIAMS,
Chief Accountant and Treasurer.

No. 4.—WINDSOR BRANCH RAILWAY.

MONTHLY STATEMENT OF RECEIPTS, one-third earnings.

Month.	Passenger Traffic.	Freight Traffic.	Mails.	Totals.
	$ cts.	$ cts.	$ cts.	$ cts.
1899—July	1,653 18	1,597 84	96 91	3,347 93
August	2,247 67	1,751 22	96 91	4,095 80
September	3,050 66	3,075 16	96 90	6,222 72
October	1,487 14	4,056 29	95 68	5,639 11
November	919 78	3,478 05	95 68	4,493 51
December	1,049 36	2,652 64	95 68	3,797 68
1900—January	930 28	2,238 50	95 68	3,264 46
February	755 56	2,162 50	95 68	3,013 74
March	669 84	2,555 44	95 68	3,320 96
April	948 07	2,119 12	95 68	3,162 87
May	876 97	2,210 07	95 68	3,182 72
June	1,415 40	2,298 85	95 68	3,809 93
	16,003 91	30,195 68	1,151 84	47,351 43

E. & O. E.

MONCTON, N.B., June 30, 1900.

T. WILLIAMS,
Chief Accountant and Treasurer.

SESSIONAL PAPER No. 20

PRINCE EDWARD ISLAND RAILWAY.

OFFICE OF THE GENERAL MANAGER OF GOVERNMENT RAILWAYS,

MONCTON, N.B., October 22, 1900.

SIR,—I have the honour to submit the following report on the working of the Prince Edward Island Railway, for the fiscal year ended June 30, 1900.

I inclose the report of the superintendent, including statements of the various accounts.

The mileage of railway in operation was the same as last year, 210 miles.

There was expended on capital account a sum amounting to $53,546.02 for the survey of and work on a branch of the railway to Murray Harbour, for the surveys in connection with the bridge to be built over the Hillsborough river, near Charlottetown, for reducing curves and shortening the line, for additional rolling stock and for increased accommodation at Summerside.

The total cost of the railway on June 30, 1900, was $3,843,653.28.

The working expenses for the year were.....	$220,931 81
The gross earnings were..	174,738 73
Deficiency	$ 46,193 08

The business done by the railway has been good, the gross earnings being larger than in any previous year.

The increase of earnings was in both freight and passenger traffic. There was an increase in the number of passengers and also in the weight of freight carried.

There was an increase over last year in the quantity carried of grain, canned fish and meat, coal, salt, fresh meat, butter and cheese, starch and general merchandise; and a general decrease in potatoes and other roots, flour and meal and mackerel, cod and other fish, oysters, lumber, live stock, salted meat and eggs.

The buildings and bridges received necessary repairs and some improvements were made.

Two new locomotives were purchased and two first-class passenger cars, one baggage car, one platform car, three coal cars and one snow plough were built in the railway shops to maintain the stock.

Necessary repairs were made to the rolling stock and it is in a state of efficiency.

I have the honour to be, sir,
Your obedient servant,

D. POTTINGER,
General Manager Government Railways.

COLLINGWOOD SCHREIBER, Esq., C.M.G.,
Deputy Minister and Chief Engineer, Railways and Canals,
Ottawa, Ont.

PRINCE EDWARD ISLAND RAILWAY,
SUPERINTENDENT'S OFFICE,
CHARLOTTETOWN, P.E.I., August 31, 1900.

SIR,—I have the honour to submit the following report on the working of the Prince Edward Island Railway, for the fiscal year ended June 30, 1900.

I also inclose the following statements prepared by the accountant and auditor, and the mechanical accountant and storekeeper:—

No. 1. Capital account.
2. Revenue account.
3. Locomotive power (abstract No. 1).
4. Car expenses (abstract No. 2)
5. Maintenance of ways and works (abstract No. 3).
6. Station expenses (abstract No. 4).
7. General charges (abstract No. 5).
8. General store account.
9. General balance.
10. Comparative statement of averages.
A. Monthly statement of the cost of locomotive power.
B. Statement of performance and consumption of locomotives.
C. Monthly statement of car mileage.
D. Statement showing number of locomotives, cars, snow ploughs and flangers.
E. Comparative statement of the expenses of the mechanical department.

The mileage of the railway in operation was the same as the preceding year, 210 miles.

CAPITAL ACCOUNT.

The total expenditure to June 30, 1899, was		$3,790,107 26
The additions during the year were as follows:—		
Survey of Hillsborough bridge	6,338 75	
Branch railway to Murray Harbour	28,502 67	
Rolling stock	8,000 00	
Reducing curves and shortening the line between Loyalist and Colville	9,995 20	
To increase accommodation Summerside	709 40	
Making the total cost on June 30, 1900		$3,843,653 28

Survey of Hillsborough bridge.—This is for the survey in preparation for the construction of a railway and carriage bridge combined, to cross the Hillsborough river at the shipyard point, at the east of the city of Charlottetown to Mutch's Point near Southport on the south side of the river, a distance of 4,496 feet, 2,606 of which is intended to be constructed of earth work and the balance to consist of spans of iron and steel work, to rest on abutments of piling, concrete and stone masonry.

Branch railway to Murray Harbour.—Eleven and one-half miles of this branch (Mutch's Point to Village Green) is now under construction. Twenty platform cars were built and charged to this appropriation.

Rolling stock.—In consequence of increased traffic, eighteen box cars were built during the year.

Reducing curves and shortening line.—This work, consisting of 8,540 lineal feet of grading, has been under contract and is completed. The ballasting will be done by the railway during the next year.

To increase accommodation at Summerside.—This was necessary to provide for the increased traffic in live stock. About one acre of land was purchased, stock yards were erected, and a through siding of 750 feet was built in connection therewith.

REVENUE ACCOUNT.

The earnings from passenger and freight still continue to increase as compared with previous years. The crops during the past year were good, and the output from the cheese factories and creameries has been largely in excess of any former year. All branches of agriculture have shown signs of general prosperity, in fact business along nearly all avenues of trade has been good.

The gross earnings and working expenses for the year compare as follows :—

Gross earnings	$ 174,738 73
Working expenses	220,931 81
Deficit	$ 46,193 03

The gross earnings compare with the previous year as follows :—

In 1899–1900	$ 174,738 73
1898–1899	165,012 03
Increase	$ 9,726 70

The earnings from passenger traffic compare as follows :—

In 1899–1900	$ 72,998 43
1898–1899	65,383 11
Increase	$ 7,615 31

The earnings from freight traffic compare as follows :.

In 1899–1900	$ 83,627 41
1898–1899	79,888 52
Increase	$ 3,738 89

The earnings from mails and sundries compare as follows :—

In 1899–1900	$ 18,112 90
1898–1899	19,740 40
Decrease	$ 1,627 50

The number of passengers carried compares as follows :—

In 1899–1900	$ 147,471
1898–1899	129,667
Increase	$ 17,804

The weight of freight carried compares as follows :—

	Tons.
In 1899–1900	62,227
1898–1899	57,968
Increase	4,259

WORKING EXPENSES.

The working expenses compare as follows with the previous year :—

In 1899–1900	$220,931 81
1898–1899	218,053 01
Increase	$ 2,878 80

The averages compare with the previous year as follows :—

Per mile run by engines.	Cents.
In 1899–1900	65·08
1898–1899	64·74

Per mile run by trains.	Cents.
In 1899–1900	83·40
1898–1899	82·80

Per mile of railway.	
In 1899–1900	$1,052 05
1898–1899	1,038 35

TRACK.

During the year 2,600 old iron rails were taken up and replaced with a better class of old rails, some of which were improved by cutting the worn ends off.

The whole line was chained, and double mile blocks were put up at each mile, and section posts were put up at the end of each section, showing the number of the section.

SIDINGS.

At Reeves, one and one-quarter miles east of Richmond, a siding of 150 feet was constructed.

At Summerside a through siding of 750 feet was built to the stock yards, and a spur was lengthened 400 feet.

At Emerald a through siding of 511 feet was renewed.

At Doyle's a spur was extended 26 feet.

At North Wiltshire, a through siding of 700 feet was renewed.

TIES.

There were renewed during the year 45,000 ordinary ties, 24 sets switch ties and 22 head-blocks and frames, and there were 1,250 culled ties used in yards and sidings.

BALLASTING.

During the year 25,143 cubic yards of ballast were distributed where most needed, and between Fredericton and Bradalbane, a number of cuttings were widened and ditched, the material from which was used in widening embankments in preparation for ballast and in grading station yards at Summerside, Emerald and Bradalbane.

FENCING.

Six and three-quarter miles of old fence was replaced by woven wire, with posts and battens, and about one mile with barbed wire; 10,300 feet of snow fences were rebuilt, and general repairs were made on both snow and ordinary fences where required.

One hundred farmer's gates were made of woven wire and used to replace those worn out.

BUILDINGS, PLATFORMS, ETC.

At O'Leary's the coal shed was taken down and rebuilt.

At Port Hill the office and waiting room were painted.

At Wellington one side of the station roof was shingled.

At St. Eleanor's the station and platform were rebuilt.

At Summerside the walls and ceiling of the ladies' waiting room were sheathed and painted, and a new floor was put down, and the outside of the station was painted. Part of the old building at one time used as a blacksmith's shop, was converted into an ice-house. The roof of the freight office was repaired. A loading platform was built at the end of the freight shed.

At Kensington the office and waiting room were painted, and a semaphore was rebuilt.

At Cape Traverse the office and waiting room were painted, and a new pitch and gravel roof was put on the engine house.

At Bradalbane the outside of the station was painted.

At Hunter River a new door was supplied the waiting room, and the office and waiting room were painted.

At North Wiltshire one side of the roof of the station was shingled.

At Royalty Junction the station roof was shingled and the office and waiting room were repaired and painted.

At St. Dunstans a flag station was built and painted.

At Charlottetown the two waiting rooms, the train despatcher's office and two outside offices of the superintendent were painted inside. The machine shop and blacksmith's shop were relaid with plank floors.

At York a stock pen was built, and a new section tool house erected.

At Bedford the station roof was shingled.

At Cardigan a new door was supplied the waiting room.

At Brudenell the station was rebuilt.

At Georgetown the wharf warehouse was raised two feet and blocked up with square timber, and a new section tool house was built.

At Midgell the station and platform were renewed.

At Bear River the roof of the station was shingled, and new sills were put under part of the building.

At Souris the inside of the office and waiting room were painted, the platform at the station was renewed, and sills put under the building, and a portion of the station grounds were graded. The roof of the engine house and freight shed were repaired. Four water closets, seven pairs of sashes, and four doors were made and supplied different stations.

WHARF AND BREASTWORKS.

At Alberton in making repairs to the wharf, 20 tons of timber, 10 tons of hard stone, and two mooring posts were used.

At Summerside 300 tons of hard stone were used in repairing the roadway of the wharf, and in repairing the wharf, and filling two arches: 8 cars of slabs, 6 cars of earth, 2 cars of poles, and 30 tons of hard stone were used. A plank walk containing 2,300 feet of plank was put down along a portion of the wharf.

At Charlottetown the wharf was repaired, and 10 cars of slabs, 5 cars of brush, 4,000 feet of plank, 19 creosote piles, 50 hemlock piles, 3 creosote mooring posts, 250 cubic yards of ballast, and 65 tons of timber were used.

At St. Peters 734 feet of breastwork was extended, in the construction of which 50 tons of hemlock timber, 100 hardwood cross ties, 250 drift bolts, 173 cart loads of brush, and 500 cubic yards of earth were used.

At Midgell 900 cart loads of brush, 31 carloads of stone, and 200 cubic yards of earth were used in the extension and 200 cubic yards of earth were used in the extension and construction of a breastwork.

At Georgetown 70 tons of hemlock timber, 45 hemlock piles, 4 creosote mooring posts, 8 cars of slabs, 19 carloads of stone, 52 carloads of earth, 11 carloads of brush, 375 drift bolts, and 4,680 feet of plank were used in repairing the wharf.

At Souris 15 tons of timber, 40 tons of stone, and 60 carloads of earth were used in repairing the wharf.

BRIDGES.

At Harper's a second hand iron pin and girder structure of 105 feet in length, was purchased from the Intercolonial Railway, and in building the foundation which consists of four concrete piers, and two concrete abutments, there were 160 barrels of cement, 80 tons of stone, and 3 carloads of sand used. The erection of this bridge will extend into the next year.

At Ellerslie the two stone abutments were repaired by putting in floor walls of concrete, 18 inches thick, about three feet below the level of the rail.

At Clyde two stringers, and two braces were put in.

At Hunter River a pile bent was put under the centre of the bridge.

For Morell a new steel through deck structure 107 feet in length, was purchased from the Dominion Bridge Company, and will be erected next year.

ROLLING STOCK.

The following is a summary of the principal work done in the shops of the mechanical department :—

Locomotives.

Two new locomotives were purchased from the Canadian Locomotive Works of Kingston, Ont. (Nos. 8 and 20), and charged to revenue.

Seven locomotives received heavy repairs, two of which were largely rebuilt. Ten locomotives received specific repairs.

The following work was performed and new parts supplied :—Ten cylinders were bored and fitted with new cylinder heads and piston rods, two new fire boxes were built, and two boilers were patched and fitted with new front tube sheets, and one new throat sheet. Two locomotives received new motion, crank pins, slides, axles, driving boxes, truck boxes, driving brasses, main rod brasses, tubes and cross heads. Two cabs were built and furnished with new fronts and mountings; two new vacuum ejectors were made, four tenders were equipped with the vacuum brake, and two tenders were largely rebuilt, twelve boilers were tested, 415 wheels were bored and pressed on axles, twelve ejectors were repaired, 100 new axles were turned, 2,000 stay bolts were turned and threaded, 72 driving and truck springs were repaired, and twenty new driving springs were made, nine sets of driving wheel tires were turned, and two sets of truck wheels were turned, 600 tubes were pieced, six smoke stacks were made, twelve smoke stacks were made and supplied engine houses, 7,000 bolts were forged and threaded, 5,418 pounds of nuts were tapped.

For the car department 47½ tons of iron were forged, and for the road department 8,583 lbs., six frogs were repaired, and four new frogs were made, seven sets of switch gear were repaired, and eight sets were made, four sets of track scales were repaired, and six sets of small scales were repaired, 773 lbs. of iron were forged for the engineers on the survey of the Hillsborough bridge.

Brass Foundry.

Output:—10,160 lbs. brass castings, 761 brass bearings, 80 battery hangers, and 212 battery zincs.

Car Shop.

Two first class cars and one baggage car were built.

One first-class converted into a second-class, and one second-class car was condemned.

Eighteen box cars and twenty platform cars were built, and charged to capital account.

One snow plough was rebuilt.

One platform car was rebuilt.

Three fifteen-ton coal cars were built to replace the same number of ten-ton coal cars condemned.

Fifteen box cars, twenty-one platform cars, two first-class cars, one snow plough, and one flanger car received thorough repairs.

Forty-five box cars, twenty platform cars, two first-class cars, four second-class cars, four flanger cars, and two snow ploughs received light repairs. Two new cabs were built, five locomotives were supplied with new running boards, buffer beams, floors, boxes and seats, two new trucks, four new pilots, three new tender houses, and three tenders were repaired.

Twenty six loading platforms and seven cattle stages were made, forty bags of plugs were cut, two freight trucks were built, three boxes were supplied for offices, and seventy farm gates were made.

Paint Shop.

Two first-class cars, one baggage car, one second-class, one postal and smoking car, and seven locomotives were painted and varnished, twenty-eight box cars, twenty platform cars, eight coal cars, thirty-eight box car roofs, one flanger car, and seven ploughs were painted. Ten sign boards, twenty crossing signs, 300 mileage, eleven track straight edges, ten track levels, ten hand cars, four semaphores, and nine stations were painted, and 300 panes of glass were put in.

Ten days' work of one man was employed in repairing the steamer *Hillsborough*.

STORES.

The value of stores purchased was	$ 89,555 27
The value of stores used was	84,833 05
The value of old material sold was	61,606 28
The value of stores on hand at the end of the year was:	
Ordinary stores	$ 40,098 89
Fuel	12,991 37
Iron and steel rails and fastenings	9,962 55
Old material for sale	5,555 70
	$68,608 51

GENERAL.

The rolling stock, road bed and buildings have been maintained in a state of efficiency.

I inclose a return of minor casualties which occurred during the year.

I have the honour to be, sir,
Your obedient servant,

G. A. SHARP,
Superintendent.

D. POTTINGER, Esq.,
General Manager, Government Railways,
Moncton, N.B.

SESSIONAL PAPER No. 20

No. 1.—PRINCE EDWARD ISLAND RAILWAY.

DR. CAPITAL ACCOUNT. CR.

		$ cts.			$ cts.
1899.			1899.		
June 30	To cost of road and equipment to date	3,790,107 26	June 30	By Dominion of Canada	3,790,107 26
1900.			1900		
June 30	To expenditure year ended June 30 as follows:		June 30	" "	53,546 02
	Survey of Hillsborough Bridge $ 6,338 75				
	Branch Railway to Murray Harbour	28,502 67			
	Rolling stock	8,000 00			
	Renoving curves main line	9,995 20			
	Increased accommodation at Summerside	709 40			
		53,546 02			
		3,843,653 28			3,843,653 28

W. T. HUGGAN,
Accountant and Auditor.

CHARLOTTETOWN, P.E.I., June 30, 1900.

No. 2.—PRINCE EDWARD ISLAND RAILWAY.

DR. REVENUE ACCOUNT for Year ended June 30, 1900. CR.

Previous Year.	Expenditure.	Year ended June 30, 1900.	Previous Year.	Receipts.	Year ended June 30, 1900.
$ cts.		$ cts.	$ cts.		$ cts.
58,464 56	Locomotive power	72,886 18	65,383 11	Passenger traffic	72,998 42
38,463 64	Car expenses	39,553 09	79,888 52	Freight traffic	83,627 41
80,186 60	Maintenance of way and works	65,201 09	19,740 40	Mails and sundries	18,112 90
29,915 87	Station expenses	32,085 44	165,012 03	Total receipts	174,738 73
11,022 34	General charges	11,206 01	53,040 98	Balance	46,193 08
218,053 01	Totals	220,931 81	218,053 01	Totals	220,931 81

W. T. HUGGAN,
Accountant and Auditor.

CHARLOTTETOWN, P.E.I., June 30, 1900.

No. 3.—PRINCE EDWARD ISLAND RAILWAY.

Locomotive Power—(Abstract No. 1).

Previous Year.	Details.	Year ended June 30, 1900.
$ cts.		$ cts.
617 83	Mechanical superintendent's salary, clerks, office and travelling expenses	792 34
18,732 54	Wages of drivers, firemen and cleaners	18,410 18
14,935 67	Fuel	14,614 19
2,257 61	Oil, tallow, waste and small stores	2,080 77
19,712 91	Repairs to engines, tenders and engine tools	34,843 29
639 20	Water, including pump and tank repairs	395 46
1,568 80	Miscellaneous	1,749 95
58,464 56	Totals	72,886 18

W. T. HUGGAN,
Accountant and Auditor.

Charlottetown, P.E.I., June 30, 1900.

No. 4.—PRINCE EDWARD ISLAND RAILWAY.

Car Expenses—(Abstract No. 2).

Previous Year.	Details.	Year ended June 30, 1900.
$ cts.		$ cts.
7,663 96	Repairs to passenger cars	11,038 89
3,557 28	" postal and baggage cars	2,431 37
5,728 66	" freight cars and vans	3,806 29
347 43	" snow ploughs and flangers	650 25
16,815 85	Wages of conductors, train baggage-masters and brakesmen	16,997 48
770 24	Oil and waste for packing	740 93
2,728 69	Small stores and fuel	2,933 79
851 53	Miscellaneous	954 09
38,463 64	Totals	39,553 09

W. T. HUGGAN,
Accountant and Auditor.

Charlottetown, P.E.I., June 30, 1900.

No. 5.—PRINCE EDWARD ISLAND RAILWAY.

Maintenance of Way and Works—(Abstract No, 3).

Previous Year.	Details	Year ended June 30, 1900.
$ cts.		$ cts
292 47	Engineer's salary, clerks, office and travelling expenses	294 01
39,726 59	Wages in repairing roadway, fences and semaphores	45,560 60
2,407 62	Rails, chains and spikes	17,255 13
17,887 56	Ties	13,755 64
7,401 80	Timber and lumber for repairs to bridges, cattle guards, &c	11,234 78
2,464 12	Repairs to wharfs	4,959 64
6,604 55	" buildings and platforms	4,464 27
1,108 58	" tools	1,188 40
2,243 54	Cleaning ice and snow	998 88
80,136 80	Totals	65,201 69

W. T HUGGAN,
Accountant and Auditor.

Charlottetown, P.E.I., June 30, 1900.

No. 6.—PRINCE EDWARD ISLAND RAILWAY.

Station Expenses—(Abstract No. 4).

Previous Year.	Details.	Year ended June 30, 1900.
$ cts.		$ cts.
22,864 90	Salaries and wages of station masters, agents, clerks, telegraph operators, station baggage-masters, yardmasters, switchmen, watchmen and labourers	25,801 27
7,050 97	Fuel, oil, light, stationery and other incidental expenses.	6,284 17
29,915 87	Totals	32,085 44

W. T. HUGGAN,
Accountant and Auditor.

Charlottetown, P.E.I., June 30, 1900.

No. 7.—PRINCE EDWARD ISLAND RAILWAY.

General Charges—(Abstract No. 5.)

Previous Year.	Details.	Year ended June 30, 1900.
$ cts.		$ cts.
4,524 41	Superintendents' and train despatchers' salaries, clerks, office and travelling expenses	4,705 94
5,077 24	Accountant and auditors, paymaster's and cashier's salaries, clerks, office and travelling expenses	5,049 52
481 35	Advertising	237 34
227 30	Damages to men, animals and goods	720 50
365 66	Telegraph expenses (not including pay to operators)	151 07
346 38	Miscellaneous	341 64
11,022 34	Totals	11,206 01

W. T. HUGGAN,
Accountant and Auditor.

Charlottetown, P.E.I., June 30, 1900.

No. 8.—PRINCE EDWARD ISLAND RAILWAY.

Statement of General Stores Account—Year ended June 30, 1900.

1899.	Dr.	$ cts.	$ cts.
June 30.	To balance brought forward		84,039 91
1900.			
June 30.	Purchases during the year	89,555 27	
	Charges from other departments	38,960 46	
	Pay rolls	960 00	
			129,475 73
1900.	Cr.		213,515 64
June 30.	By issues during the year		150,010 33
	Balance: Ordinary stores	840,098 89	
	Fuel	12,991 37	
	Rails and fastenings on hand	9,962 55	
	Old material serviceable	452 50	63,505 31

W. T. HUGGAN,
Accountant and Auditor.

Charlottetown, P.E.I., June 30, 1900.

No. 9.—PRINCE EDWARD ISLAND RAILWAY.

General Balance.

Dr.	$ cts	Cr.	$ cts.
General stores	63,505 30	Dominion Account.	73,145 93
Cash	5,079 11	Accident Insurance.	796 21
Stations	1,621 43	J. McDougall & Co.	160 00
Through Ticket Ledger	102 43	Intercolonial Railway	280 73
Post Office Department	2,597 50	Rhodes, Curry & Co	54 76
Militia Department	234 04		
North-west Mounted Police	273 85		
Anglo American Telegraph Company	46 43		
Judge Weatherbie	30 00		
Sidney Grey	30 00		
Railway Extension, Charlottetown	812 83		
B. & M. Rattenbury	76 20		
Canadian Pacific Railway	28 51		
	74,437 63		74,437 63

W. T. HUGGAN,
Accountant and Auditor.

Charlottetown, P.E.I., June 30, 1900.

No. 10.—PRINCE EDWARD ISLAND RAILWAY.

COMPARATIVE STATEMENT of Averages for Year ended June 30, 1900 and 1899.

Details.		1900.	1899.
Mileage of railway open		210	210
Engine mileage		339,458	336,830
Train mileage		264,895	263,335
Car mileage		1,538,038	1,427,479
Receipts per engine mile	Cents.	51·47	48·99
" mile of railway	Dollars.	832·09	785·87
Percentage of passenger earnings to gross receipts		41·77	39·62
" freight " "		47·86	48·41
" other " "		10·37	11·97
Expenses per engine mile :—			
Drivers, firemen and cleaners' wages		5·43	5·57
Fuel		4·31	4·43
Oil, tallow, waste and small stores		·61	·67
Repairs to engines		10·26	5·85
Water and tank repairs		·12	·19
Miscellaneous		·52	·47
		21·25	17·18
Mechanical superintendent's salary, office and travelling expenses		·23	·18
Total	Cents.	21·48	17·36
Locomotive power, per engine mile		21·48	17·36
Car expenses "		11·65	11·42
Maintenance of way and works "		19·20	23·81
Station expenses		9·45	8·88
General charges		3·30	3·27
Total per engine mile	Cents.	65·08	64·74
Locomotive power, per train mile		27·51	22·20
Car expenses "		14·93	14·61
Maintenance of way and works "		24·61	30·45
Station expenses		12·12	11·36
General charges		4·23	4·18
Total per train mile	Cents.	83·40	82·80
Working expenses per mile of railway	Dollars.	1,052·05	1,038·35

W. T. HUGGAN,
Accountant and Auditor.

CHARLOTTETOWN, P.E.I., June 30, 1900.

A.—PRINCE EDWARD ISLAND RAILWAY.

Mechanical Department.

Statement of Cost of Locomotive Power for the Year ended June 30, 1900.

Months.	Miles run by Engines, less Ballasting.	Cost of							Average per Mile Run.						
		Engineers' Wages.	Fuel.	Oil, Tallow, Waste, &c.	Repairs.	Water, including Tank and Pump Repairs.	Miscellaneous, including Expenses of Offices and Engine House.	Total.	Engineers.	Fuel.	Oil, Tallow, &c.	Repairs.	Water.	Miscellaneous.	Total.
		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.
1899—July	33,721	1,627 24	1,361 06	214 97	1,546 26	41 75	156 95	4,948 23	4·82	4·04	0·63	4·59	0·12	0·47	14·67
August	32,782	1,607 07	1,358 37	233 01	1,436 39	10 00	146 47	4,791 31	4·90	4 14	0·71	4 38	0 03	0·45	14·61
September	31,059	1,568 07	1,150 21	199 52	1,018 33	.....	169 56	4,105 69	5·05	3 70	0·64	3·28	.....	0·54	13·21
October	32,027	1,579 12	1,230 72	173 53	*18,249 28	2 36	250 43	21,485 44	4·87	3·84	0·54	56 98	.....	0·78	67·01
November	31,484	1,641 12	1,556 49	195 89	1,816 82	7 94	225 07	5,443 33	5·21	4·94	0·62	5 78	0·02	0·72	17·29
December	29,380	1,585 55	1,456 47	189 83	1,819 07	154 97	258 08	5,463 97	5·40	4 96	0·64	6 19	0·52	0·88	18·59
1900—January	23,394	1,639 02	985 84	191 34	2,078 00	6 80	240 44	5,141 44	7·01	4·21	0·82	8·88	0·03	1·03	21·98
February	21,431	1,522 66	773 56	163 56	1,518 63	2 40	250 40	4,231 21	7·10	3·61	0·76	7 09	0 01	1·17	19 74
March	24,700	1,658 95	925 68	169 74	1,885 30	3 34	248 78	4,891 79	6·72	3 75	0·69	7·63	0·01	1·00	19 80
April	22,073	1,437 12	1,149 35	153 12	1,684 14	8 72	206 73	4,639 18	6·51	5 20	0 69	7 63	0 04	0·94	21 01
May	26,994	1,519 34	1,253 82	191 26	1,552 60	1 14	205 49	4,723 65	5·63	4 65	0 70	5 75	0 00	0 76	17 49
June	30,413	1,024 92	1,412 62	5 00	238 47	156 04	183 89	3,020 94	3·37	4 64	0·02	·78	0·51	0 61	9·93
Totals	339,458	18,410 18	14,614 19	2,080 77	34,843 29	395 46	2,542 29	72,886 18	5·42	4 31	0 61	10 26	0 12	0 75	21 47

*This includes cost of two new locomotives purchased.

S. F. HODGSON,
Mechanical Accountant.

64 VICTORIA, A. 1901

B.—PRINCE EDWARD

MECHANICAL

STATEMENT of the Performance and Consumption

Months.	Hours in Steam.	Train Mileage.				Mileage by Engines.			
		Passenger.	Freight and Mixed.	Ballasting.	Piloting.	With Train.	Light.	Shunting.	Total.
1899—July	3,854	12,839	13,913	3,125	564	30,441	161	6,754	37,356
August	3,873	11,846	14,499	2,618	22	28,985	235	6,790	36,010
September	3,656	10,777	14,189	1,682	122	26,770	.....	6,226	32,996
October	3,974	11,141	14,636	2,339	.....	27,116	103	7,727	34,946
November	3,605	10,489	14,600	365	.....	25,454	44	6,421	31,919
December	3,368	9,366	13,924	10	.....	23,300	.....	6,100	29,400
1900—January	3,200	4,588	12,640	.....	17	17,245	103	6,046	23,394
February	2,845	5,066	11,180	.....	32	16,278	32	5,121	21,431
March	3,309	4,498	13,185	76	917	18,676	22	6,078	24,776
April	2,916	3,030	12,607	4	196	15,837	70	6,166	22,073
May	2,529	5,901	14,725	1,263	.....	21,889	66	6,662	28,617
June	3,646	10,289	14,097	1,591	.....	25,977	.....	6,696	32,673
Totals	40,775	99,830	163,195	13,073	1,870	277,968	836	76,787	355,591

SESSIONAL PAPER No. 20

ISLAND RAILWAY.

DEPARTMENT.

of Locomotives for the Year ended June 30, 1900.

Total Mileage.		Average Mileage.			Consumption.				Consumption per 100 miles run by Engines.			
Cars.	Snow Ploughs.	Average Cars per Mile run with Train.	Miles to one hour in Steam.	Of Cars to one of Engines.	Bushels of Coal.	Pints of Oil.	Pints of Valve Oil.	Pounds of Waste.	Bushels of Coal.	Pints of Oil.	Pints of Valve Oil.	Pounds of Waste.
180,485	.....	6·04	6·69	4·83	15,756	1,956	788	636	42·17	5·23	2·11	1·70
160,205	.....	5·53	9·29	4·34	15,164	1,931	968	680	42·11	5·36	2·68	1·88
155,592	.....	5·84	9·02	4·71	13,320	1,849	768	616	40·36	5·60	2·33	1·87
163,956	.....	6·04	8·79	4·69	15,316	1,830	740	597	43·82	5·26	2·12	1·70
156,762	.....	6·15	8·85	4·91	17,409	1,797	772	587	54·54	5·63	2·41	1·84
133,812	22	5·70	8·72	4·55	15,311	1,761	658	531	52·07	5·99	2·20	1·80
100,256	.....	5·82	7·31	4·29	12,308	1,633	552	530	52·61	6·98	2·35	2·27
88,673	.....	5·46	7·53	4·14	9,767	1,360	576	456	45·57	6·34	2·68	2·12
113,793	1,477	6·41	7·48	4·59	11,406	1,483	608	465	46·03	5·99	2·45	1·88
95,549	.....	6·11	7·57	4·33	8,411	1,244	552	397	38·10	5·63	2·50	1·79
140,212	.....	6·40	11·31	4·90	13,802	1,785	776	593	48·23	6·23	2·71	2·07
145,181	.....	5·59	8·96	4·44	15,022	1,761	712	532	45·98	5·39	2·18	1·63
1,634,476	1,499	5·92	8·72	4·51	162,992	20,390	8,470	6,620	45·83	5·73	2·38	1·86

S. F. HODGSON,
Mechanical Accountant.

C.—PRINCE EDWARD ISLAND RAILWAY.

Mechanical Department.

Monthly Statement of Car Mileage for Year ended June 30, 1900.

Months.	First Class.	Second Class & Baggage.	Postal and Smoking.	Box and Stock.	Platform.	Total.
1899—July	36,932	27,543	27,747	47,449	40,814	180,485
August	33,040	25,877	29,096	45,724	26,468	160,205
September	30,378	23,643	27,970	45,958	27,643	155,592
October	27,302	21,859	29,866	53,206	31,723	163,956
November	24,510	22,579	27,470	65,823	16,380	156,762
December	25,586	20,616	26,081	46,249	15,280	133,812
1900—January	18,848	14,258	18,182	41,209	7,759	100,256
February	17,759	13,202	16,132	33,327	8,253	88,673
March	17,198	16,316	16,372	41,903	22,004	113,793
April	18,244	14,569	15,847	40,248	6,641	95,549
May	20,536	19,586	24,877	54,646	20,567	140,212
June	25,442	22,852	27,161	47,933	21,793	145,181
Total	295,775	242,900	286,801	563,675	245,325	1,634,476
Less ballasting	.....	.....	11,848	527	84,063	96,438
Balance	295,775	242,900	274,953	563,148	161,262	1,538,038

S. F. HODGSON,
Mechanical Accountant.

SESSIONAL PAPER No. 20

D.—PRINCE EDWARD ISLAND RAILWAY.

Mechanical Department.

Statement showing the number of locomotives and the various classes of Cars and other Rolling Stock on June 30, 1900.

	Classification of Cars.																		
	Locomotives.	1st Class.	2nd Class.	Combined 2nd and Baggage.	Postal and Sheeting.	Combined Postal and Baggage.	Baggage.	Pay Car.	Vans.	Box Freight.	Refrigerator Car.	Stock.	Coal.	Platform.	Total.	Snow Ploughs.	Plungers.	Totals.
On hand, serviceable, June 30, 1899	20	17	6	5	2	3	4	1	3	165	1	17	..	123	347	8	7	15
Condemned, July 1, 1899	1	..	..	..	..	..	..	..	..	..	..	..	..	2	2	..	..	..
Total	21	17	6	5	2	3	4	1	3	165	1	17	..	125	349	8	7	15
Built during the year on capital account	..	..	..	..	..	..	..	..	..	18	..	..	..	20	38	..	..	..
Total	21	17	6	5	2	3	4	1	3	183	1	17	..	145	387	8	7	15
Transferred as follows :—																		
1st class to 2nd class	..	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Platform to coal	..	..	..	..	..	..	..	..	..	..	..	..	18	18	..	..	..	..
Total	21	15	8	5	2	3	4	1	3	183	1	17	18	127	387	8	7	15
Condemned, July 1, 1899	1	..	..	..	..	..	..	..	..	..	..	..	..	2	2	..	..	..
" during the year	1	..	1	1	..	..	1	..	..	..	..	..	3	1	7	1	..	1
Total condemned	2	..	1	1	..	..	1	..	..	..	..	..	3	3	9	1	..	1
Less purchased and rebuilt	2	2	..	..	..	..	1	..	..	..	..	..	3	1	7	1	..	1
To be rebuilt	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	..	..	..
Add serviceable and repairing	21	17	7	4	2	3	4	1	3	183	1	17	18	125	385	8	7	15
Total	21	17	7	4	2	3	4	1	3	183	1	17	18	127	387	8	7	15

S. F. HODGSON,
Mechanical Accountant.

E.—PRINCE EDWARD ISLAND RAILWAY.

Mechanical Department.

Comparative Statement of the Expenses of the Mechanical Department for the Years ended June 30, 1899 and 1900.

	1899.	1900.
The miles run by trains were	263,335	264,895
" engines were	336,830	339,458
" cars were	1,427,499	1,538,038
" snow ploughs were	5,161	1,499
	$ cts.	$ cts.
The cost of locomotive power was	58,464 56	72,886 18
" repairs to cars were	16,949 90	17,276 55
" " passenger cars was	7,663 96	11,038 89
" " postal and smoking cars was	3,557 28	2,431 37
" " freight cars and vans was	5,728 66	3,806 29
" labour, oil and waste for cars was	770 24	740 93
" repairs to snow ploughs and flangers was	347 43	650 25
The cost of locomotive power per 100 miles run by trains was	22 20	27 51
" " " engines was	17 35	21 18
" " " cars was	4 09	4 73
The cost of repairs to cars per 100 miles run by trains was	6 43	6 52
" " " engines was	5 03	5 09
" " " cars was	1 19	1 12
The repairs to passenger cars per 100 miles run by trains were	2 91	4 16
" postal and smoking cars were	1 35	0 91
" freight cars and vans were	2 17	1 43
The cost of labour, oil and waste for packing, per 100 miles run by trains was	0 29	0 28
" " " engines was	0 23	0 21
" " " cars was	0 05	0 04

S. F. HODGSON,
Mechanical Accountant.

PRINCE EDWARD ISLAND RAILWAY.

RETURN of Accidents and Casualties which have occurred in Canada on the line of the Prince Edward Island Railway during the Year ended June 30, 1900.

Date.	Time of Day.	No. of Train.	Description of Train.	Name of Conductor.	Name of Driver.	No. of Engine.	Place of Accident.	Name of Person injured.	Whether Passenger or Employee.	Particulars of Accident.	Extent of Injury.	Verdict of Coroner's Jury.
1899.												
July 21.	....	Special.	Ballast...	Tanton.	Love.....	6	Black River Road Crossing.	Peter Lacey..	Employee.	Fell getting on train while train was moving	Leg fractured.	
Oct. 30	5.30 p.m.	"	Freight...	Munroe. ...	Dalziel.....	6	Alberton.....	S. H. Jones...	Neither...	Foot injured while loading sheep, by car being moved.	Foot bruised..	
Nov. 9..	.....	.. ..	... .	. . ..	....	..	Summerside..	Geo. Ryan....	Employee.	Finger crushed loading freight.	Fingers injured.	
" 18	....	... ...	.....	....	.....	..	Near 48 Stati'n	David Birt....	"	Fingers injured while loading rails.	Fingers lacerated.	
Dec. 5..	12.04 p.m.	6	Mixed...	Tanton.. ..	Good.	5	Emerald.....	J. G. Sherift..	"	Thumb injured while shunting at Emerald.	Thumb crushed.	
1900.												
Jan. 24.	9.50 a.m.	1	"	McKenna	Pound	5	Summerside..	J. H. Burns..	"	Thumb crushed while handling baggage.	Thumb amputated.	
Apl. 10.	2.45 p.m	2	"	McKenna.....	Yeo	8	St. Dunstans..	Theo. Kavanagh.	Neither...	Struck by engine while lying asleep on track..	Fatally injured.	Accidental.

No. 2.

REPORT OF AN EXPLORATION ON THE UPPER PART OF THE STIKINE RIVER TO ASCERTAIN THE FEASIBILITY OF A RAILWAY.

(BY V. H. DUPONT, C. E.)

NOTE.—The plan, profile and album of views referred to throughout this and following Reports on Surveys are on file in the Department of Railways and Canals.

SIR,—In accordance with your instructions dated May 1, directing me to make an exploration of the upper valley of the Stikine river, and to find, if possible, a pass for a railway line between the Stikine and Skeena rivers, I have the honour to submit herewith the following report accompanied by a plan and profile which show the results obtained, also an album of photographs giving a general idea of the country herein described.

As I have already given in a preliminary report a narative of my trip and also in a limited way the incidents connected therewith, I will now describe that part of the country which was the object of the expedition.

On August 4, we arrived at the initial point of my survey, viz.: 111 miles south-east of Dease lake and where Mr. J. S. O'Dwyre, C.E., completed his survey up to the previous year. Here no trace of a trail was visible and on the morning of the 5th four men were set to work cutting one, to enable the pack train to travel while the survey was in progress.

At 10 p. m., in the rain and darkness two men and seven horses arrived at camp where we were awaiting the pack train with anxiety and it was 11 o'clock before we had our supper. Three men remained behind to look for eleven horses which had strayed from the rest of the band during the night. This was a bad start but unavoidable.

DESCRIPTION OF THE COUNTRY.

From the initial point of the exploration, and for a distance of a little over three-quarters of a mile on the north-east side of the river, there is a narrow flat rising from the level of high water to an elevation of twenty-five feet above the starting point. In places the ground is wet, caused by the soakage of water from the bordering hill which is about one thousand feet high and sloping at an angle of 25°. At one place this hill comes in close proximity with the river, and a spring causing a land slide which is one hundred feet long. By a skilful diversion of the water this slide will disappear entirely.

Four hundred feet from this flat there is a small stream to cross. This stream is surrounded by a muskeg not exceeding one hundred feet in length.

Next to the flat mentioned, the river is bordered by a fine terrace which has an elevation of eighty-five feet above the water. This terrace extends six hundred yards on the second mile, and is cut off by a high broken hill which slopes to the waters' edge, producing a gravel slide which is very hard except in the spring, when the frost is coming out of the ground.

In order to avoid an unnecessary grade, the railway could be built at a low cost on the side of this terrace up to the middle of the second mile where a low flat begins. This flat is two hundred feet wide for a distance of two thousand feet, then becomes much wider and is covered by a healthy growth of pine. It ends within two hundred yards of the beginning of the third mile, where the terrace just spoken of approaches the river again, and at this point it is much more broken and contains in its slope some conglomerate cliffs which might necessitate light side rock cuts for a distance of five hundred feet.

From this point for a distance of one thousand feet between the river and the rocky hill referred to, which is cut off straight in places, there is a low flat, partly covered by high water and wet and marshy in all seasons.

By locating the line at the foot of the hill the road-bed could be built above high water at a small cost as there is plenty of material close by.

For the next mile and a half a fine flat about twenty feet above low water borders the river, and in places the width of this flat exceeds two thousand feet. At the beginning of this flat there is a short piece of muskeg, and then the ground which becomes hard and dry is covered with small pine.

From the end of the flat mentioned, for a distance of thirteen hundred feet there is a strip of level ground extending between the river and a much broken hill of over a thousand feet in height. This strip is really the continuation of the flat described and its elevation above the water is about the same.

We are now within four hundred feet of the seventh mile. For the next half mile a high broken hill approaches the river and several rock ledges from twenty to thirty feet high appear close to the water, otherwise the slope of the hill is very steep, being formed chiefly of conglomerate and sandstone. This half mile will without doubt occasion several side rock cuts of small importance.

Up to the middle of the ninth mile this broken hill continues to follow the river in close proximity, but at the foot of the slope, which is not now so steep, there is generally a strip of flat ground wide enough to build the road-bed of a railway line.

The slope of this broken hill is much undulated in places and there are four small land slides occasioned by springs, but none of these slides are of bad character.

Now begins a long stretch of flat ground which extends close to the end of the sixteenth mile. The land is dry and partly open, and nothing better could be desired for the construction of a railway.

Two important tributaries of the Stikine are crossed on this section, and so far are the only streams of importance and which will necessitate the building of steel bridges.

The first tributary is called the Ducker river by the Indians of Telegraph Creek. It is situated at the middle of the 11th mile, and has a general course of N. 60° E. It runs on a bed of compact gravel and has a mean fall of 20 feet per mile for at least the first 6 miles. Its width at high water is 250 feet, and could be bridged at a minimum cost a half a mile from its junction with the Stikine.

The Ducker river runs through a large valley of level ground in form of flats and terraces which are low for the first five miles, but then raise rapidly above the river. This important tributary seems to end in a flat country, surrounded by high mountains situated at a distance of about 50 miles from the Stikine.

Photograph No. 13 shows the valley of the Stikine looking up and No. 14 shows the valley looking down.

The other important stream referred to is situated at the end of the 16th mile, and is called by the Indians the San-a-bar river. This tributary of the Stikine is very crooked and runs through a low canyon of sandstone and conglomerate of a greenish colour. Its mean fall was found to be 106 feet for the first mile. At a distance of 5 miles it branches into two equal streams, one running in a southerly direction, while the other follows an easterly course. The length of either of these branches does not appear to exceed 30 miles and they seem to end in high flat ground. In order to cross this river it would be necessary to build a bridge 100 feet long and 12 or 15 feet above the water close to the junction with the Stikine.

Photograph No. 16 shows the San-a-bar close to its junction with the Stikine.

Photograph No. 17 shows the junction of the two rivers.

The rock that borders the San-a-bar river extends along the Stikine, and for a distance of 75 feet the high water goes over it and carries away the foot of a plateau causing a cut bank. As this plateau is not over 60 feet high, this cut bank will present no difficulty in the construction of a railway line.

Photograph No. 15 shows this cut bank.

For the next 4 miles that follows the ground in the immediate vicinity of the river is soft and marshy, being generally below the level of high water, but at a short distance from the river the ground is higher and drier. Fine flats covered with pine extend in places to the mountains, which are situated more than three miles from the river.

At the end of the 20th mile a little river has to be crossed and will require a span of 40 feet, 10 feet above the water.

The ground for the 21st mile is chiefly composed of terraces of unequal height and much broken by numerous horsebacks, but there is ample space for the construction of a railway at a small cost by following the foot of the terraces where the ground is generally dry and level.

From the beginning of the 22nd mile to the middle of the 25th mile, the country is practically level and very open, and looks like prairie ground covered with fine grass. Several short pieces of muskeg are in the vicinity of the river where the land is lower, but they could be avoided by constructing the line at a certain distance from the river.

At the beginning of the following mile the line will have to be constructed across a series of small plateaus and terraces from 20 to 40 feet high and then over still more broken ground and some large pieces of muskeg which might prove unavoidable.

From the last point described to the end of the 28th mile, the ground is generally high close to the river and much broken by small ravines. Few narrow flats are sometimes situated at the foot of high ground but are generally wet.

So far nothing has been said of the west side of the river, which was not examined so closely, yet a careful study of that side of the Stikine might prove to be still more suitable for the construction of a railway.

The river appears to be generally bordered by some fine and extensive flats, occasionally separated by short pieces of broken ground.

Only one slide extending about 400 feet was noticed. The streams are not so numerous as on the east side, there being only one important stream ; its width might be 100 feet and its length should not exceed 6 or 7 miles. The general course of this stream is S. 26° W.

As the Stikine from the initial point of the exploration to the 28th mile describes a horse-shoe which is 12 miles across, the last stream referred to might be the means of a great saving in the mileage by cutting across the range of mountains that fill the horse-shoe. But if this should prove practical it will not be without the use of some heavy grades

The Stikine river in the section just described is from 300 to 500 feet in width and contains a large number of islands, some of which are covered by thick bushes, spruce and balsam trees.

The water of the Stikine is muddy, although all the tributaries seen, so far, bring in perfectly clear water. The current is swift in places and becomes sluggish for a long stretch.

Taking for the base of the level the elevation 3,650 feet found by Mr. J. S. O'Dwyre, C.E., at the end of his exploration of the river the previous year, the elevation at the end of the 28th mile was found to be 3,720 feet above sea level, giving a difference of only 70 feet in 28 miles. The difference of level is especially in the first sixteen miles, where the current has a mean velocity of about 3½ miles per hour.

The river is navigable for a small stern wheel steamer of good power, as no serious obstacles to navigation exist for a long distance above and below the section under consideration. It is true there are a number of riffels some of which might be be called rapids, though none are of a character to impede navigation.

For this stretch of country referred to, the valley is from 6 to 8 miles wide, and is bordered by high mountains of an elevation of 6 or 7 thousand feet above sea level. They are all bare for a long distance before the summit is reached, and large patches of snow can be seen in all directions.

A general summary of geology of the country will be given in a later page.

Beyond the 28th mile the valley runs in a general southerly direction, and at the 36th mile it is suddenly contracted. Before the 56th mile is reached its width in places does not exceed one mile.

The most remarkable feature of this part of the valley is a strip of swampy meadow, about one mile wide and extending from the 28th to the 56th mile. It is intersected throughout by the river and numerous lakes and channels. At one place the river describes a regular S over 4 miles long. A narrow strip of spruce trees border the river, while the remaining space between the curves of the S is occupied by swampy meadows of fine yellow green colour and small lakes and ponds. This, combined with the rugged

snow peaks that border the valley produces scenery unsurpassable for its striking effect. Viewed from the top of a mountain the whole valley has an appearance of a park of great magnitude and beauty.

Photographs Nos. 25, 27 and 29, taken consecutively and at an altitude of nearly four thousand feet above the valley, give a good idea of the nature of this part of the country.

Following the east side of the river, the 29th mile will necessitate a certain amount of curvature in order to avoid some large muskegs and slews which extend along the river.

With the exception of one cut bank eight hundred feet long and sloping at an angle of 35° for an elevation of one hundred and thirty-five feet, the 30th mile does not differ materially from the 29th.

The valley of the Stikine looking up the river as it appears at the beginning of the 32nd mile, is shown by photograph 18.

The 31st and 32nd miles are much like the previous miles. The ground is flat along the river and wet in places—some high benches are at a distance from the river.

Photograph No. 19 illustrates the valley of the stream running west between the 31st and 32nd miles, and No. 32 shows the same valley viewed at an altitude of two thousand feet.

The valley of the Stikine looking down from the 31st mile, is shown by photograph No. 21, which was taken at an altitude of two thousand feet above the river.

From the 33rd mile for a distance of six hundred yards there is a low flat mostly composed of muskeg, it extends about three hundred feet back from the river. A hill sixty feet high extends at the rear of this flat for a distance of nine hundred yards. This hill becomes quite flat in places and extends really up to the end of the 38th mile. Its course is in close proximity of the river for a certain distance, but generally at the foot there is a narrow flat containing springs and muskegs. This high flat hill referred to is often cut off by small brooks which originate at the foot of the mountains.

Photograph No. 23 which was taken at the 34th mile, shows the valley of the Stikine and the bordering mountains on the west side as they look at a distance of two miles.

Photograph No. 24 shows the valley of a stream running west between the 36th and 37th miles.

Photograph No. 36 is a birds-eye view taken at an altitude of two thousand feet above the same valley. It shows the stream and a large lake situated on the same stream about three miles from the Stikine.

No. 30 is also a photograph of the same valley but taken at an altitude of three thousand nine hundred feet above the Stikine river.

No. 29 shows the valley of the Stikine as it appears at the 37th mile, as seen from an altitude of three thousand nine hundred and forty feet.

Between the 38th and 52nd mile the ground is wet and marshy close to the river, and in some places over a mile wide. At the foot of the mountains the ground is higher and there are some benches and terraces which are generally much broken. Here and there some round rocky hills protrude out of the valley which have the appearance of islands.

Close to the end of the 52nd mile there is another important tributary of the Stikine to cross. It will require a span of seventy-five feet long and ten feet above water, and will have to be built six hundred feet from its junction with the Stikine river. The stream referred to is called the Slate river on account of the colour of its water and the composition of the river bed which is also of slate colour. At a distance of a mile and a half from its mouth this river appears to be divided into two streams, the main one running in a southerly direction.

From Slate river to the end of the 56th mile the ground is still more broken and generally higher close to the Stikine.

There are numerous lakes nearly surrounded by high spurs of the mountains which border the valley.

In order to shorten the distance in the event of a railway line being built, this part will require a certain amount of curvature and necessitate the use of short pieces of heavy grade, and some spurs of the mountains might necessitate important earth cuts.

The following photographs give a good idea of this part of the country :—

No. 29 shows the valley of the Stikine going up as it appears from the 37th mile. Nos. 32 and 31 are also views of the same valley up and down as seen from the 47th mile. No. 33 represents a part of a lake close to the river at the 48th mile. Nos. 34 and 35 are views up and down the valley of the Stikine as it appears from the 48th and and 49th miles. No. 36 is a view of the west side of the river at the 53rd mile, it also shows the Horn mountain which is very near the river on the west side.

On the section referred to there are 13 streams to cross, but with the exception of Slate river, which I have already described, there is only one important one which will require a span of 20 feet. This stream is situated at the 53rd mile.

With this section ends a long stretch of low wet ground, and it is also the terminus of possible navigation by small stern wheel steamers.

At the end of the 56th mile the shores of the Stikine are suddenly contracted to a width not exceeding 75 feet, and there is here an important rapid for a few hundred feet, but which would not impede navigation for a canoe.

Between the 56th and 68th mile there are again some stretches of sluggish water, but the riffels are more numerous than on the previous section. The fall of the river was found to be in the last 12 miles 91 feet. The 68th mile might be considered the extreme point of navigation on the Stikine river by canoes.

The valley is still more narrow between the bases of the mountains, being in places hardly more than three-quarters of a mile wide. The mountains do not seem to be so high as in the previous section, but the patches of snow are more numerous and more extensive.

The highest mountain in the vicinity of the river has an approximate elevation of 7,269 feet, and opposite the 40th mile one mountain was found to have an elevation of 7,665 feet above sea level.

The following photographs give a good idea of the mountains from the 40th to the 68th mile and the enormous quantity of snow which partly covers them :—

Nos. 25, 27, 28, 29, 34, 36, 71, 72, 73 and 77.

On the section referred to there are a few places where the ground is wet, but it is generally dry and the river is bordered for these twelve miles by flats and high benches more or less broken. At the beginning of the 57th mile there is a cut bank 300 feet long, the foot of it being composed of fragile rock with clay on top. The total height above the river is 40 feet.

From the 64th to the 68th mile the river is generally bordered on both sides by fine meadows, dry and very suitable for the construction of a railway.

In the vicinity of the beginning of the 57th mile it might be advisable to cross the Stikine should the line be located so far on the east side in order to make a big saving in the mileage as the river is very crooked and the west side might still be more suitable for the construction of a railway.

There are no important streams on this section, 6 small creeks are on the east side and only three on the west side.

This part of the valley of the Stikine is shown by photograph No. 50, which also shows the Stikine looking down as seen from the 63rd mile. Photograph No. 51 shows the same valley as viewed from the same point only in the opposite direction. No. 52 shows the valley of the Stikine looking down from the 63rd mile.

At the 68th mile the river branches into three streams, one branch called 'Tenasse Creek' which runs in a westerly direction, first through a short canyon 1,500 feet in length, and then through a valley 1 mile wide until it comes within 1 mile of a branch of the Clappen river, or third south fork of the Stikine, where it turns in a southerly direction and branches out into the mountains.

The second branch continues toward the south through several short and low canyons for a distance of 5½ miles and then branches off into two streams, one running in a westerly direction and is soon lost in the mountains ; this branch is called the 'west branch,' The other runs towards the east across some high broken benches for a mile or so, and then through a very fine open valley 1 mile wide. This branch, which is called the 'glacier branch' continues through the valley for 3 miles and then

touches a small lake which is the source of a branch of the Skeena river. From this lake the stream takes a bend towards the south and runs in that direction for about 2 miles, and then ends in a glacier which has been named the 'Bell glacier' on account of a black peak, which at a distance has the appearance of an enormous bell projecting out of the centre of the glacier.

From the 68th mile, and following the last branch referred to, the ground is broken at the 73rd mile; some high benches and terraces approach the river, causing some high slides or cut banks. At the beginning of the 75th mile the valley is open and there appears a long stretch of nearly level country which is generally wet. The valley continues to be open for many miles and at a short distance from the lake of the divide, between the waters of the Stikine and Skeena rivers, the valley becomes wider and drier. The continuation of this valley will be described by Mr. J. S. O'Dwyre in his report of the exploration of part of the Skeena river.

The elevation of the 68th mile was found to be 3,790 feet above sea level and 4,160 feet at junction of west branch with the glacier branch. The elevation of the divide is 4,335 feet.

Coming back to the 68th mile and taking the third branch which is called the East branch, the valley presents a more favourable appearance for the construction of a railway. The stream follows an easterly direction up to the middle of the 81st mile where it turns towards the north, but a short branch continues to run in an easterly direction up to the middle of the 85th mile, where there is a little lake which is the divide between this branch of the Stikine and another branch of the Skeena.

The two branches of the Skeena just referred to appear to meet at a distance of fourteen miles from the small lake mentioned. The junction of the two branches of the Skeena was seen from an elevation, the valley from all appearances does not present the least obstacle to the construction of a railway line.

The beginning of the 69th mile on this valley is more or less broken ground. The entrance to the valley of the East branch is closed by high benches or terraces which approach the river similar to the Glacier branch. These benches cause a small canyon one mile long, the walls being twenty-five feet high, and on top ends the slope of the benches which are in places one hundred and fifty feet high. A railway could easily be constructed on the side of the slope without necessitating a large expenditure of money.

From this canyon the valley opens up and is from two to five miles wide in places. The ground is composed chiefly of fine meadows having the appearance of a large prairie. The land is dry and presents no difficulty whatever to the construction of a railway.

The altitude of the divide of this branch of the Stikine was found to be four thousand one hundred and fifty feet, or one hundred and eighty-four feet lower than the elevation of the divide on the Glacier branch.

By looking at the profile of the river it shows that the grade of the East branch does not exceed 55 feet per mile while, on the Glacier branch there is one mile with a grade of 80 feet, and 5½ miles with a grade of 67·27 feet per mile. The distance is at least 5½ miles shorter by the East branch than by the Glacier branch.

Photograph No. 53 is a view of the beginning of the East Valley, it shows at the rear the high benches or terraces where the small canyon referred to is.

Photograph No. 72 is a birds-eye view of Tenasse Creek near its end.

Photograph No. 73 is a birds-eye view of the Glacier branch from its junction with the East branch toward the south, it also shows the valley of the West branch.

Photograph No. 71 shows a part of Tenasse Creek and at the rear the valley of the Clappan or third south fork of the Stikine river.

Photograph No. 69 shows the beginning of the high benches on the East branch.

Photograph No. 68 is a view of the East branch looking down from the same position as photograph No. 69.

Photograph No. 63 shows the Stikine going down from the 62nd mile.

Photograph No. 76 is a view taken from a point close to the West branch, it shows the valley of the Glacier branch above and below its junction with the East branch.

Photograph No. 79 is a view taken 1½ miles up the Glacier branch and looking down.

Photograph No. 80 is a view taken from the same point as No. 79 but looking towards the Skeena river.

Photograph No. 81 is a view taken on the north side of the divide lake showing the Glacier where the Glacier branch of the Stikine river ends.

Photograph No. 82 is in a view taken from the south-east end of the divide.

Photographs Nos. 83 and 84 are other views from the divide lake towards the glacier.

The profile of the Stikine shows from the initial point to the beginning of the east branch trifle grades and on the East branch it is a little above one per cent and only 1·53 per cent on the Glacier branch. These gradients can, however, be kept down to a maximum of less than one per cent without necessitating heavy work.

The question of economy in the construction will, without doubt, bring out a certain amount of short heavy grades which cannot be put in evidence in this kind of work. It might be necessary to introduce some sharp curves in places, but the amount of money appropriated for the construction of this railway will bear more on the details than the difficulties of the country to cross.

Taken on a whole the valley of the Stikine is well wooded considering its elevation and northern position. The most important tree is the white spruce, it frequently attains a diameter of two feet growing tall and straight on low ground and in sheltered places, and is abundant where the ground is wet. Jack pine from three to six inches in diameter predominates on all the flats and terraces that border the river. They are all second growth as there is unmistaken evidence of large tracts of country having been burnt over many years ago. Balsam of good diameter are generally abundant a few hundred feet below the timber line, poplars are also numerous but in no place were birch seen, and alder disappeared with the first mile.

From the 62nd mile to a certain distance on the branches of the Skeena the bottom of the valley is generally void of timber. Thick and low bushes are very common throughout the valley, being abundant near the timber line and open places, increasing the difficulty in travelling and rendering the walking very tiresome.

No devil club was noticed and good feed for animals is abundant at a suitable distance.

The climate, though very wet this season, must be a dry one. The grass is of a bunch grass character usually found in dry regions. The bunch grass itself is very abundant, and the absence of moss which clings to the trees in wet climates is a further proof of the dryness of the country referred to.

The absence of fruit, such as wild berries, is due probably to the frost which is by no means a rare occurrence, even in the bottom of the valley and at any time during the year. The patches of snow are numerous in the mountains and sometimes extend within one thousand feet above the bottom of the valley.

From the above statement it would be premature to draw any conclusions in regard to the agricultural features of the country. It is true there is some direct evidence that the country is cold, but it must be borne in mind, however, that the spring of 1899 in this part was exceptionally late, being fully a month behind. The area of land suitable for agricultural purposes is not very extensive, but there are some large flats here and there where the land is of good quality.

Referring to the mineral prospects of the country, the observations made were not sufficient to derive any definite conclusions. Colours of gold were found on the shores and bars of the Stikine mostly anywhere up to the 38th mile, where they disappeared entirely. At the 48th mile there is a red mountain which must be a part of a mineral belt extending practically east and west. According to some Indians some rich quartz has been found on this mountain.

The formation is chiefly conglomerate and sandstone up to the 56th mile, where limestone, slate and shale were first noticed. The veins of quartz are numerous, but not generally of working thickness.

In the event of the construction of a railway, a discovery which might become important was made on Tenasse Creek, it is a vein of coal about 10 feet thick. The coal seems to be impure, but what was seen was at the surface and exposed to the action of the atmosphere. This vein also appears on the Glacier branch at a short distance from Tenasse Creek. Several indications of coal were also noticed in the surrounding gulleys, and even on top of the mountains, but in small quantities.

Wild animals are numerous, each kind seeming to have adopted their own mountain or runs. Photograph No. 20 shows the operation of skinning a cariboo that was killed by one of the axemen with a revolver (38 calibre). There are few beaver left, but they used to be plentiful in that low and level section extending from the 28th to the 56th mile. The numerous old Indian camps that are still visible on that section testify to the fact.

Some large gray wolves were seen and a few traces of bear. Porcupine are numerous nearly everywhere, and groundhogs were seen by hundreds in the valley and on the mountains in the vicinity of the junction of the East and Glacier branches.

The species of birds that live in that section during the summer are confined to very few. Only one bluejay and a few moose birds were noticed. Ducks and wild geese are not very numerous, but ptarmigan and grouse are plentiful. Fish are generally scarce in the Stikine, but some of the tributaries seem to contain a few. Salmon do not apparently ascend the Stikine above the Big canyon.

TRAILS.

From Telegraph Creek there are now two trails by which the head waters of the Glacier branch can be reached. The shorter one is the old cattle trail which starts from Telegraph Creek and cuts across the country in a north-easterly direction until the mouth of the Clappan or third south fork of the Stikine is reached, and then it follows the valley of the Clappan and runs through a gap close to the head of Tenasse Creek, and continues on high ground until the west branch of the Stikine is reached.

From the mouth of the Clappan there is a branch trail not used now that crosses the Stikine and connects on the divide between Ptarmigan and Gnat Creeks, with the trail followed by J. S. O'Dwyre in the summer of 1898, when making an exploration of the country between Dease lake and Stikine river.

The other trail starts from Dease lake, cuts across the country until the Stikine is reached and then follows the river to the crossing of the West branch, where it joins the old cattle trail referred to.

The distances are as follows :—

BY OLD CATTLE TRAIL.

	Miles.
From Telegraph Creek to crossing of West branch	130
" " Dease Lake	72
	202

From Dease lake to crossing of West branch by following the valley of the Clappan 140

These distances were obtained from people who have travelled that trail, and from Indians who travel from Telegraph Creek to the head of Tenasse Creek every year in four days.

BY NEW TRAIL.

	Miles.
From Telegraph Creek to Dease lake	72
" Dease lake to crossing of West branch	181
	253

Considering the distance of the old trail as being fairly approximate, the old trail will be 123 miles shorter than the new trail from the crossing of the West branch to Telegraph Creek and from the same point to Dease lake a distance of 41 miles is still in favour of the old trail.

The object in giving these distances is to show that a line much shorter might be obtained to Telegraph Creek or Dease lake by following the valley of the Clappan instead of the Stikine river and Gnat Creek to Dease lake.

No trouble will be experienced to pass from the East or Glacier branch, to the branch of the Clappan, shown on plan accompanying this report. The Indians describe the valley of the Clappan as being flat and wide.

The following is an approximate estimate of cost of railway line complete extending from the inital point of the exploration to the divide of the East and Glacier branches. It is plain that an estimate of the kind is only an imperfect one of the cost, as it might change considerably by locating the line properly. The time employed to complete the line, the degree of perfection of the construction, the changes in the cost of material and the wages are all factors which will regulate the cost. Therefore the estimates are based on eastern cost.

The work to be done could be classified as follows :—

From the initial point to the junction of the East and Glacier branches, a distance of 68 miles there are 62 miles of light work and 6 miles of medium work.

From the 68th mile to the divide on the East branch, a distance of 18 miles, there are 17 miles of light work and 1 mile of medium work.

From the 68th mile to the divide on the Glacier branch, a distance of 10 miles, there are 7 miles of light work and 3 miles of medium work.

No length of any importance from the initial point to the 68th mile could be classed as heavy work, and it is the same following the East or Glacier branches.

From the two divides by following one branch or the other of the Skeena river to their junction, the work will be very light for at least a distance of five or six miles.

COST OF PERMANENT WAY.

Steel rails, 70 lbs., 110 tons at $33	$ 3,630 00
Angles plates, 30 lbs., 704 plates = 21,120 lbs. at 2½c.	528 00
Bolts, 1 lb. each = 2,103 lbs. at 4c	84 12
Spikes 5½ x $\frac{9}{16}$ = 6,500 lbs. at 3c	195 00
Ties, 2,640 at 25c	660 00
Washers and rubbers	25 00
Track laying, per mile	250 00
Ballasting, 2,000 cubic yards at 35c	700 00
	$ 6,072 12

COST OF CONSTRUCTION ONE MILE OF RAILWAY.

Light Work.

Clearing 12 acres at $20	$ 240 00
Close cutting, 2 acres at $35	70 00
Grubbing, 2 acres at $40	80 00
Earth work, 15,000 cubic yards at 22c	3,300 00
Rock work, 500 cubic yards at $1.50	750 00
Under drain and small wooden bridges	1,500 00
Engineering, station, water supply, telegraph, siding	1,500 00
	7,440 00
Contingencies, 10 per cent	744 00
Permanent way	6,072 12
Total	$ 14,256 12

Medium Work.

Clearing 12 acres at $25	$ 300 00
Close cutting, 2 acres at $40	80 00
Grubbing, 2 acres at $40	80 00
Earth work, 50,000 cubic yards at 25c	12,500 00
Rock work, 2,000 cubic yards at $1.50	3,000 00
Under drain and small wooden bridges	3,000 00
Engineering, station, water supply, telegraph, sidings	1,500 00
Contingencies, 10 per cent	2,046 00
Permanent way	6,072 00
Total	$28,578 00

Bridge across	Length of bridge.	Cubic yards of masonry required.	Price per yard.	Total cost of masonry.	No. of span.	Length of span.	Total length of steel.	Cost per ten feet.	Total cost of bridge.
			$	$				$	$ cts.
Ducker river	250	3,000	1,200	36,000	3	75	50	10,250	46,250 00
San-a-bar river	100	500	1,200	6,000	1	100	60	6,000	12,000 00
Creek on 20th mile	40	500	1,200	6,000	1	40	35	1,400	7,400 00
Slate river	75	500	1,200	6,000	1	75	50	3,750	9,750 00
Total									875,670 00

From the initial point to the divide on the East branch the total mileage is 86 miles. The cost will be—

79 miles of light work at $14,256.12 per mile	$1,126,233 00
7 " medium " $28,578 "	200,046 00
Total	$1,401,949 00

Average, $16,301.73 per mile.

By following the Glacier branch from the initial point to the divide, the distance will be 77 miles. The cost will be—

68 miles of light work at $14,256.12 per mile	$ 969,416 16
9 " medium " $28,578 "	257,202 00
Cost of permanent bridges	75,670 00
Total	$1,302,288 16

Average, $16,912.83 per mile.

As previously stated the distance will be five miles longer to the point where the two branches of the Skeena meet by following the Glacier branch than by following the East branch.

Before closing this report, I might state that ballast of good quality is plentiful, also good sandstone for masonry work.

I have the honour to be, sir,
Your obedient servant,
V. H. DUPONT,
Engineer in Charge.

OTTAWA, January 8, 1900.

COLLINGWOOD SCHREIBER, Esq. C.M.G.,
Deputy Minister and Chief Engineer,
Dept. Rys. and Canals, Ottawa, Ont.

REPORT ON THE FIELD OPERATIONS PERFORMED DURING THE SEASON OF 1899, IN CONNECTION WITH EXPLORATIONS FOR A RAILWAY ROUTE FROM THE STIKINE RIVER TO AN OCEAN PORT IN BRITISH COLUMBIA.

MEMORANDUM.

Accompanying this report are the following :—

1. Map of explorations. Scale : 1 inch, 2 miles.
2. Profile of explorations.
3. Album of photographs.

The instructions of the Chief Engineer (written and verbal) given me on April 21, 1899, outlined the following operations in the field :—

1. An exploration of the Skeena river northward from Hazelton to the mouth of the east branch of the Skeena, thence along this branch to the vicinity of Fort Connolly. At this point a junction should be made with the work of Mr. C. F. Dibblee who, during the winter of 1898–9, was expected to have made explorations westward from the mouth of the Omenica river towards Fort Connolly. A personal interview with Mr. Dibblee was to be had, if possible, and his co-operation obtained in the exploration of the east branch of the Skeena.

2. A continuation of the explorations of the Skeena river northward to its head, with the object of discovering a pass suitable for railway construction between its head waters and those of the Stikine river.

Before leaving Ashcroft, I received from the Chief Engineer a copy of Mr. Dibblee's report to him, dated April 1, 1899, in which Mr. Dibblee states :—'Have just finished explorations ; getting back to headquarters the 30th ultimo ; have found a favourable route via Omenica, Osilinca, headwaters of the Skeena waters, etc.'

Mr. Dibblee's headquarters, referred to above, being at the mouth of the Omenica river, the proposed personal interview with him was now out of the question, as was also the contemplated assistance from him in exploring the east branch of the Skeena.

In my preliminary report on the field operations, dated December 5, 1899, I have noted the circumstances deciding that programme of work for the season, which then seemed to promise the best results attainable, considering the ground to be covered and the information most essential to the work in hand.

Trip by Pack Trail From Ashcroft to Hazelton.

My pack train and party started from Ashcroft, B.C., on the Canadian Pacific Railway, on May 20, travelling via the Caribou road to Quesnelle, thence by the old telegraph trail to Hazelton at the head of navigation on the Skeena, a distance of 550 miles from Ashcroft.

We reached this, the initial point of my field operations, on June 30, having been delayed one day (June 5) at Quesnelle, shoeing horses, arranging packs, etc., and three days (June 27, 28, 29) at the crossing of the Sus-Kwa river, about 13 miles east of Hazelton.

On arriving at the crossing of this river we found the government bridge had been swept away by the early high water, and the river, now 180 feet wide, running at the rate of 8 to 10 miles an hour. As rafting the river was quite out of the question in such swift water, a temporary structure was thrown across it, having a total length of 177 feet, with a clear span of 67 feet over the swiftest water. This bridge was built sufficiently strong to carry loaded pack horses and occupied 3 days in its construction.

On pages 24 and 25 of the album are photographs of this bridge in its different stages of construction. It might be classed as a cantilever of rather simple design and crude workmanship ; however, it served to cross our pack train and two others—comprising 100 horses and mules—the morning after its completion. In the album, pages 1 to 25, are photographs taken during the trip from Ashcroft to Hazelton, giving views along the Caribou road and Frazer river, at Quesnelle village, and at points of interest on the old telegraph trail west of Quesnelle

On reaching Hazelton, I found that my supplies, ordered at Vancouver and shipped from there on May 27, had not yet arrived, neither was their any certainty of their getting up to this point inside of three or four weeks ; fortunately the manager of the Hudson's Bay Company at Hazelton was able to supply me with all the essential provisions, so that I could go on with the exploration without delay.

Explorations from Hazelton to the Skeena-Stikine Pass and North Thereof.

Hazelton, the initial point of my explorations, is situated on the left bank of the Skeena, at the head of navigation, and 180 miles above Port Essington, at the mouth of the Skeena.

At Hazelton the Skeena is joined by the Bulkley (Wat-son-quah) a large tributary from the east. In the valleys of these two rivers was projected the western portion of 'Route No. 1' of the original Canadian Pacific surveys, connecting Port Simpson, on the coast with Edmonton, in the North-west Territories, via the Skeena and Bulkley, the head waters of the Fraser, the Yellow Head Pass, and the head waters of the Arthabaska and Saskatchewan rivers. (See Canadian Pacific Railway Report, 1880.)

Observations were obtained at Hazelton for variation of the magnetic needle and also for latitude, these latter agreeing fairly well with those recorded by Dr. Dawson. (See Geological Survey Report for 1879–80, page 164 B.)

Field Operations.

From Hazelton a track survey was carried throughout the season's work, with checks thereon by numerous observations for latitude, and an approximate profile of relative altitudes was obtained by continuous barometric readings.

A favourable route for railway construction was obtained from Hazelton, following the Skeena river to the Skeena-Stikine pass (216th mile) thence northward down a branch of the main Stikine river 14 miles to a point 230 miles from Hazelton, which was subsequently ascertained by Mr. Dupont to be 65 miles from the east end of my explorations of 1898 on the main Stikine river. This latter point being 111 miles from the head or south end of Dease lake, and approximately 135 miles from Telegraph creek (via the Stikine river) thereby making the distance from Hazelton to Dease lake 406 miles, and from Hazelton to Telegraph Creek about 430 miles (via the Skeena and Main Stikine river).

From Hazelton to the 230th mile of my explorations, the route forms part of the proposed railway line from Port Simpson, on the Pacific Ocean, to Lake Teslin at the head of navigation for light steamers, on the Teslin or Hootalinqua river, whose waters ultimately reach Dawson City via the Lewes and Yukon rivers, and thus give access to the Yukon district generally.

For descriptive purposes the route from Hazelton following the main Skeena river to its head, through the Skeena—Stikine Pass, and thence northward down the Stikine to the point where my explorations in that direction terminated, a distance of 230 miles, and which I will designate 'The Ocean Port Line' is divided into the following four sections :—

Section I.—Hazelton to the 55th mile

Section II.—55th to 125th mile.

Section III.—125th to 190th mile.

Section IV.—190th to 230th mile.

NOTE.—The remaining explorations do not appertain to the ocean port or main line, and are described under section V.

OCEAN PORT LINE.

SECTION 1—55 MILES.

Hazelton to the 55th Mile.

The initial point of the projected line is placed on the terraces of the west or right bank of the Skeena, opposite Hazelton village, at an elevation of 40 feet above the ordinary water level. Thence the line follows on the terraces of the right bank to the 6½ mile, opposite the mouth of the Kis-py-ok river, ascends this river by the right bank to the 7½ mile, where it crosses the Kis-py-ok and passing north of the Indian village, again reaches the right bank of the Skeena near the 8½ mile. From here the line follows the Skeena river to the 55th mile, keeping well up on the terraces at a height of 25 to 75 feet above the ordinary water level. The quantities in the construction work will, of course, depend on the alignment and grades adopted in location. But generally speaking reasonably light to medium work can be obtained throughout, with probably not more than two miles of heavy work, without introducing local grades of over 1 per cent, or curves in excess of 8 to 10 degrees. The profile of this section shows an average river grade of 9 feet per mile.

The banks of the river are generally well timbered with medium poplar and spruce, and considerable good cedar between Kis-py-ok and the vicinity of the Babine river mouth, so that ample timber for ties and temporary structures is near at hand.

The terraces show chiefly gravel, but sandy clay will be encountered at some points; ballast material is abundant.

Opposite the 34th mile the Babine river enters the Skeena river from the east by a deep rock walled canyon.

From the Indian village of Kit-kar-gasse on the Babine, five miles above its mouth, a foot trail leads across the Atna mountains to the south end of Bear lake.

The approximate cost of construction on this section may be estimated as follows:—

17	miles	light work at $14,000 per mile	$ 238,000
30	"	" to medium work at $18,500 per mile	555,000
6	"	medium work at $23,000 per mile	138,000
2	"	heavy work at $35,000 per mile	70,000
55	"	work (average rate) at $18,200 per mile	1,001,000
		Permanent structures, Kis-py-ok river bridge and Canoe creek crossing	29,000
		Total	$ 1,030,000

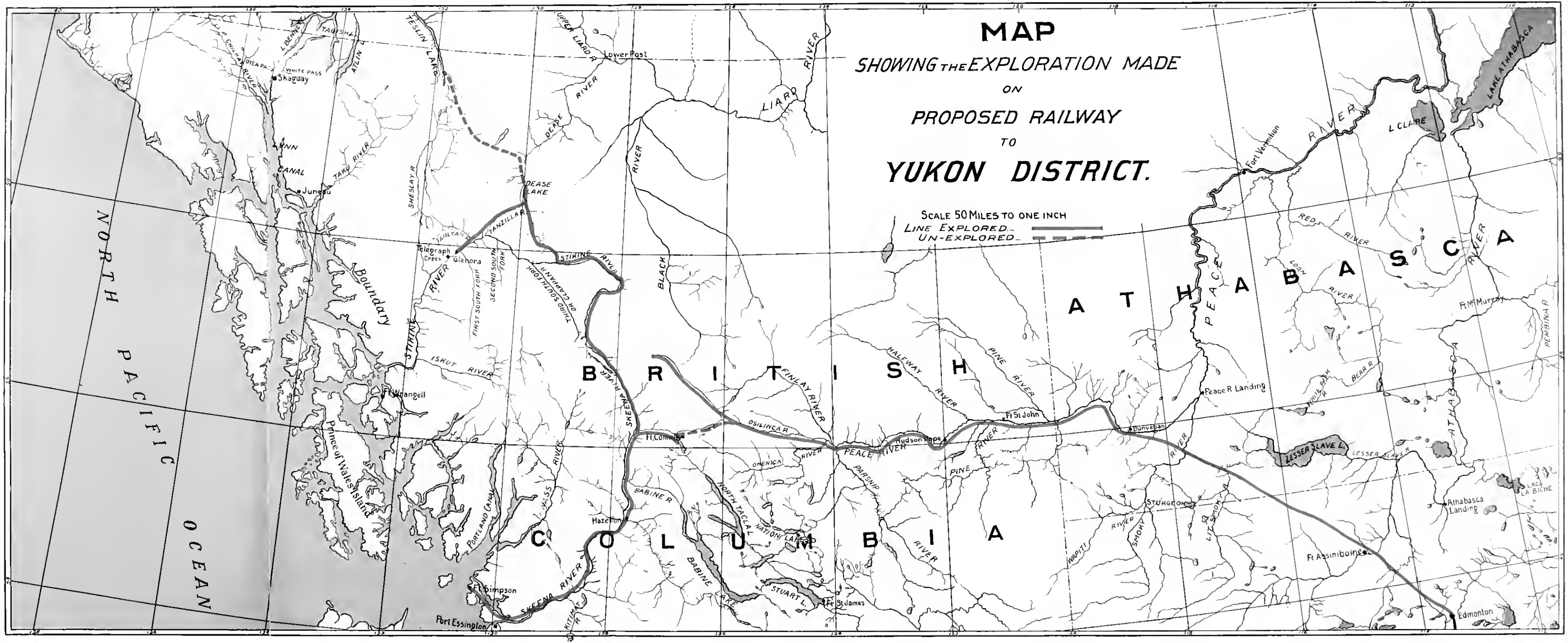
Alternative Line via the Kis-py-ok River.

An alternative route from the 7½ to the 52½ mile of the main line could be obtained via the Kis-py-ok river. It would leave the previously described line at the 7½ mile, and keeping on the right bank ascend the river to the 18th mile, then crossing to the left bank follow the river to the 28th mile, where it turns from the river and gradually rises to the summit of the 40th mile. From here it would descend to the valley of Canoe creek, and by this valley reach the Skeena at the 52½ mile of the main line with a saving of about 4½ miles in distance.

This line would necessitate a summit of the 40th mile (some 700 feet higher than the Skeena at this mileage) which could be approached from the south by grades, approximating 1 per cent for 13 miles, while the descent north to the Skeena would demand 8 miles of 1½ per cent.

Suitable timber for temporary structures, ties, etc., can be had all along this line, and gravel for ballast at numerous points.

Stone for bridge abutments and piers will be found adjacent to the locality of the permanent structures.


MAP
SHOWING THE EXPLORATION MADE
ON
PROPOSED RAILWAY
TO
YUKON DISTRICT.
SCALE 50 MILES TO ONE INCH
LINE EXPLORED
UN-EXPLORED
NORTH PACIFIC OCEAN
BRITISH COLUMBIA
ATHABASCA
Boundary
Prince of Wales Island
Skaguay
Juneau
Telegraph Creek
Glenora
Dease Lake
Lower Post
Ft. Wrangell
Ft. Simpson
Port Essington
Hazelton
Ft. Connolly
Ft. St. James
Hudson Hope
Ft. St. John
Dunvegan
Peace R. Landing
Fort Vermilion
Ft. McMurray
Athabasca Landing
Ft. Assiniboine
Edmonton
Lesser Slave L.
Lake Athabasca
L. Claire
Stikine River
Skeena River
Peace River
Finlay River
Liard River
Black River
Dease River
Taku River
Iskut River
Parsnip River
Pine River
Halfway River
Smoky River
Wapiti River
Babine Lake
Stuart L.
Teslin Lake
Atlin
Portland Canal
Lynn Canal

The 48 miles from zero to the junction of the main line may be classed as :—

35	miles of light work at $14,000	$	490,000
11	" medium work at $23,000		253,000
2	" heavy " at $35,000		70,000
	Total	$	813 000

The permanent structures would be :—

Kis-py-ok river bridge ..... at 18th mile.
Canoe Creek crossing ..... at 44th "

For comparison with the main line the question of the permanent structures may be neglected as the first is of the same dimensions on each line, while the crossing of the Canoe creek will be somewhat shorter on the alternative line :—

Hazelton to 52½ mile, main line at $18,200 per mile (page 8)	$	955,500
Hazelton to 52½ mile, via alternative line, 41 miles (page 9)		813,000
Difference	$	142,500

It would be advisable to have instrumental surveys made over each of these routes before finally accepting either of them.

Photographs on the following pages of the album illustrate points along the route of this section :

Page 26—
Nos. 366 and 367. Views of the junction of the Bulkley and Skeena rivers ('The Skeena Forks'), a half mile below Hazelton. No. 368. Looking up the Bulkley from same point of view as the above. No. 370 View over Hazelton to the terraces on the right bank of the Skeena, where the projected line is placed.

Pages 27, 28 and 29—
Views at Hazelton.

Page 30—
Nos. 171 and 172. Views down the Skeena from terraces above Hazelton, the snow tipped 'Rochers Deboules.' Nos. 339 and 340. 'Glen Meadow Ranch' on the left bank of the Skeena, 4 miles above Hazelton.

Page 31—
Nos. 337 and 338. Right back of the Skeena below Kis-py-ok. Nos. 180 and 336. View of high and low water at the ferrying point of the Skeena, above Kis-py-ok village.

Page 32—
Upper picture. Indian village of Kis-py ok with the Skeena in the foreground. In the rear of this village lies the Kis-py-ok river, joining the Skeena at the extreme left of view. Lower picture. View of the Skeena from a point on the left bank opposite the Indian village, and just below the mouth of the She-gu-nia river, which here enters the Skeena from the east.

Page 33 and 34—
Views on the Kis-py-ok river, along the route of the alternative line.

Page 35—
No. 185. View across the Skeena from the 55th mile. No. 186. View down the Skeena from the upper terrace at the 55th mile.

OCEAN PORT LINE.

SECTION H.—FROM THE 55TH TO THE 125TH MILE—70 MILES.

This section covers the 70 miles intervening between section 1 and the mouth of Sestoot river (or East branch of the Skeena).

The projected line now enters what may be termed the canyon section of the Skeena, with river grades averaging 15 feet per mile. It is placed throughout this section, with few exceptions, on the terraces of the right bank of the river, which rise in generally well defined tiers from the water to the foot of the mountains hemming in the valley.

The line will vary in height from 25 to 75 feet above the ordinary water level.

After crossing the Alawkish River at the 58th mile, just below the Indian suspension bridge, it rises to the terrace on which Kuldo village is situated, 60 to 75 feet above the water, and thence maintains its position on the terraces with a varying altitude above the river.

At the 67th mile the site of the old Indian village of Kuldo is passed, now only marked by numereus graves and a few weather-beaten totem poles.

A mile above Old Kuldo the line passes around Pool Canyon (photograph 193, page 36), and is here thrown back into pretty heavy work of which a good portion will be rock, even at the height of 60 to 70 feet above the river, as the base of the hills crowd down to the river.

Apart from the crossing of several creeks in rather deep canyons which will necessitate high trestling, there is no new feature to remark on. A high grade line must be adopted, in my opinion, throughout this section in order to obtain good alignment and grades, and to avoid the rock work which a low one would necessarily entail.

Heavy work will be met with in a few places along canyons, but this can hardly be avoided without seriously affecting both grades and alignment.

Between the 124th and 125th mile a sharp bend of the river around a high rock point will necessitate a tunnel of 400 to 500 feet in length.

At the 125th mile the projected line passes opposite the mouth of Sestoot river (entering the Skeena from the east), and emerges from this section, which entails the heaviest work on the whole route examined.

APPROXIMATE COST.

23 miles light work at $14,000.			$ 322,000
40 " medium "	23,000		920,000
7 " heavy "	35,000		245,000
50 "	average at $29,740		$1,487,000
Permanent structures			$ 182,000
Tunnelling			20,000
	Total		$1,689,000

Average per mile—$33,780 including structures and tunnelling.

PHOTOGRAPHS.

Page 35—

No. 187. The Alaw-Kish river, one-half mile above its junction with the Skeena.

Page 36—

No. 191. The Alaw-Kish river, near proposed crossing, showing Indian suspension bridge over canyon.

Nos. 188 and 189. Details of Indian bridge (built of poles secured by withes).

No. 193. Pool Canyon, at 68th mile, looking up stream from high banks below the pool.

Page 37—

Nos. 194 and 195. View down Skeena from bluffs above Trout creek.

Nos. 199 and 200. The Skeena at 92½ mile.

Pages 53 and 54.—
Views of the Skeena between the 100th and 125th mile, and of the mouth of Sestoot river at 125th mile.

OCEAN PORT LINE.

SECTION III.—125TH TO 190TH MILE—65 MILES.

In this section is comprised that portion of the Skeena river which I had not time to examine, owing to the advanced state of season, (as noted in my preliminary report.)

However, I was able to form a fairly accurate idea of the general character of this part of the Skeena from what I saw of the upper 15 miles and of the lower few miles near the Sestoot. My Indian guide was able to give me some information too in a general way, as he had been over this section several times.

It appears easier country for railway construction than Section III; the river grades are about 11½ feet per mile and the valley well wooded throughout.

The work might be classed as 50 per cent light and 50 per cent medium, viz.:—

32½ miles at $14,000	$ 455,000
32½ miles at 23,000	747,500
65 miles at 18,500 (average.)	
	$ 1,202,500

PHOTOGRAPHS.

No. 299, page 54, and 300, page 55, are views looking up this section of the Skeena river from near the 125th mile.

SECTION IV.—190TH TO 230TH MILE (40 MILES.)

This section comprises the upper 26 miles of the Skeena river, reaching to the summit between it and the Stikine waters, and the upper 14 miles of the west branch and combined east and west branches of the main Stikine river.

This portion of the Skeena is a mountain stream, with an average grade of 54 feet per mile to the summit (at the 216th mile.)

It runs through a narrow valley, one to one and a half miles wide, running almost north and south. The projected line is on the low terrace that generally follows the river at a height of 15 to 25, and in some cases 40 feet above the water. The line crosses from the right to the left bank at the 193rd mile and remains on that side to the summit, and thereby avoids all but one of the large lateral tributaries of this upper portion of the Skeena.

The summit is at the 216th mile, with an altitude of 4,410 feet above the sea, and from here the projected line follows down the west branch of the Stikine to the 226½ mile, where the east and west branches unite. At this point the line crosses over to the right bank of the united streams and remains there up to the 230th mile. Here my explorations northward terminated, and after erecting prominent reference posts for the information of Mr. Dupont, who was working up this branch of the Stikine river, and reached here a couple weeks later, I began our return trip southward to the Sestoot river.

APPROXIMATE COST.

The work in this section may be classed as follows:—

34 miles light work at $ 14,000	$ 476,000
6 miles medium work at 23,000	138,000
40 miles at average of 15,350	
	614,000
Permanent structures	36,000
Total	$ 650,000

Mean rate per mile, $16,250 (including structures.)

GRADES.

As noted before the average river grade to the summit is 54 feet per mile from the 190th to the 216th mile, thence on the north side of the summit a grade of 24 feet per mile for $2\frac{1}{4}$ miles, then one of 63 feet per mile to the $226\frac{1}{2}$ mile, and finally one of 8 feet per mile to the 230th mile.

Timber in this section is generally small to medium size spruce, jack pine and poplar, but is sufficiently large for ties and such temporary structures as are demaded.

BALLAST.

A supply can be had fairly convenient to the works.

PHOTOGRAPHS.

Pages 42 to 47, and 50 to 52 of the album give views taken along this section.

Exploration over the Clappan Summit to the Waters of the Clappan or 3rd South Fork of the Stikine.

These explorations were made to ascertain whether it were feasible to carry a railway line over this summit into the valley of the Clappan, which would give a shorter route to Dease lake and Telegraph creek than the one now being explored via the main Stikine river.

I found the summit to be 1,076 feet above the Skeena-Stikine summit at the 216th mile, and sufficiently distant to admit of a development reaching to 10 miles. Of this distance about $4\frac{3}{4}$ miles would be at a grade of 1 per cent and $5\frac{1}{4}$ (the upper portion) at 3 per cent.

From the summit northward to the Clappan valley a 2 per cent grade would be necessary for about 5 miles.

The work on the south approach to the summit would be heavy, the cuts chiefly in rock, with several high trestles and considerable sharp curvature.

The 15 miles from the Skeena-Stikine summit to the Clappan valley may be classed as 2 miles of medium work, and 8 miles of heavy on the south approach, and 5 miles of medium work on the north descent to the river valley.

On page 48 of the album, photographs Nos. 264, 266 and 270 are views on the south approach to the Clappan Summit.

On page 49, Nos. 267 and 268 give a view of the summit pass, a barren treeless expanse.

No. 269 is a view of the upper part of the Clappan valley.

It is possible, as these explorations show, to carry the railway line from the Skeena-Stikine summit (at the 216th mile) into the valley of the Clappan river, by way of the Clappan summit.

Thence it is most probable a route could be obtained by this valley to the junction of the Clappan and Main Stikine rivers, a point probably some 10 or 15 miles below where my line of last season from Dease lake first strikes the Stikine river valley (59 miles south-east of the lake). From the forks of the Clappan and main Stikine the line could no doubt be extended to Dease lake, connecting with last years explorations at some point in the valley of Gnat creek near the 25th mile, and thus eliminate the main summit and severe grades between the 25th and 49th miles, as noted on page 21 of my report of 1898.

The proposed line could also, no doubt, be carried down to Telegraph Creek by the valley of the Stikine from the forks above mentioned.

A route as outlined via the Clappan, would effect a considerable reduction in distance compared with that by the main Stikine, probably some 40 to 45 miles; although of this, and of the relative cost of construction nothing certain can be stated until explorations have been made over the suggested route.

SECTION V.

Under this head are placed the explorations made eastward from the mouth of Sestoot river (on east branch of the Skeena), along this river to the mouth of Bear river, thence up this latter river and Bear lake to the divide separating these waters flowing to the Skeena, from the head waters of Driftwood river flowing into North Tacla lake, and eventually reaching the Fraser river. The explorations were extended south of this divide to the second or lower of the two lakes at the head of Driftwood river, in all a distance of 39 miles eastward from the 126th mile on the Skeena river, of the main or ocean port line.

These explorations pertain to the proposed railway line westward from Edmonton, N.W.T., via the Peace and Omenica rivers, to a junction with the ocean port line on the Skeena river. This proposed junction being by way of the lower Omenica, the Osilinca to its head waters (as has been already explored by Mr. Dibblee), thence over the divide, if practicable, and westward by Sestoot lake and river to the Skeena.

The practicability of getting over the divide from the Osilinca waters to those of the Sestoot being as yet undetermined, it is worthy of note here, that a feasible route can probably be obtained by following up the Omenica river to the mouth of Fall river, thence by this river to Hogem pass.

From this pass the line could descend to the valley of the Driftwood, reaching the latter either at Bulkley House or at some point further up the river.

MOUTH OF SESTOOT RIVER TO MOUTH OF BEAR RIVER—18 MILES.

This portion of the eastern explorations forms a link in the proposed line from Edmonton to the Skeena river, via Sestoot lake and river.

The line is projected eastward from the vicinity of the 126th mile of the ocean port line.

It crosses the Skeena at this point and ascends the Sestoot valley on the right bank of the river to the 12th mile (a half mile above the Indian suspension bridge), where it crosses to the left bank and remains on this side, to the mouth of Bear river, near the 18th mile.

Owing to the lateness of the season when we reached this point it was impracticable for me to attempt extending our work to Sestoot lake, although I was anxious to do this, expecting that there at least Mr. Dibblee's line would be found and a connection made with his work.

Since my return I have ascertained that Mr. Dibblee's explorations did not reach Sestoot lake, but after passing the summit at the head of the Osilinca river passed some distance to the north of this lake. Therefore, even had we been able to reach Sestoot lake, the expected connection could not have been made.

Sestoot river being the only outlet to the Skeena from Sestoot lake, it will necessarily have to be followed westward from the lake to the Skeena.

The Sestoot river from the 12th to the 18th mile may, from the information I was able to obtain of the Indians at Bear lake, be taken as a general type of the topography along the remaining upper part. A good deal of canyon country will likely be met with, but the line could propably be placed on terraces back from the immediate bank of the river.

The approximate cost of construction of these 18 lines may be estimated as follows :—

12	miles	light work at $14,000	$ 168,000
4	"	medium work at $23,000	92,000
2	"	heavy " at $35,000	70,000
18	"	at an average of $18,333	$ 330,000

Permanent structures:—		
Skeena river bridge	$ 35,000	
Sestoot " "	20,000	
Bear " "	15,000	
		$ 70,000
A total of		$ 400,000

Averaging $22,222 per mile, including permanent structures.

GRADES.

The river grades vary from 8 to 10 feet per mile for the first 9 miles, and from 33 to 35 feet per mile for the remainder. So that it need hardly be anticipated that local grades in excess of 1 per cent will be required at any point.

The alignment is good, with the exception of about half a mile just above the Indian bridge, where rather sharp curvature will be necessary in getting around a bend of the river.

From the 17th mile on the Sestoot river to the 39th mile the explorations pertain to the Driftwood line.

I may add in explanation that being obliged to extend our trip to Port Connolly (at the lower end of Bear lake) in order to obtain information of the Indians regarding the trails and country in this vicinity, the examination of Bear river and of Bear lake to its head, thence to the Driftwood waters, occasioned but two days delay. These explorations established the feasibility of this portion of the suggested route from the Omenica river via the Driftwood to the Skeena waters.

The projected line is placed on the left or east bank of Bear river, and the East shore of Bear lake.

The divide at the head of Bear lake is a low gravelly ridge, and offers no obstacle to good alignment and easy grades. The line is continued south along the east side of the small lakes forming the head of Driftwood river, near the 23th mile.

For an approximate estimate of cost, these 22 miles may be classed as :—

5	miles light work at $14,000 per mile	$ 70,000
17	" medium work at $23,000 per mile	391,000
22	" at an average cost of $20,955 per mile	$ 461,000

GRADES.

The grades of Bear river is approximately 40 feet per mile to its head at Bear lake. A maximum of 1 per cent may be demanded over portions of this line along the river. A generally level grade can be obtained without excessive work along Bear lake to the Driftwood river. The alignment on these 22 miles will be good.

TIMBER.

An abundant supply of timber for ties and temporary structures can be readily obtained along Sestoot river, Bear river and Bear lake.

BALLAST.

Material for ballast is to be had at sufficiently convenient places.

PHOTOGRAPHS.

On pages 54, 55 and 56 of the album are views illustrating this section.

NOTE. Before leaving this section, I would refer to the explorations made by Mr. Horetzky in 1879, from Bear lake via the Driftwood river, the head of Tacla lake (Buckley House), and the Hogem Pass to a point on the Omenica river, about 50 miles above its mouth (Report Canadian Pacific Railway, 1880, pages 78 and 82). From Mr. Horetzky's report it appears that a feasible route for a railway line can be obtained from the mouth of the Omenica river to Bear lake, as outlined above. From Bear lake to the Skeena river my explorations show that a favourable line can be obtained. This route to the Skeena via Hogem's Pass is certainly a longer one than that proposed by way of the Osilinca river and Sestoot lake, but it offers an alternative should further explorations demonstrate that the Sestoot lake route is not practicable.

GENERAL REMARKS.

The description of the routes examined has now reached the end of my explorations of this season.

These explorations covered some 360 miles of actual survey and reconnaissance of which I have now reported on the following as feasible, viz.:—

Ocean port line	230 miles.
Clappan summit line	15 "
Sestoot river and Bear lake line	39 "
Alternative line via Kis-py-ok river	41 "
Total	325 miles.

MATERIAL FOR CONSTRUCTION.

Timber suitable for ties and temporary structures can be had without difficulty along the entire line, excepting on the portion over the Clappan summit.

Ballast is available at sufficiently numerous points.

Stone for bridge abutments and piers can be obtained near the site of these structures.

APPROXIMATE ESTIMATE OF COST.

A summary of the approximate estimates, previously noted, of the cost of construction (road-bed and permanent way) is as follows, prices being based on the cost of similar works in Eastern Canada:—

OCEAN PORT LINE.

Section I	$ 1,030,000
" II	1,689,000
" III	1,202,500
" IV	650,000
Total	$ 4,571,500

That is 230 miles at an average cost of $19,876 per mile.

The alternative line on section I, via the Kis-py-ok river, would reduce this total by $142,500 (See page 10).

HAZELTON TO PORT ESSINGTON.

This portion of the Skeena has been examined and reported on by the following engineers:—

Mr. H. J. Cambie,	C.P.R. Report,	1878, page	38.
Mr. H. A. F. McLeod	" "	1888, "	58.
Mr. G. A. Keefer	" "	" "	71.

On pages 57 to 63 of the album of photographs are views taken at different points during the canoe trip from Hazelton to Port Essington. They give a fair idea of the nature of the river, and of the country immediately adjacent thereto.

FORT SIMPSON.

A general description of this harbour, conceded by all authorities to be the finest on the Pacific coast north of Vancouver's island, may be had by reference to the reports of the following engineers and officers of the navy:—

Mr. H. J. Cambie,	C.P.R. Report,	1878 page	38.
Rear Admiral De Horsey	" "	" "	62.
Commander Hanmer	" "	" "	64 and 65
Mr. H. J. Cambie	" "	1880 "	38.
Mr. H. A. F. McLeod	" "	" "	57.
Mr. G. A. Keefer	" "	" "	71.

On page 65 of the album of photographs are views taken in Work channel (called 'Wark Inlet' in some reports). A good view of Port Simpson and its harbour is shown on page 66, and detail views of the same on page 67.

CONCLUSION.

In concluding this report I would state that the explorations were carried out without any accident of consequence. All members of my party gave satisfaction, more especially my assistant, Mr. F. J. Robinson, to whose energy and efficiency is largely due the success attending our season's work.

The whole respectfully submitted,

JOHN S. O'DWYER,
Mem. Can. Soc. C. E., Engineer in Charge.

March 1, 1900.

COLLINGWOOD SCHREIBER, Esq., C.M.G.,
Chief Engineer, Department of Railways and Canals.

GRANBY, Que.,
March 1, 1900.

SIR,—I have the honour to transmit you herewith my report on the explorations in connection with a railway line from the Stikine river to an ocean port in British Columbia, carried out under you instructions during the season 1899.

I have the honour to be, sir,
Your obedient servant,

JOHN S. O'DWYER,
Engineer in Charge.

COLLINGWOOD SCHREIBER, Esq., C.M.G.,
Chief Engineer, Department of Railways and Canals,
Ottawa.

GRANBY, Que.,
March 23, 1900.

SIR,—I have the honour to transmit you herewith a 'resume of the results to date of explorations for a railway route to the Yukon district.'

Accompanying it is a map of the province of British Columbia, on which the explorations already made are shown by full red lines, and the unexplored routes by broken red lines.

This map is forwarded you by express.

I have the honour to be, sir,
Your obedient servant,

JOHN S. O'DWYER.

COLLINGWOOD SCHREIBER, Esq., C.M.G.,
Chief Engineer, Department of Railways and Canals,
Ottawa.

RÉSUMÉ OF THE RESULTS TO DATE OF EXPLORATIONS FOR A RAILWAY ROUTE TO THE YUKON DISTRICT.

The explorations carried out by the Department of Railways and Canals during the seasons of 1898 and 1899, had for object the examination of the two following lines, viz.:—

I. The Ocean port line, from Port Simpson to Lake Teslin.

2. The Edmonton Yukon line, from Edmonton westward to a junction with the Ocean port line at some point on the Skeena river.

NOTE.—With this résumé is submitted a map of the province of British Columbia, on which the routes already examined and reported on, are indicated by a *full red line*, while those unexplored are shown by a *broken red line*.

THE OCEAN PORT LINE.

For convenience of description and reference this line may be subdivided as follows:—

Section 1. Port Simpson to Hazelton.

Section 2. Hazelton to the Skeena–Stikine summit.

Section 3. Skeena–Stikine summit to a point on the Stikine some miles above the Great Canyon, or upper portion of the main Stikine river.

Section 4. From the vicinity of the head of the Great Canyon to Teslin lake.

Section 1. Port Simpson to Hazelton. (A. B. on map).

This section was examined, reported on, and a portion instrumentally surveyed during the progress of the original surveys for the Canadian Pacific Railway. (See Can. Pac. Ry. Reports for 1878 and 1880).

Section 2. Hazelton to the Skeena–Stikine summit. (B. C. on map).

Examined, a good route found. (See report of explorations. J. S. O'Dwyer, 1899).

Section 3. Upper portion of the Stikine river.

Examined via the main branch of the Stikine river (C. D. E. on map), a feasible route found. (See report of explorations. J. S. O'Dwyer, 1898 and 1899, and V. H. Dupont, 1899).

This section was found quite practicable for railway construction, but, as a reference to the map will show, it is a circuitous route, whereas if the Clappan river valley were used, it would appear that a much more direct line could be obtained. (C. F. G. on map).

Section 4. Northern section from the vicinity of the head of the Great Canyon to Teslin lake.

This section offers two possible routes to Lake Teslin, viz.:

4*a*. Via Dease lake and the head of Tuya river. (G. H. K. L. M. on map).

4*b*. Via the main Stikine river to the mouth of the Tahltan river (G. N. O. on map), and thence to Teslin via the route explored by Mr. W. T. Jennings, C.E., in 1897 (O. P. M. on map.)

UNEXPLORED PORTIONS OF THE OCEAN PORT LINE.

Section 3. The suggested route, C. F. G., via the Clappan river as an alternative to that explored via the Stikine river (C. D. E.)

It has been found on examination that a railway line can be carried from the Skeena–Stikine summit (C) over the Clappan summit (F) into the head of the Clappan valley (Report, J. S. O'Dwyer for 1899, page 18).

This would involve rather severe grades, especially on the south approach. No other pass has, as yet, be found giving access to this valley from the Skeena; but in this connection an examination should eventually be made by way of 'Tenasse Creek,' which joins the main branch of the Stikine about 10 miles below the Skeena–Stikine summit (V. H. Dupont's report of 1899, page 12).

The valley of Clappan river is described by Indians to be wide and flat (V. H. Dupont's report, 1899, page 19).

Therefore, it may not at the present juncture be considered imperatively necessary to explore this valley, as its obstacles to railway construction, although unknown, would in all probability hardly exceed what has been encountered on the Skeena above Hazelton, while if statements of Indians referred to above are reliable, a fairly easy country may be met with.

Section 4. Route 4*a*, via Dease lake. (G. H. K. L. M. on map). Explorations are requried from the mouth of the Clappan, northerly to a connection with the line explored south from Dease lake towards the Stikine in 1898.)

This route (G. H.) would eliminate the main summit and severe grades encountered between the 25th and 49th miles of the Dease lake to Stikine line. (Report of 1898, page 21.)

Also explorations are necessary over the suggested line (K. L. M.) from Dease lake to Teslin lake, as nothing is known of this country beyond such slight information as was obtained at Telegraph Creek and referred to in report of J. S. O'Dwyer, 1898, pages 9 and 10.

Route 4*b*, via Stikine and Tahltan rivers. (G. N. O. P. M. on map).

By this route the line would be carried for some 45 miles along that portion of the Stikine called the 'Great Canyon.'

While this canyon section of the Stikine has been examined from Telegraph Creek to the mouth of the Tanzilla river (report J. S. O'Dwyer, 1898, pages 8 and 9), no explorations have been made over the remaining upper portion.

SUMMARY.

The unexplored portions are: (*a*) The Clappan Valley (C. F. G.); (*b*) Dease Lake Route (G. H. and K. L. M.); (*c*) Upper part of Stikine Canyon (G. N.)

NOTE.—The explorations of the (*a*) Clappan valley do not seem absolutely essential at present; but the ocean port line cannot be regarded as properly examined until explorations are made covering (*b*) the proposed route from Dease lake to Teslin, and (*c*) the upper portion of the Great Canyon of the Stikine.

THE EDMONTON-YUKON LINE.

For descriptive purposes this line may be divided as follows:—

Section (1) Eastern or Plateau Section.—From Edmonton to the mouth of d'Echafaud river. (R. S. on map).

Section (2) Middle or Peace River Section.—From mouth of d'Echafaud river to junction of Finlay and Parsnip rivers. (S. T. on map).

Section (3) Western Section.—From junction of Finlay and Parsnip rivers, across the Arctic-Pacific watershed to the Skeena river. (T. V. on map).

Section (1) Eastern or Plateau Section (R. S. on map).—The route outlined on the map from Edmonton to the mouth of the d'Echafaud river was examined and reported on during the progress of the original Canadian Pacific Railway surveys. (Can. Pac. Ry. Report of 1880).

Section (2) Middle or Peace River Section (S. T. on map).—This section was explored and reported on by V. H. Dupont, C.E., in 1898.

Section (3) Western Section (T. V. on map).—This section comprises the country lying nearly due east and west between the junction of the Finlay and Parsnip rivers to the east, and the junction of the Skeena and Sestoot rivers to the west.

The portion of this section lying east of the Arctic-Pacific watershed was explored by C. F. K. Dibblee, C.E., in the winter of 1898-9.

The intervening link, which would cross the watershed and connect the explorations already made on either side, remains as yet unexplored.

Should further explorations show that a practicable line across this divide cannot be had by the proposed route, (Sestoot lake and headwaters of the Osilinca river), an alternative route exists to the south via the main Omenica river, Fall river, (west branch of the Omenica), Hogem Pass, Driftwood river, Bear lake, Bear river and the Sestoot river,—which would make the connection between the Peace and Skeena rivers.

The map shows this to be a circuitous route; attention is drawn to it here solely as offering an alterantive.

Nevertheless, although it will increase the mileage considerably in comparison with the Sestoot route, it has the advantage of a low summit at Hogem's Pass (3,438 feet elevation) and would traverse a section of country that is now being extensively developed by hydraulic mining.

Explorations were made over this route (in part) for the original Canadian Pacific Railway surveys by Mr. C. Horetzky, C.E., in 1879,—(see Canadian Pacific Railway Reports, 1880, pages 82 and 83).

This examination extended from the head of Driftwood river to Germansen Creek.

Between the Skeena river (mouth of Sestoot) and the head of Driftwood, the country was examined last season. (Report of J. S. O'Dwyer for 1899, pages 20 and 23.)

The remaining unexplored portion from Germansen Creek to the Peace river is thus reported on by Mr. Horetzky:—

'Below Germansen Creek the Omenica preserves a nearly placid course through a wide valley, for 15 or 20 miles, after which it becomes rapid, and a canyon, formidable enough in high water, but passable for the frailest canoe when at a low stage, intervenes. This is the "formidable" Black Canyon of Butler's "Wild North Land." A miner informed me that he had ascended from the Findlay branch to Germansen Landing entirely alone in a very small canoe, and that the canyon walls are not high, probably not more than 75 feet, with ample room on either side for road purposes. Below the canyon, as the Findlay mouth is approached, the country is of very low and level character. It is therefore, quite apparent, that no obstacles of any importance would be met with. As regards the question of grades in this unexamined portion of the Omenica, it has been seen that, at Germansen Landing the elevation is 2,457 feet above the sea. Now, assuming the level altitude of the Peace river at the Findlay branch to be 1,700 feet above the sea (and I think this is to be an under-estimate), we obtain a difference of level equal to 757 feet which, evenly distributed throughout the intervening distance, gives a very moderate inclination say of 15 feet per mile, so that upon this score there can be very little room for doubt.'

From the geological survey map of the Omenica river there would appear to be some 25 miles from Germansen Creek to the junction of the Omenica and Osilinca rivers, where Mr. Dibblee's line of exploration from the Peace river leaves the Omenica and ascends the Osilinca.

It seems quite safe from the above to assume that a feasible railway line can be had over the entire length of this suggested alternative route, should the necessity arise for abandoning the northern one via Sestoot lake.

FINALLY.

The salient features of the results of all explorations to date, bearing on the ocean port line and the Edmonton–Yukon line, have been herein noted, and such additional explorations outlined as would seem necessary to thoroughly complete the reconnaissance surveys already made over the proposed routes of these two lines.

A comparative mileage table, giving the distances via the different routes is appended.

The whole respectfully submitted.

JOHN S. O'DWYER

March 23, 1900.

COLLINGWOOD SCHREIBER, Esq., C.M.G.,
Chief Engineer, Department of Railways and Canals,
Ottawa.

COMPARATIVE MILEAGE TABLE.

PORT SIMPSON TO TESLIN LAKE.

(I) via Main Stikine River and Dease Lake.

	Miles.
Port Simpson to Hazelton	175
Hazelton to end explorations (J. S. O'D.) 1899	230
V. H. Dupont's explorations (Stikine) 1899	65
Dease lake to end explorations (J. S. O'D) 1898	111
Dease lake to Teslin (approx.)	136
Total	717

(II) via Clappan River and Dease Lake.

	Miles.
Port Simpson to Hazelton	175
Hazelton to Clappan summit	226
Clappan river (approx.)	85
Clappan mouth to Dease Lake (approx.)	50
Dease lake to Teslin (approx.)	136
Total	672

(III) via Clappan River, Canyon of Stikine and Tahltan River.

	Miles.
Port Simpson to Hazelton	175
Hazelton to mouth of Clappan (approx.)	311
Mouth of Clappan to Tahltan (approx.)	50
Tahltan to Teslin (approx.)	170
Total	706

Note. The route via the Clappan river will lessen the distance by 45 miles (approximately). The *Clappan river portion* being *common* to *both routes* II *and* III.

EDMONTON–YUKON LINE.

	Miles.
Edmonton to mouth d'Echafaud river (approx.)	400
Peace river section (approx.)	200
Mr. Dibblee's explorations to head Osilinca river.. 90 m.	
Unexplored section across Watershed (approx.) 57 m.	
Explored east from mouth Sestoot river 18 m.	165
Edmonton to Skeena river	765
Thence to Teslin via Clappan River and Dease Lake (route II).	372
Total (approx.)	1,137

SESSIONAL PAPER No. 20

No. 3.

CANALS

SAULT STE. MARIE CANAL.

SAULT STE. MARIE CANAL, SUPERINTENDENT'S OFFICE,
SAULT STE. MARIE, August 6, 1900.

SIR,—I beg to submit the fifth annual report upon the operation of this canal for the fiscal year ending June 30 last.

The canal was closed for traffic on December 20, having been in continuous operation for 239 days with only one delay during that period, owing to the breaking of a valve rod, and this spring was reopened for traffic on April 23.

During the fiscal year just ended there has been made some 2,475 lockages, passing through 3,615 registered and unregistered craft with a total tonnage of 2,847,554 tons, with an average time to each lockage of 14·85 minutes, this time including all delays to vessels whilst in the lock. Of this tonnage some 574,459 tons was of Canadian bottoms, a gain of 115,942 tons in this item over the last year. In the general tonnage there was a gain over that of last year of 495,388 tons. From the opening of navigation this season (April 23, 1900) up to the end of the fiscal year (June 30) there has been a falling off of the tonnage passing through the canal as compared with the same period last year, of some 102,646 tons. This great falling off in the tonnage of vessels using this canal is the more marked on account of the general increase of the tonnage passing through the river, at this place. The reason, no doubt, of this great decrease (which for the month of July just past alone amounted to 156,007 tons) is accounted for by reason of the shallowness of the water in the lower approach to this canal, and owing to the several vessels having struck bottom in going out, and again another reason has been that a dredge and drill boat have been working in the channel, making it hard work for vessels to come into the lock.

In my last year's report I called attention to the fact that the lower channel of this canal was not deep enough, and that in case of an accident to the large American lock it would be necessary for some vessels to either wait for repairs to be made to the lock or otherwise secure a lighter and lighten their load, so as to be able to pass down through our channel in safety. There are any number of vessels loading down to 18 feet 6 inches, and in one case down to 18 feet 10 inches. In this latter case it would have been absolutely impossible to have taken this vessel down through our lower channel. There should be no delay in dredging the entire lower channel to at least 21 feet. During the season the small amount appropriated to dredging has been expended in starting to lower the grade to 21 feet, and the amount appropriated for this season's dredging is very much inadequate to the amount that will be necessary to do the work required to be done. The day of the large and deep draft vessel is to hand, there being now some 7 or 8 of the 500 foot class with 52 feet beam. As it is now there are several steamers towing schooners that neither the big American lock nor this one can accommodate the two at the same time. There is strong talk and very strong pressure being brought to bear upon the American Congress to have a new lock built on the site of their present old lock, and it is to be some 1,310 feet long and over 100 feet wide so as to be able to take in 4 of the 600 tooters, if they are ever built, as it was supposed that the present large lock (called the Poe lock) would when built be large enough to take in at one time four of the largest boats on the lakes for a long time to come, whilst now it cannot take in two of them, and this within four years after its completion.

This is an additional reason that the dredging of our lower channel should be pushed so as to be finished before this new lock is started, otherwise there will be a delay to navigation.

The mineral and timber resources of the north shore or Canadian side of Lake Superior are being developed in a very marked degree. Since the end of the fiscal year, but before this report was written (July 20, 1900) the first cargo of Canadian iron ore ever shipped from the North Shore was carried by the steamer *Theano* of the Algoma Central Railway Steamship Line, bound from Michipicoten to Midland down through this lock with a cargo of 2,173 tons.

This company, whose headquarters are situated at this place, have now four steamers owned by them and engaged in this ore carrying trade, and next season expect to increase their fleet. To show the increase of the Lake Superior traffic for the last forty years, or since the first opening of a canal at this point, I include a table giving some of the statistics, and I might add by way of remark that the amount of freight carried through the two canals during the month of June last was more than what was carried during the whole season of 1885.

STATISTICS.

Year.	Number of Vessel Passages.	Registered Tonnage of Vessels.	Total Freight Tonnage.	Cost of carrying per mile. Ton.	Estimated value of Freight carried.	Proportion of Freight carried in Canadian Vessels.	Number of Passengers.
				Mills.	$		
1855.	No record	106,296	No systematic record until 1881		No record kept until 1881.		4,270
1860	"	403,657	"		"		No record.
1865	997	409,962	"		"		19,777
1870	1,828	690,826	"		"		17,153
1875	2,033	1,259,534	"		"		19,685
1880	3,503	1,734,890	"		"		25,766
1885	5,380	3,045,937	3,256,628		"		36,147
1887	9,355	4,897,598	5,494,649	2 5/10	79,031,757	7	32,688
1888	7,803	5,130,650	6,411,423	1 7/10	82,156,019	6	25,558
1890	10,557	8,454,435	9,041,213	1 5/10	102,214,948	3 1/2	24,856
1891	10,191	8,400,685	8,888,759	1 75/100	128,178,208	4	26,190
1892	12,580	10,647,203	11,214,333	1 65/100	135,117,267	3 8/10	25,896
1893	12,008	8,949,754	10,796,572	1 4/10	145,436,957	4 1/10	18,869
1894	14,491	13,110,366	13,195,860	95/100	143,114,562	3 1/4	27,236
1895	17,956	16,806,781	15,062,580	1 1/4	159,575,129	3 3/4	31,656
1896	18,615	17,249,418	16,239,061	90/100	195,146,842	4	37,066
1897	17,171	17,619,933	18,982,755	85/100	218,235,927	3	40,213
1898	17,761	18,622,754	21,234,664	75/100	233,069,739	2 8/10	43,426
1899	20,255	21,958,347	25,255,810	1 5/10	281,364,750	3 1/10	49,082

The daily exchange of vessel reports with the American canal has been carried on as in former seasons. It is by means of these reports that the statistics given in the table above are secured. We are indebted to their officials for many little courtesies.

During the winter soundings of the greater part of the channels were taken by Mr. Fripp, the engineer in charge of the dredging, but owing to the poorness of the ice he was not able to secure all the necessary information requisite for an accurate plan to be made, but this can be finished next winter.

Extensive repairs were made to the lower main gates, but at the very best they can only be called temporarily repaired, and if they last out the balance of the season they will be doing well. A new pair must be built this winter and be ready for the opening of navigation. All the machinery has been thoroughly overhauled and necessary repairs were made. New valve rods were put in as the old ones were found to be too light for the work required of them. One of the pump shafts broke and upon examination it was decided that they were too small, so new and larger ones were put in both pumps and new brass collars were put on them so as to do away with any trouble with rusting in the bearings and so causing trouble as was in the present case.

An extension of the lower south pier would be of great advantage to the convenience of vessels using the canal, but I should say that all but necessary repairs should be held in abeyance until the completion of the deepening of the lower channel to 21 feet.

The inside of all the buildings have been painted, and next year all the outside work will require to be done.

A small frame building should be erected for the use of the men when not actually required to be out on the lock wall at work.

Repairs to the south pier will be made as soon as the dredging alongside is completed.

Very little damage has been done to the lock walls or piers by vessels using the same.

I have the honour to be, sir,

Your obedient servant,

J. C. BOYD,

Superintendent.

COLLINGWOOD SCHREIBER, Esq., C.M.G.,

Deputy Minister and Chief Engineer, Canals,

Ottawa.

SOULANGES CANAL.

COTEAU LANDING, September 12, 1900.

SIR,—I have the honour to state that as all the works connected with the completion of this canal are rapidly drawing to a close—the canal itself having been in use for some months—it may perhaps be well to describe, as briefly as possible, the results obtained by following the principles of location and construction advised in my annual report (printed) dated November 5, 1892, which were subsequently approved; and, in the main features at least, practically carried out.

The canal is 14 miles long, and is built on the location line of 1890. The rise of 82½ to 84 feet between the lakes is overcome by four locks. Three of these, each of 23½ feet lift, occur in the first mile from the Ottawa river. There is then a reach of some 2½ miles to the fourth lock, which has a lift of 13 to 14 feet to mean level of Lake St. Francis.

The summit level is 10½ miles long. The difference in height between Lake St. Francis and St. Louis is variable. Their fluctuations extend over a long series of years, the annual changes being comparatively small. The canal is, for all purposes of navigation, a straight line, there being only two curves in its whole length—each of very large radius.

Upper Entrance.—The line of approach from Lake St. Francis is arranged to suit the course steered by vessels taking the north or deep water channel to descend the rapids. To enter the canal a change of direction is made abreast of Coteau Landing light, from about N. E. by E. to N. E. by N.—in which latter line the range lights are placed. This course will be followed for nearly three-quarters of a mile, or until the opening between the piers is reached. The axis of the canal inland for about 2 miles being N. by E. ½ E. or N. 17° 39 E. astronomical.

The range lights are cones of plate steel firmly set upon masonry foundations, with lanterns, raillings, etc., complete. The focal plane of that on the head of the north pier is 30 feet over the mean surface of the lake. The inner light is about 1,500 feet inland, and 46 feet over the same plane. Both will show a fixed ruby red light, and will clearly indicate the line to be followed. They will also mark the north edge of the lake channel from the west, so that the slight current which runs diagonally across the entrance will not be sensibly felt on this range. As a matter of fact tows have so far experienced no difficulty from this cause, even though the tugs and barges now in use are wholly unsuited to the enlarged navigation.

The removal of extensive shoals outside has had the anticipated effect of both diffusing the current and diminishing its average velocity, so as to render the approach perfectly safe and easy. The dredging has also improved the steamboat channel to the north of McIntyres Island. Between the head of this and the Canada Atlantic draw over the river the current increases quickly, and is a point of danger. At the bridge itself the rate is from 5 to 6 miles per hour.

Some rock excavation has been met with in forming the western channel of approach to the canal to the full width marked out. This rock is about to be removed.

From the angle of splay walls forming the head of the guard lock, the north pier is 12,500 feet long, and the south pier 1,650 feet. The width between these is 200 feet. They are formed of cribs 25 feet wide, resting on the clay, and having a concrete wall in front coped with cut stone. There is a line of oak fenders 1 inch x 18 inches secured by L shaped bolts built at intervals into the concrete so that the timbers may be easily renewed. The cribs when sunk were backed up with boulder clay from the dredging which was carried to full height (161) on top of them. This great weight brought the cribs in time to a solid bearing, so that when the face wall (some 8 feet high) was built, not the least change in line or level ensued. A similar plan of construction has been followed at the lower or Cascades Point entrance, which will be described further on.

To the west of the guard lock the channel between the piers is lighted by electrical lamps of 2,000 candle power each, placed on both sides of the entrance, at intervals of 240 feet.

The mooring posts both here and throughout the canal are of cast iron firmly embedded in cubes of concrete.

Guard Lock, Supply Weir, &c.—The guard lock and auxiliary structures are found to answer the intended purposes satisfactorily. They all stand upon the rock, which also forms the bottom of the raceway to the south. Water is passed for feed through the 'stoney sluices' of the supply weir, and without creating strong currents. These have been guarded against at all points along the line as they are very objectionable, especially in a canal designed for vessels of about 2,400 tons. Through the four openings of this weir (each 9 ft. x 10 ft.) about 135,000 cubic feet of water per minute would enter the canal with a head of only one foot. The tops of these gates are submerged when fully raised even at periods of low water.

The guard lock is 280 feet between quoins and 46 feet wide. The water to fill or empty it is passed round the gate recesses by short tunnels in the side walls. The inverts are of concrete. There is no timber in the foundations of this or any other lock on the canal, except the mitre sills themselves. The lower wings are extended to receive the piers, &c., of a swing bridge, 180 feet long to carry the Canada Atlantic Railway over the canal. There is also a small road bridge over the upper wings. The lock (with extension walls) is 660 feet long.

By grouping these structures together, the minimum delay to navigation is experienced. When the guard lock and bridges are passed, vessels meet with no delay until lock No. 4 is reached, eastward about 10½ miles.

As stated in previous reports there was a depth of 14·66 feet on the mitre sill of the guard lock during the lowest recorded stage of Lake St. Francis in November, 1895. At mean water this is 17·50 feet and at highest water 19·50 feet. All the heights on this canal are referred to mean tide at New York, lines of levels having been run for this purpose between Rouse's Point and Valleyfield. The coping of the guard lock is 161 feet above this plane, and also the top bank line of the summit level. The top of the protection lining is 158. Highest water above referred to is 157·50; which, it is therefore obvious, could not be judiciously admitted into the canal. The usual working level will be (as it is now) about 154·5 or 155·0, at which latter stage there is 17 feet on the m.s. of the guard lock—18 feet at the western end of the summit—and 19 feet at lock No. 4; the fall in the bottom of the canal between these points being about one-tenth of a foot per mile.

Summit Level.—To secure a depth of 14·66 on the head sills as above stated and at extreme low water, involved, however, an addition of at least $500,000 to the originally estimated cost of the canal in order to lower the bottom plane of the summit level and the foundations of the structures along it from 1½ to 2 feet. But the effects of this precautionary measure will doubtless prove invaluable in the future if, as is generally supposed, the surface of the great lakes and River St. Lawrence is being gradually lowered.

The benefits of the large cross section thus secured, is even now very evident in the navigation of the canal. The summit reach, represents 75 per cent of its entire length. At mean water (155) the area of the prism is over 2,500 square feet. The midships section of a propeller of 'Canadian Canal' dimensions, such as the s.s *Strathcona* is, at full draught of 14 feet, say 570 square feet; or to that of the canal in the proportion of 1 to 4½. Uniformity of area in the latter is almost secured by increasing the waterway at the bridges. Vessels can pass through at a fair speed without damaging the protection lining, and without danger of collision.

The question of resistance to the motion of vessels in restricted channels has not been fully investigated; but it is certain that with an extra depth under the keel of about 25 per cent of the navigation draught, and a wide channel, the passage of vessels of all kinds must be greatly facilitated and both the time and power required to maintain moderate speed greatly lessened, Steamers of light draught, such as those of the Richelieu, Ontario and Navigation Company, ordinarily pass through the summit reach (10½ miles) in 1½ hours, or at a rate of over 7 miles per hour.

Slides.—In the formation of the canal on sections Nos. 8, 9 and part of No. 10, great difficulty was experienced in the attempt to preserve the shape of the prism as originally designed, namely with a bottom width of 100 feet, and side slopes of 2 to 1. The material through which it was cut for a length of over two miles was, to a large extent, a soft greasy blue clay. The depth of this culminated to about 24 feet at the St. Emmanuel road, where, after the canal had been taken out to full dimensions, a slide occurred on October 26, 1897, which swept the north abutment of this bridge (weighing over 2,000 tons) bodily into the centre of the prism, where it sank into the soft clay, leaving only a few feet of its concrete walls above canal bottom line. The slide was over 1,200 feet in length, and a very large amount of blue clay had to be removed and replaced by good material. Minor slides, some of them of large extent, kept perpetually occurring. Various plans were resorted to remedy these, but many of them failed to a quite disheartening extent. However, by persevering in the free use of broken stone in the toes of the slopes—the formation of bermes flattening of both sides of the prism, &c., &c., the slide district has at last been into shape—it is hoped permanently. The introduction of water to a considerable depth in the summit level last fall had of course the effect of lessening the number of these slides— indeed it was believed that they had ceased altogether. But subsequently some took place, and more may yet occur. The probability of this is, however, becoming continually less ; especially as the banks have stood the severe test of the heavy rains of the early part of the season 1900 : many of which were downpours almost tropical in character. It is probable that the repairs to these slides added from $150,000 to $200,000 to the originally estimated cost of the canal.

Both the protection lining and sodding of the sides have stood well throughout. It is believed that the plan adopted is both cheap and efficient.

A macadam road has been partly built on the north side of the canal and will likely be entirely finished this fall.

There are four road bridges across the summit level between the guard lock and lock No. 4, viz., at River Rouge, St. Emmanuel, St. Dominique and St. Fereol. These are now turned by hand, but will shortly be operated electrically. The pivot pier of all of them is on the south side of the prism ; the canal arm gives the full bottom width of 100 feet for navigation. The bridges have proved quite satisfactory and do not cause any check to the speed of vessels. When open to the canal the road approach is shut to travel by automatic safety bars of simple design, and which answer the purpose effectually. At night the position of the bridge is clearly shown by an arrangement of red and green signal lights.

About midway of the summit level a power house has been erected. A description of this is given in my report of last year. The machinery has worked admirably and there has not been the least interruption to the required supply of electrical power. This has, so far, been confined to lighting—none having been applied to the working of the locks and bridges—for reasons which will be given later on. The two sets of four 24 inch wheels give an aggregate of 720 h. p., under 18 feet head. There are two directly connected generators each of 200 k. w. One of these easily yield all the required power. About three-quarters of this—or 270 h. p.—is for the 219 closed arc lamps of 2,000 candle power each, which light the canal throughout its length of 14 miles. The remaining one-fourth will be ample to operate the locks and bridges. It will thus be seen that the whole work can be done by a single unit, the other being always in reserve. The water drawn from the canal for this power creates no perceptible current. The 26,250 cubic feet per minute required is only ten per cent of what might be permitted to flow through the prism without detriment to navigation. The ground around the power house will be planted with trees and levelled—that is on the side next the River à la Graisse, which forms a capacious tail race both for the wheels and waste weir. The foundations of the latter being a mass of concrete on piles pierced by six openings 6 ft. x 6 ft. through which the whole summit level can be emptied if so required.

It is satisfactory to be able to state that the culverts carrying the Rivers Delisle, Rouge, and à la Graisse under the long reach have proved fully adequate to pass these streams without creating backwater—except of course temporarily during times of freshet—to which the River Delisle is very liable. On no occasion so far, however, has

the head on this culvert been more than from 18 to 24 inches—which quickly disappears as the flood passes off. The structures themselves are of the most permanent character, being built of cut stone, concrete and iron, so that they will cost almost nothing for maintenance—at least for many years. It has been found that the floods clear the silt out of the ten foot tubes and give sufficient area to pass the diminished flow of the summer season.

It may also be stated here that no leaks have occurred on the summit level,—the eastern end of which is in heavy embankment for several miles.

Lock 4, Guard Gates, Weir, &c.—At the east or lower end of the long reach, on section No. 4, the first of the descending series of locks is met with. Before reaching this, however, there is some 800 feet west of its head, a pair of guard gates, the abutments of which are 46 feet apart and formed of concrete faced with cut stone. Alongside this structure and to the south of it there are two large 'stoney' sluices each 20 ft. x 22 ft with piers, abutments, &c. These control the admission of water for supply to the lower reaches and locks when the guard gates are closed as they always should be when the upper gates of lock No. 4 are open.

The guard gates, stoney sluices, wing walls, &c., on the upper reach are founded on the clay, which is here solid—and these structures have stood well.

The lock itself, however, and the regulating weir to the south of it, which forms practically an extension of the lower south wing at right angles to the line of the canal, are founded on piles driven through clay and hard material some 35 feet on an average either to the solid rock, or the stratum of boulders immediately overlying it. No perceptible change has taken place in the levels of these structures since they were built. The walls of the lock are about 36½ feet high. The coping is 161 feet above datum and the lift is, at mean water, about 15 feet, or between the planes of 140 and 155. This will of course vary with the level of Lake St. Francis, or rather with the level the stage of the lake may indicate to be the proper height at which to hold the summit of the canal.

The side walls of this lock and its floor are formed entirely of concrete to the surface of the lower reach (140), also the arched side culverts, &c. Above the level of 140 there is a facing of cut stone. The quoins are also of cut stone throughout. In the group of structures at lock 4 (39,126 cubic yards) only one-eighth of the quantity is of cut stone, the balance being wholly of concrete, a method of construction that has been followed by the best results. The structures are well built, and the economy of adopting this plan is evident when compared with that carried out on sections Nos. 1 and 2 where, from various causes, some 25 per cent of the total volume of masonry and concrete is of cut stone, and the latter costing at that place about three times as much per cubic yard as the former.

Under ordinary circumstances a steamer can pass through lock 4 in 7 or 8 minutes. But in a canal of this kind the difference in time between fast and ordinary locking is of comparatively little importance. To illustrate this: an increase of speed on the summit level of 2 miles per hour, or a change in the rate from 4 miles to 6, would make more saving in the time of passing through the canal than it would take to make all the lockages on it.

Reach below Lock 4.—The reach below lock 4 is about 2½ miles long. The surface of this is 140, and the bottom 124 feet above datum, giving a canal depth of 16 feet. This can be held at 17 feet if required. It is of great importance to increase the depth as much as possible under boats passing through a level of this length, where a fair speed may be attained without danger to navigation.

About 2,700 feet below lock 4 the St. Antoine road crosses the canal. This bridge is on precisely the same plan as those on the summit level. The application of electrical power to turning it has been already tried with success, the machinery being apparently under proper control. On this reach (3–4) there is a heavy embankment carrying the canal across what is called the 'Bissonnette Gully.' To convey the drainage of the comparatively small area of land south of the canal under it a line of cast iron pipe, 30 inches in diameter and 500 feet long was laid, the ends being provided

with the usual masonry wells. This culvert was brought into use in 1894, and fully served the intended purposes until this spring. Last winter it was reported to me that the high bank above referred to had subsided. I visited the place immediately (Dec. 28, 1899) and drew attention to the fact that, although there was no immediate danger, careful attention was required to avoid trouble. Notwithstanding this warning the culvert was permitted to be blocked up by silt, &c., and I was not made aware of this fact until April 23 of this year, by which time there was a head of about 25 feet on the upper end of the pipe, and the water so raised had backed up into the south branch of the gully for over a mile, flooding a large amount of land. Some ineffectual attempts were made to clear the pipe, and then an arrangement was entered into with the Donnelly Co., of Kingston, Ont., to pump out the large volume of water which had accumulated and was further augmented by the spring rains. The pumps supplied by no means performed the duty guaranteed for them, but eventually the water was lowered to within about 10 feet of the top of the upper end of the culvert, when a wooden box was set up there and secured, and a diver employed to take out the silt and clear the pipe, which was done. The water then escaped and the usual state of matters was resumed. The accounts connected with this work and damages have not yet been paid.

On the north side of the canal between locks 3 and 4, the macadam road which was built by the contractors for section No. 3 was made use of as a bed for a rail track laid down for the purpose of hauling stone to the works of sections 1 and 2 during the winter of 1897-8. This had the effect of cutting up the road very badly and the bank was also deeply rutted by heavy wagons being hauled over it. This damage is now being repaired by day's labour and the work is well advanced.

Locks and reaches 1, 2, 3, and reservoirs.—The descent from the east end of the 2½ mile reach to the Ottawa river is made by three locks, each of about 23½ feet lift. At No. 3 there is a bridge over the upper wings to carry the Vaudreuil road, precisely similar to that of the guard lock, Coteau Landing.

The masonry of these locks have been completed for some time, but there is yet protection lining required to be done, sodding, &c., both in the canal and its flanking reservoirs before the work is fully finished. This should now be urged on. The backing up and masonry of the entrance piers are not quite completed at this date, but will be shortly. Last winter the south entrance pier suffered some damage at its outer end through the effects of an ice pack and shove which occurred in March. This was, I believe, quite unprecedented, and was perhaps partly owing to the position of the pier itself. However this may be, the whole area of the St. Lawrence and Ottawa rivers at their confluence was filled with anchor ice, which reaching the bottom where the depth is over 50 feet, dammed the water back so as to obliterate the 'faucilles' and the lower part of the Cascades rapids. The surface was raised to level 84 (or about 30 feet on the lower mitre sill of lock 1) and the current of the Ottawa river was reversed and flowed to a depth of about 2½ feet over the top of the unfinished pier which then acted as a dam also. When matters were in this condition a heavy shove took place across the line of the entrance, carrying with it masses of ice from 7 to 10 feet thick, and tearing up the temporary track laid there by the contractor for the carriage of stone and other material. A heavy scour was also set up at the outer end of this pier and along the toe of the stone embankment behind it, sweeping out the boulder clay from under the heading crib so that it settled down considerably, together with the circular masonry which was partly in place. This damage has been repaired, and, to prevent its recurrence heavy blocks of stone have been deposited by a diver in the shape of a talus for protection to the bottom. The embankment, occupying as it does such an exposed position has been doubled in width, and the poles along it for electric light will have to be removed altogether during the winter, and are therefore placed in sockets embedded in masses of concrete prepared to receive them and to permit of this being done.

This ice shove afforded a useful lesson. The ten spare gates for the canal were moored in the angular space in the bay at the foot of lock No. 1, south side, and narrowly escaped injury. Instead, therefore, of placing them on this side as originally

intended together with the repair shops, storehouses, &c., the whole will be located on the north side of the lower entrance near the Cascades wharf, where the position is greatly more sheltered, and a connection can be readily made between the shops and deep water at the outer end of the north pier. This pier is now being backed up and finished to receive a small steel lighthouse similar to that described for the head of the canal. The inner light will be placed about 1,500 feet inland. The temporary beacons which have hitherto marked the channel from the foot of the canal, to the junction of Lake St. Louis, a distance of about three miles will soon be removed and three gas buoys placed in line for a similar purpose. No difficulty has so far been experienced in navigating this channel. There is a good wide waterway for vessels drawing 14 feet, and the depths are 30·40, and even 60 feet long the whole line. Cascades bay is well sheltered from westerly winds, which are the most prevalent and often the most violent during the open season. I may state here that on September 19, last year, when the water was being hurriedly let into the canal to permit of the setting up of the new lock gates, so as to rush the opening of navigation, through some defective arrangements at Cascades Point the level between locks Nos. 1 and 2 was permitted to rise to such a height that the water overflowed the north bank immediately to the west of the head of lock 1, where a heavy breach was made, sweeping some 3,500 cubic yards of earth into the Ottawa river. The repairs to this simply consisted in replacing the earth washed out. This the assistant engineer there states cost $1,472.68. No damage was done to any of the canal structures, but the occurrence delayed the opening of navigation for about a fortnight. This took place, however, on October 9, 1899.

Stony Sluices.—When the canal was brought into use it was found that the power required to operate these sluices greatly exceeded that reckoned upon. The cause of this was, after some time, and extended experiment, located and remedied by an alteration in the shape of the bottom of the gates. Some minor changes were also made, the result being that the power originally calculated upon has not been exceeded. The sluices are worked by two men under 25 feet head with ease and are constantly becoming easier to operate. The application of electrical power was partly delayed pending the solution of the above difficulty, but this does not satisfactorily explain the great loss of time which has taken place owing to the dilatory movements of the Canadian General Electric Co. who took the contract for this work in January, 1899. It is expected, however, that the canal will now soon be operated electrically as originally intended, and as required by the contract: that is, from a single point on each lock with slow motion and complete safety. This could not have been done on the plan at first submitted, as the speed of opening the sluices and operating the gate machines was dangerously fast considering that the former were subject to heavy water pressure. Besides the machinery was not under proper control, and the proposed arrangements were in many ways objectionable. Plans are, I understand, at last being prepared in conformity with the requirements of the specification attached to contract No. 13366, and the work will shortly be put in hand and completed. When this is done it will have the effect of greatly reducing the number of men at present employed on the operating staff. In this connection it is satisfactory to be able to state that the lighting of the canal is a success. Throughout the whole length on the north side closed arc lamps of 2,000 candle power each are placed 480 feet apart; whilst at the locks and entrance piers they are much closer and on both sides. The result is that the canal is easily navigable by night: and if no other benefit than this were secured it would fully justify the whole of the expenditure for electrical power; as it practically doubles the carrying capacity of this important link in the St. Lawrence navigation.

This is of special advantage at present, in view of the fact that about 6½ millions of bushels of grain, and a large quantity of package freight, has already passed through the Soulanges Canal en route for Montreal, and in connection with the Canada Atlantic Railway from Parry Sound where large lake boats arrive from the west laden with grain for export. It is probable that if sufficient ocean tonnage can be had at Montreal this fall a very large amount of grain will pass this way in addition to the grain and coal descending the river from Kingston, which is, however, comparatively small. The

Coteau elevator is only about a mile above the head of the canal, and since the channel to it has been deepened barges make the trip to Montreal in much shorter time and at considerably less cost than via the old Beauharnois Canal. This is another advantage of the north shore location.

The foregoing remarks will render it unnecessary to do much more than enumerate the existing contracts showing the amounts returned in the progress estimates up to August 31, 1900, as follows :—

Number of Section.	Name of Contractor.	Date of Letting.	Number of Contract.	Number of Progress Estimate.	Gross Amount to Aug. 31, 1900.
					$ cts.
1 and 2	(1) Archibald Stuart	Sept. 24, 1892	11331	51	516,934 85
	(2) Ryan & MacDonell	Dec. 11, 1897	12961	29	581,625 22
3	J. & M. O'Leary	Mar. 27, 1893	11515	46 (F)	199,056 44
4, 5, 6 and 7	(1) George Goodwin	May 9, 1893	11518	31 (F)	326,246 75
	(2) Andrew Onderdonk	April 17, 1897	12701	33	578,601 11
8	Charles H. Raynor	Dec. 29, 1892	11419	63	328,759 21
Rep. Wks	"	Mar. 1, 1898	12996	15 (F)	43,916 74
9	Manning & MacDonald	Jan. 30, 1893	11421	62	188,788 99
10	Rogers & Taylor	Sept. 24, 1892	11423	59 (F)	297,047 26
11	(1) George Goodwin	May 11, 1892	11862		
	(2) Thomas Feeny	Transfer	11862		
	(3) Poupore & Fraser	"	11862	67	325,639 75
12	(1) Denis O'Brien & Son	April 8, 1892	11178	6 (F)	26,811 15
	(2) George Goodwin	May 9, 1893	11520	6 (F)	11,400 37
	(3) M. J. Hogan	April 5, 1897	12693	29 (F)	203,108 70
13	Manning & MacDonald	Sept. 24, 1892	11278	75	642,811 81
					4,270,747 85

On sections Nos. 1 and 2 but little remains to be done except the finishing of the outer end of the south entrance pier previously referred to ; also some sodding and protection lining.

Section No 3 'final' has been sent in and the macadam road on the north bank is being reconstructed by day's labour. The work of sections Nos. 4, 5, 6 and 7 is furthest behind, there being a large amount of protection lining yet to be done on the summit level. The macadam road on these sections has not yet been begun. Stone is being hauled by scows from the spoil heaps on sections Nos. 11 and 12, which are rapidly disappearing. There are about 53,000 cubic yards in place, and say 25,000 yet to be put in. But the whole of the work, sodding included, can, if vigorously pushed on, be completed this season. The canal west of section No. 7 is practically finished with the exception of some trimming which will be done this month. The slides are all repaired and may stay so. A considerable amount has been expended at the head of the canal in levelling off the ground, planting trees, making roads, &c. This work will be continued along the canal. Final estimates of contract work have been made for sections 3, 10 and 12 and the regulating weirs on section No. 8. The rest are in progress and should be ready before next spring.

It will be seen from the following table that the total earth excavation (dredging included) is over seven millions and one-quarter cubic yards, embracing all kinds of material from quicksand to hard pan. The rock, of which there are about 350,000 cubic yards, is in the 'Potsdam formation' at the lower end of the canal. The 'Calciferous' is found between the Delisle river and the Lake St. Francis entrance. This rock has been largely utilized in making concrete in forming the protection lining of the sides of the prism, also in forming toes for slopes where slides occurred in macadam roads, &c. The concrete was made of sand, cement and broken stone in proportions to suit the different positions it occupied in the work. Over 200,000 barrels of excellent Portland cement was purchased and used in the work after proper tests of its quality had been made. This cost about $525,000. No gravel was used as specified. There

are about 205,000 cubic yards of masonry and concrete. The use of timber in construction (except in cribs under water) is almost entirely discontinued. Sodding has been freely laid on all the slopes where practicable, as it soon pays for the outlay in the saving effected in the cost of maintenance and repairs.

The canal has an ample margin of land beyond the space occupied by the works. The cost of this land and the expenses of valuators, lawyers, &c., amounted to over three times the sum estimated for that item by me in 1890. Generally speaking the soil traversed by the canal is poor, but the amount paid was over $350 per acre including damages.

QUANTITY AND VALUE OF PRINCIPAL ITEMS OF WORK.

Contracts Sec. 1–13 up to August 31, 1900. (Progress Estimates.)

Sections.	Contractor.	Earth.		Rock.		Masonry.		Concrete.	
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
		C. Yds.	$	C. Yds.	$	C. Yds.	$	C. Yds.	$
1 and 2.	Archibald Stuart	377,600	69,256	53,950	60,450	4,650	65,700	18,300	51,240
"	Ryan & MacDonell	371,400	96,564	42,600	42,600	15,126	247,274	57,422	183,750
3	J. & M. O'Leary	598,790	121,185			199	4,185	3,423	7,701
4, 5, 6 and 7.	George Goodwin	1,144,743	302,501					2,201	6,604
4, 5, 6 and 7.	Andrew Onderdonk	883,873	259,008			5,148	72,072	38,902	116,706
8	Charles A. Raynor	884,105	205,897			406	5,740	5,667	14,167
Power House.	"	21,628	4,968			97	1,555	5,908	23,632
9	Manning & MacDonald	656,951	121,251						
10	Rogers & Taylor	643,649	184,147	3,151	6,302	1,498	10,606	7,282	17,640
11	Poupore & Fraser	462,948	121,401	100,614	102,709	1,327	8,198	4,865	14,595
12	D. O'Brien & Son	107,358	24,691					15	34
12	George Goodwin	45,541	11,385	20	15				
12	M. J. Hogan	339,058	81,374	123,455	98,764				
13	Manning & MacDonald	*826,818	214,680	20,072	24,086	24,316	211,388	17,063	55,455
		7,264,457	1,818,308	343,862	334,926	52,767	626,718	161,048	491,524

*Including dredging.

OPERATION.

The canal was open for navigation on May 1, and this has been almost uninterruptedly maintained to date, except on May 26 and 28, when some changes were made in the sluices at lock No. I. So far, however, no vessel drawing 14 feet has passed through, nothing of greater draught than 13½ feet. Only one steamer of full canal size, namely the *Strathcona*, built expressly for this route, went up to Lake Ontario with but half cargo from Scotland. It is probable, however, that this condition of affairs will undergo a change next year, especially if a large export trade in iron and steel should set in across the Atlantic from Lake Erie ports, in addition to the grain which will be carried this way when there are suitable vessels built for its transport, and proper means provided for handling it at Montreal. This year's canal business will for many reasons be small, but it is only a transition period before the beginning of a new era, as the St. Lawrence route must eventually prove a success.

The benefits which will arise from the electrical working of the various structures have not yet been realized, for reasons previously given. The canal has so far been entirely operated by hand. This will, however, soon cease, but the present organization cannot be continued when the machines are in use. The number of men (75) will be greatly reduced and it will in my opinion be impossible to entrust any electrical machine, no matter how simple, into such hands as those of the persons now engaged on the locks or bridges. Some mechanical knowledge and fair judgment are absolutely necessary or accidents will occur which may 'hang up' the canal for a considerable percentage of the navigation season. It is obvious that before giving the operation of the locks or bridges into the charge of any man, he should be examined and pronounced competent by some experienced and impartial electrician.

As previously stated, the machinery of the gates and sluices is now operated with ease. The sluices (6 ft. x 6 ft.) under 25 feet head can be rapidly raised by two men, although the pressure on one of these is then about 30 tons.

In working the canal it is found, as anticipated, that the filling and emptying of the locks causes very little movement in the chamber, the surging felt under the old system being almost eliminated. The face of the walls being either of concrete or stone smoothly dressed, the vessel fenders last much longer than if the walls were picked face only. There is a sufficient number of mooring posts, both at the locks and for some distance above and below them, at which barges or vessels waiting can tie up. The posts being of cast iron firmly fixed in cubes of concrete, are of great strength and permanence.

The size and style of tugs, barges, &c., now in use are entirely unsuited to the enlarged navigation, the benefits of which will obviously not be reaped until larger craft are built for this route. It is gratifying, however, to know that already about twenty propellers of 'Canadian canal size' are projected or being built at American or Canadian ship yards and some of these will be launched this fall.

Plans are now being prepared for a repair shop and storehouse at Cascades Point, together with those for some cribwork piers at the wharf there, required to form sheltered berths for the ten spare gates and also for the gate lifter. The position chosen now is suitable and easily accessible in case of accident on the canal. The shops will be connected with the outer end of the north entrance pier by a road formed in rear of the embankment between locks Nos. 1 and 2.

Generally speaking the canal is easily and safely navigable for vessels drawing 14 feet, both at night as well as by day, even during the lowest recorded stage of the River St. Lawrence, and the works have been carried out in such a permanent manner as, it is believed, will ensure a minimum of future expense in operation and repairs.

I have the honour to be, sir,
Your obedient servant,
THOMAS MONRO, M. Inst. C.E.,
Superintending Engineer.

COLLINGWOOD SCHREIBER, Esq., C.M.G.,
Deputy Minister and Chief Engineer, Railways and Canals.
Ottawa, Ont.

QUEBEC CANALS.

SUPERINTENDING ENGINEER'S OFFICE,
MONTREAL, September 29, 1900.

SIR,—I have the honour herewith to submit my annual report on the works under my charge for the fiscal year ended June 30, 1900.

The canals in this division are the Lachine and the Beauharnois on the St. Lawrence route; the Ste. Anne, the Carillon and the Grenville canals on the Ottawa river, and the St. Ours lock and the Chambly canal on the Richelieu river.

Of these the Lachine canal is by far the most important on account of its immediate connection with the harbour of Montreal, the great export centre of the Dominion.

The traffic through it has rapidly increased of late years, owing to the development of industries and agriculture in western Canada and the Canadian North-west and it will certainly take a still greater importance with the completion of the deepened canals, especially when adequate facilities for handling freight and grain shall have been provided.

The Ottawa canals afford a most convenient route for the transportation of the produce of the extensive forests of the Ottawa valley, a large proportion of which finds its way to the United States through the Richelieu river canals.

LACHINE CANAL.

Length, 8½ miles; 5 locks, 270 by 45 feet; 14 feet water on sills; total rise, 45 feet.

Old locks 200 by 45 feet; still available with 9 feet of water on the sills.

There was no interruption to the navigation on this canal during the year.

The overseer, Mr. John Conway, having died suddenly on May 2, 1900, Captain George Yale, superintendent of the canal dredging fleet was put in charge and was still acting as overseer at the end of the fiscal year.

REPAIRS AND RENEWALS.

Repairs during the year were executed as follows:—The macadamizing of the farmer's road on the south side of the canal above Cote St. Paul bridge was continued, an additional length of 2,150 feet being done. Some of the stone and the sand for this work was brought to the ground by the farmers interested. The amount voted last year for this purpose was exhausted on June 30 last, when the work was only half completed.

The replacing of the planking around Wellington Basin with iron dross was completed during last fall and a similar change was made along the south side of New Basin No. 1.

Two small scows were built during the year for the canal service.

Three pairs of gates for the new locks were taken apart and rebuilt and butterfly valves substituted in them for the Townsend valves; the operating of which is considered too slow.

While the water was out of the canal in April the lower sills of the old locks at Cote St. Paul and St. Gabriel were overhauled and all the lock bottoms examined and repaired where necessary.

The buildings, bridges, fences, ditches, &c., along the line received the ordinary amount of attention during the year and all were kept in good order.

The electric lighting service was satisfactory throughout the season.

REGULATING WEIR AT LACHINE.

The object of this work is to permit of a large quantity of water being introduced into the canal.

A number of mills situated between Cote St. Paul and Montreal use the canal water as propulsing power, and in consequence it was found impossible during periods of low water in the St. Lawrence, to keep the upper reaches at the proper level. This state of affairs was of no very serious importance until this year when the completion of the St. Lawrence canals to 14 feet was effected.

Vessels of from 12 to 14 feet draught are now using the canal and means had to be taken to ensure the proper depth over the sills at all times.

The new weir will have an area of water way twice that of the old one. It will be built of heavy cut stone masonry with side walls of rock face stone masonry along both sides of the head and tail race.

The work is being done under contract by Mr. M. J. Hogan. Operations were begun on the 18th April last, and at the close of the fiscal year the following work had been executed:—Earth excavation, 718 cubic yards; rock excavation 4,500 cubic yards; masonry, 440 cubic yards.

REPAIRS TO VESSELS.

The dredging fleet connected with the canals in this division, but mostly used of late years in connection with the Lachine canal and the Lake St. Louis channel, consists of the following vessels: dredge No. 1, loaned four years ago to the Public Works Department; dredge No. 2, floating steam derrick, tug *Josephine*, house-boat used as office and lodgings by the engineers' staff of the Lake St. Louis channel, and eleven flat scows.

Besides the usual repairs to the various boats composing the fleet, the timber crane of dredge No. 2, was replaced by a steel one. The work was done in a very satisfactory manner by the Phœnix Iron Works, of Montreal, at a cost of six hundred dollars.

A new flat scow was also built during the year.

DEEPENING FOR 14 FEET NAVIGATION BETWEEN ST. GABRIEL AND LACHINE LOCKS.

The contract for this work was awarded to Messrs. McNamee & Mann in September 1894 and operations were commenced by them in the month of May following. The contract extended from lock No. 3, at St. Gabriel, to lock No. 5 at Lachine, a distance of $6\frac{1}{5}$ miles and the work consisted in the deepening of the prism of the canal to 15 feet, an average depth of 2 feet being excavated between the two points above mentioned.

The work was carried on night and day during season of navigation and completed at the end of April, 1899.

The quantity of materials removed to reach the grade line as per the final estimate furnished to you in July last were: earth, 199,102 cubic yards; rock, 194,605 cubic yards.

DEEPENING RIVER ST. PIERRE.

This work is intended to complete what has been termed the Lachine canal drainage system, the object of which is to dispose of the water leaking through the canal banks and incidentally to afford an outlet for the drainage of the town of Lachine, which is cut off from the St. Lawrence by the Lachine canal.

The present work, which is being done under contract by Messrs. Brewder & McNaughton, consists of the deepening $2\frac{1}{2}$ feet and the widening to 20 feet at grade line of the bed of the Little River St. Pierre, from a point 5,700 feet west of the culvert carrying the stream under the canal to a point on the city waterworks tail race, 4,100 feet below the outlet of the said culvert.

Little was done by the contractors during the summer of 1899. In November of that year some piling was done on a certain distance on both sides of the river where it crosses the property of Messrs Malette Bros. This piling will serve as a retaining wall and a foundation for certain buildings which had to be removed for the purpose of the deepening. The buildings were put up again later on.

In April last the contractors were permitted to divert the river into the canal by cutting the north bank 75 feet above the syphon culvert. They were thus enabled to unwater the culvert, clean the wells and tunnels and lower the breast wall at the inlet and the sloping revetment wall at the outlet.

A considerable portion of the excavation between the syphon and Atwater Avenue was done at the same time, but it was found impossible to complete it before the opening of navigation, when the canal bank had to be reformed and the river turned back into its own channel.

Between May 1 and July 1, the contractors succeeded in unwatering the stream by means of a dam and pumps and proceeded with the work. However, some 3,000 cubic yards still remained to be excavated at the end of the fiscal year.

SLOPE WALLS ABOVE COTE ST. PAUL.

For a distance of 3½ miles above Cote St. Paul lock the slopes of the Lachine canal are protected with a rip-rap revetment formed of small sized stones, which as previously reported, will have to be almost entirely rebuilt owing to the work of deepening the canal having disturbed it.

For this purpose a contract was awarded to Mr. J. B. de Lorimier on October 11, 1898, for the supply of 6,000 cubic yards of stone.

The work of rebuilding was begun in the spring of 1899, when some 1,800 cubic yards of wall were laid at various points, between the 12th and 30th April. This was done by day's labour.

On October 18, 1899 a contract was signed by Mr. J. B. de Lorimier for the rebuilding of some portions of the said walls and the contractor went to work in November following, rebuilding the damaged parts from the top to about two feet below the water line.

While the canal was unwatered in April last, some 1,600 cubic yards of masonry were laid under this contract, and the work above water continued during May and June.

Where built from the bottom these walls are 3 feet 9 inches wide at grade line and 1 to 10 inches at the top, the height being 17 feet. It is finished off with a course of headers 12 to 15 inches thick and 2 feet 6 inches depth of bed, let into the ground, the upper arris of which is kept at a uniform height of 2 feet above normal water level.

Above this a revetment of broken stone is laid to a slope of 2 horizontal to 1 vertical, and capped with a coping 7 to 8 inches thick and 20 inches depth of bed, also let into the bank and carried to a uniform height of 4 feet above normal water level.

REBUILDING WALL AT ATWATER AVENUE.

During the spring of 1898 a portion of the slope wall lining the south bank of the canal a short distance above Atwater Avenue, was noticed to be bulging out of line and sinking at the same time, while the ground in the bottom in front of the wall was raised 2 or 3 feet.

To prevent further deterioration a quantity of heavy stones were deposited by means of derricks, on the canal bottom immediately in front of the damaged wall. The collapse of the masonry and bank was thus retarded, but upon examination when the canal was emptied in April, 1899, it was found that the whole wall had moved fully 11 feet out of line and sunk about 5 feet into a bed of soft marl 8 to 10 feet deep. Originally this marl was covered over by a bed of peat full of roots and fallen trees which had made it hard enough to resist the outward pressure at the toe of the wall. However, the recent deepening of the canal having destroyed this crust, the result was as stated above.

The rebuilding was executed as follows :—

During the summer of 1899 a row of piles were driven through the bank about 10 feet from the coping of the wall down to the hard ground and connected by tie beams to a second row of shorter piles placed 25 feet further out. In November of the same year the ruined wall was dredged out, the stone being deposited on the bank near by for future use.

In February, 1900, piles were driven from the surface of the ice in four parallel rows to form a foundation for the new wall and in the month of April these piles were sawed off to a uniform depth of 18 inches below the grade line of the canal, well tied together with longitudinal and crossties, and the wall started on the platform thus made.

The length of the new piece of wall is 120 feet at the base and 170 feet at the top; the filling behind consists of clay mixed with cinders and ashes.

REBUILDING WALL AT BASIN NO. 2.

The rebuilding of the wall above mentioned was begun last spring, but owing to the unusually long period of high water in the river, operations could only be commenced on April 20. On the other hand labourers were very scarce at the time, and only a very small amount of work could be done in consequence.

The new wall will consist of concrete built under the foundation of the present wall and brought up along the face of it to the level of the water, above which cut stone will be used as a facing. This will permit of dredging the canal along the new wall to the full depth of 20 feet.

DEEPENING BETWEEN LOCK NO. 2 AND LOCK NO. 3.

The deepening of this section of the canal was continued during the last fiscal year.

With the exception of the St. Gabriel and the Flour basins and a strip about 50 feet in width along the south wall of basin No. 2, the whole distance between the two locks mentioned is now excavated to the full depth required for the 14 feet navigation. In addition to this a channel 20 feet deep has been provided between lock No. 2 and Wellington basin, which is also 20 feet deep.

This work is being done by the canal dredging fleet.

LAKE ST. LOUIS CHANNEL.

This work, which was done under contract by the Weddell Dredging Co., has been brought to completion during the month of June last.

The cleaning of the channel, after the bulk of the excavation had been done proved very tedious, the contractors' two dredges being engaged at it during eight months.

The testing of the new channel as to the depth was done by means of the sweeping scow belonging to the Montreal Harbour Commissioners.

In connection with this work the Weddell Dredging Co. have removed a couple of shoals situated outside of the limits of their contract near lightship No. 2. This was done at schedule rates.

The total quantity of material dredged out in the five years over which the contract extended was 247,931 cubic yards.

Lighthouses.—The centre line of the new channel is marked by two lighthouses erected early in the spring of 1900. One of them stands on the west end of the Lachine wharf and the other about 900 feet back toward the east. They consist of steel towers resting on cribwork foundations. The light in the front lighthouse is 31 feet, and that in the rear tower 45 feet, above ordinary water in the lake.

The lamps used at present are ordinary locomotive headlight, but gas tanks have been ordered from the Pintsch's Patent Lighting Co., Ltd., and will be placed in the towers during the present summer. The lanterns are supplied with a flashing apparatus which will make those range lights readily distinguishable among the numerous arc lights in the vicinity.

The steel towers were built and erected under contract by Messrs Farand & Delorme, of Montreal.

Beauharnois Canal.

Length, 11¼ miles; 9 locks, 240 by 45 feet; 9 feet water on sills; total size, 82½ feet.

Two serious interruptions to navigation occurred on this canal during last year. The first was caused by the sudden collapse on August 1, 1899, of the waste weir at lock No. 10. Five days were employed making the necessary repairs, which consisted in the building of a temporary timber weir. The old stone weir was not rebuilt and owing to the probable permanent closing of the canal at short notice, it will not be necessary to rebuild it, at least on its old lines.

The second interruption was due to a washout which took place under the south recess wall and the gate platform at lock No. 12. On this occasion the canal had again to be closed to navigation from the 12th to the 17th October, 1899, both days inclusive. The work of repairs was made in a permanent manner and this lock is now perfectly safe.

REPAIRS AND RENEWALS.

The various structures on this canal as well as the buildings, fences, roads, ditches, &c., received considerable attention during the year. Even after the canal shall have been closed to navigation, some of the bridges, roads and dykes will have to be maintained by the Government, and it was in view of this fact that a pretty large amount of money was spent on them.

The most important repairs performed during the year were as follows: replacing in their proper positions, of the lower sills of locks Nos. 12 and 13; building of a temporary waste weir at lock No. 10, as mentioned above; repairing lock gate platform and sill of lock No. 12 and filling under recess wall and platform, renewing stringers of swing bridge at lock No. 9; renewing the bridges over the waste weirs at locks Nos. 8 and 10; rebuilding of a pair of gates for lock No. 7.

A special piece of work was done here in connection with the highway bridge across the canal at St. Timothy. The old wooden swing bridge was replaced by a steel structure and a new pivot pier and new abutments were built. The new bridge is 4 feet wider and 10 feet longer than the old one. The wharfs on both sides of the abutments were also extensively repaired.

The steel superstructure was supplied and erected under contract by the Dominion Bridge Co.

SURVEYS AND DEFINING LAND BOUNDARIES.

During the summer of 1899, a survey was made of the land recently purchased from Mr. A. Langevin along both sides of the Hungry Bay dyke. Wooden posts were planted at the time to mark the sites of the boundary stones, which were to be placed last spring. However owing to continuous rains it was found impossible to complete the work before the end of the fiscal year.

The necessary boundary stones, 25 in number, have been purchased and delivered on the ground. They will be planted during the present season.

PROTECTION DYKE ALONG THE SOUTH SHORE OF LAKE ST. FRANCIS, IN THE PARISH OF STE. BARBE.

Work was resumed here on August 1, 1899, and continued for four months, when it had to be suspended owing to the flooding of the swamp across which the dyke is being built.

Towards the end of February, 1900, it again became possible to resume work, and fair progress was made during March and the early part of April. About the middle of the latter month the spring then set in and nothing more could be done until the end of the fiscal year.

The dyke is completed with the exception of about 700 lineal yards.

PROTECTION WALLS ON THE NORTH SHORE OF LAKE ST. FRANCIS.

The object of this work is to prevent further damage being done by erosion to the lands fronting on Lake St. Francis in the parish of St. Zotique, and also between McKee's Point and Wood's Creek, in the county of Glengarry.

The wall at St. Zotique, 636 yards in length, was built under contract by Messrs. Quinlan, Phippen & Robertson. It is 3 feet in height, 4 feet wide at the base and 2 feet at the top. Its foundation consists of fascines, 5 feet long and 9 inches thick, deposited in a trench cut for the purpose to the required depth. The work was completed early last spring.

The contract for the wall between McKee's Point and Wood's Creek was awarded to Messrs. Dussault & Pageau on October 31, 1899. They failed to complete the work before the present fiscal year, having only built about 1,600 lineal yards, out of a total length of 3,200 yards contracted for, at the end of last June. An extension of time was, however, granted them and they are carrying on their work to completion at the time of writing.

This wall rests on a bed of fascines 4 feet wide and 9 inches thick. It is $3\frac{1}{2}$ feet high, $3\frac{1}{2}$ feet across the base and 12 inches wide at the top, the rear of it being built plumb. Along the rear side of the walls, slabs, overlapping one another 2 inches or more, were driven $1\frac{1}{2}$ feet into the ground and cut off at the top of the wall; their object is to prevent the filling behind the wall to be washed away by the action of the waves.

Chambly Canal.

Length, 12 miles; 9 locks, 118 by $22\frac{1}{2}$ feet; $6\frac{1}{2}$ feet water on the sills; total rise, 74 feet.

Navigation had to be interrupted for twelve hours in October, 1899, for the purpose of stopping a leak in the culvert under the canal at Little River des Iroquois, otherwise the working of the canal was perfect throughout the year.

REPAIRS AND RENEWALS.

Outside of the ordinary works of maintenance the following repairs were executed during the year.

REPAIRS TO LOCK NO. 1.

Preparations were made in November last for overhauling this lock. Coffer-dams were built at both ends and the chamber pumped dry in December. The two pairs of gates were then removed, the lock bottom cleaned and partly replanked and the two sills taken out and rebuilt. This work was completed in January.

Wood's Creek Bridge.—The old highway bridge over the new syphon culvert at this point was torn down and rebuilt. The cribwork abutments were replaced by heavy masonry walls, 26 feet long, 7 feet high and 5 feet thick, with dry masonry wings on both sides. The bridge proper consists of rolled iron I beams, and channel irons embedded into concrete pillars at each corner from the side of the bridge. Both approaches were carefully macadamized and the bridge handed over to the town of St. John for future maintenance.

Iroquois River Bridge.—The old bridge was removed and new abutments built of strong concrete resting on piles driven 9 to 13 feet into the ground. The abutments are 25 feet long, $9\frac{1}{2}$ feet high, 3 feet thick at base and 2 feet at top, with wing walls, also of concrete. Iron beams will be used for the flooring of this bridge and will be put in place during the present season, the present floor being a temporary one.

Bridge No. 5.—The abutment on the tow-path side was taken down and rebuilt a couple of feet in rear of its former position, thus increasing the passage way for boats.

During the last few years most of the swing bridge abutments on this canal have been rebuilt and in every case the passage way which was formerly 23½ feet, increased a feet, to the material benefit of the navigation. Bridge No. 1, which alone remains to be so remodelled, will be overhauled during the present season.

Wharf at Chambly.—The plank flooring of this wharf was replaced, on a length of 100 feet by a layer of river gravel. This wharf being submerged every spring, timber guards were placed on both sides to prevent the washing away of the gravel by the current.

Guide Pier at St. John.—A similar experiment was made at this point. The pier is 1,400 feet long, gravel was substituted to planking on a length of 800 feet, and an examination of the pier, after the last spring floods, showed that no damage had been done. The work will be completed at both points during the current year, and all wharfs will be similarly treated later on, where practicable.

As stated in previous reports, efforts have been made for the last few years, to substitute permanent materials for perishable ones in all structures above water on the canals in this division. In the present instance a considerable saving will be effected in future.

The wharf and pier have an aggregate area of 35,360 square feet, and the planking covering amounting to 106,100 ft. b. m., had to be renewed every eight or ten years, at a cost of over $2,500, or from $500 to $600 per year.

Iroquois River Culvert.—A break occurred in this culvert in October last, and considerable work had to be done to put it again in working condition. It will be necessary to rebuild it entirely in a year or two.

Collector's Office at St Johns.—The building occupied as an office by the Toll Collector at St. Johns had always been practically uninhabitable during winter owing to its cellar being constantly flooded by water percolating through the canal bank. This cellar was filled up during the year with good puddle clay, well pounded, and a layer of concrete, 10 inches thick, placed over it to receive the flooring. The house was entirely overhauled at the same time.

Collecting Drain and Syphon Culvert at St. Johns.—This work the contract for which was awarded to Messrs Napoleon Laporte & Co., in February, 1898, should have been completed long before the end of the fiscal year 1898-9. The drain and culvert are built entirely of concrete. The former is of horse-shoe shape, the shell being 8 inches thick. It is in two sections of different size, the upper one, 441 yards long is 3 x 3½ feet area and the lower, 827 yards long with a cross section 3½ x 4½ feet. In the total length 12 manholes, also of concrete, are provided.

This drain connects at its lower end with a well from which start two arched conduits, 3 x 3 feet, similarly built of concrete. These stretch under the bottom of the canal to the Richelieu river where the sewage is to be discharged.

The work was completed on the last day of October, 1899.

St. Ours Lock and Dam.

Length, ⅛ mile ; one lock, 200 by 45 feet ; 7 feet of water on the sills ; total rise, 5 feet.

Navigation was conducted without accident or interruption throughout the year.

Besides keeping the lock in working order and repairing some of the guide and mooring piers both above and below, the following works were executed here between July 1, 1899 and June 30, 1900.

Scows.—Two scows were built to replace two old ones. The layer is 84 feet long, 20 feet wide and 4½ feet deep.

It is provided with mast and sail. The other is 41 feet long, 18 feet wide and 4 feet 3 inches deep. It carries a strong derrick.

Lock Gate Suspension.—The old mode of suspension of the gates, with cumbersome anchor blocks on the lock coping, proved very objectionable. These blocks were removed from the lower gates and replaced by iron straps notched into and strongly bolted to the side walls. The top of the gates had to be remodelled in consequence. The upper gates will be treated in the same manner during next winter.

Dam.—An amount of $10,000 was voted at last session towards staunching and repairing the submerged dam connected with this lock. At the time of writing tenders are being invited for this work, which, it is expected, will be completed on or before the opening of navigation next spring.

St. Anne Lock.

Length, $\frac{1}{8}$ mile: one lock, 200 by 45 feet; 9 feet of water on the sills; total rise, 3 feet. Old lock still available, 200 by 45 feet; 6 feet of water on the sills; total rise, 3 feet.

Works other than ordinary repairs done here during the year consisted principally in the following:—

Stopping leak through south wall of old lock.—A trench 3 feet wide in the bottom and reaching to the foot of the wall was excavated on a length of 228 feet uncovering the rear face of the wall. This trench was lined on the south side with 3-inch plank and puddle deposited in the space 3 feet wide thus formed, up to the level of high water in the lock, the average height being 12 feet. The other side of the lock will require to be treated in a similar manner for a short length, after which it is expected that all leakages will have been stopped.

Scow.—The old repair scow was taken apart and a new one built provided with a strong derrick.

The whole year passed without any interruption to the navigation or accident of any kind.

Carillon and Grenville Canal.

Carillon Canal.—Length, $\frac{3}{4}$ mile; 2 locks, 200 by 45 feet; 9 feet water on sills total 16 feet.

Grenville Canal.—Length, $5\frac{3}{4}$ miles; 5 locks, 200 by 45 feet; 9 feet on sills; total rise, $43\frac{3}{4}$ feet.

Both these canals are under one superintendent.

They are separated by a stretch of navigable river about 5 miles long, and between them is to be found the old Chute à Blondeau lock which has been abandoned since the completion of the dam at the head of the Carillon canal in 1883, the rise at that point having been practically obliterated.

REPAIRS AND RENEWALS.

Carillon Canal.—The various structures on this canal as well as the towing-path and roads connected therewith, have been kept in good repair throughout the year. The most important items of work done were the following:—Taking down and rebuilding mooring pier at Fitzgeralds; repairing mooring pier at Bradford's Bay; rebuilding the top part of two pairs of spare gates; pointing walls of locks No. 1 and No. 2.

Grenville Canal.—Outside of the ordinary repairs, some important work was done here during the year. The tow-path was raised on a distance of some 1,000 feet between locks No. 5 and No. 6 ; a new boom was built and placed on the north side of the lower entrance at Greece's Point ; the swing bridge at Grenville was completely overhauled ; a puddle wall, 3 feet thick, 20 feet high and 120 feet long was built at the back of the south wall of lock No. 6 to stop a leak ; a piece of dry wall along the south bank above this lock, 125 feet long, was taken down and rebuilt ; another piece of dry wall, about 150 feet in length was built along the south bank of the upper entrance to the same lock. This necessitated the removal of some 800 cubic yards of earth and rock. This work was left uncompleted, it will be finished at the close of navigation this fall. In connection with this three derricks were built.

Both the Carillon and Grenville canals are now in first-rate condition. Some parts of the banks, however, will shortly require to be protected by slope walls.

GRENVILLE CANAL ENLARGEMENT.

The contract for this work was awarded to Messrs. Pigott & Ingles in April, 1897.

On June 30, 1899, there still remained to be done about 800 lineal feet of dry masonry wall with the necessary excavation ; some rock excavation in the canal prism, chiefly towards the west end of the contract ; a considerable amount of unfinished rock excavation at various places in the upper section ; earth excavation in prism of canal, chiefly the removal of accumulated silt ; filling behind some portions of the slope walls ; finishing up of tow-path and farm roads ; ditching and fencing.

The contractors resumed operations on December 2, 1899, and continued until February 8, 1900, when a heavy fall of snow compelled them to suspend operations. The walls and the bulk of the excavation were completed at that date. Work was resumed on April 19, and carried to a finish on the last day of that month, with the exception of the portions on the banks, which were completed on May 16, 1900.

With the exception of the upper section from the guard lock to a point about half a mile further down, which is rather narrow and crooked, the Grenville canal is in a very satisfactory condition.

Following will be found tables showing the dates of opening and closing of the various canals in this division ; the levels of high and low water at both ends of each canal, and the fines and damages collected during the fiscal years.

I have the honour to be, sir,
Your obedient servant,

ERNEST MARCEAU,
Superintending Engineer, Q.C.

COLLINGWOOD SCHREIBER, Esq., C.M.G.,
Chief Engineer and Deputy Minister,
Department of Railways and Canals,
Ottawa.

QUEBEC CANALS.

Closing and opening of navigation, 1899-1900.

	Closing.	Opening.
	1899.	1900.
Lachine Canal	30th November	2nd May.
Beauharnois Canal	1st December	1st May.
St. Ours Lock	3rd December	24th April.
Chambly Canals	4th December	2nd May.
St. Anne's Lock	26th November	24th April.
Carillon Canal	30th November	1st May.
Grenville Canal	30th November	1st May.

Beauharnois Canal.

Statement of Fines collected during the fiscal year ended June 30, 1900.

Date.	Name of Vessel.	Name of Owner.	Fines.	Total.
1899.			$ cts.	$ cts.
July 10	Str. *Ocean*	Western Navigation Co.	5 00	
" 22	Bge. *Maggie*	Capt. Monette	10 00	
" 29	Tug *Eddie*	Prescott Elevator Co.	5 00	
" 29	Tug *Larosee*	Capt. Larosee	10 00	
Nov. 23	Str. *Lake Michigan*	Capt. Lefebvre	15 00	
1900.				
May 15	Merchandise left on canal bank.	Geo. Watterson & Co	4 00	39 00
				39 00

Lachine Canal.

Statement showing the depth of the river water on mitre sills of the old Lock No. 1, at lower entrance and Lock No. 5, at upper entrance, during the fiscal year ended June 30, 1900.

Months.	Old Lock No. 1, Lower Sill.				Old Lock No. 5, Upper Sill.			
	Highest.		Lowest.		Highest.		Lowest.	
1899.	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.
July	18	6	16	9	12	0	11	0
August	16	10	15	3	11	0	9	9
September	15	4	14	5	9	10	9	5
October	16	1	14	11	10	1	9	5
November	15	10	14	5	10	1	9	5
December	16	6	14	6	10	9	9	4
1900.								
January	30	8	19	0	11	11	10	1
February	31	3	26	0	11	11	9	6
March	28	3	26	0	10	10	9	5
April	39	9	22	5	14	0	10	3
May	22	4	19	0	13	8	12	2
June	20	2	17	3	13	4	11	4

Lachine Canal.

Statement showing the depth of the river water on mitre sills of new Lock No. 1, at lower entrance, and new Lock No. 5, at upper entrance, during the fiscal year ended June 30, 1900.

Months.	New Lock No 1, Lower Sill.				New Lock No. 5, Upper Sill.			
	Highest.		Lowest.		Highest.		Lowest.	
1899.	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.
July	20	8	18	11	17	0	16	0
August	19	0	17	5	16	0	14	9
September	17	6	16	7	14	10	14	5
October	18	3	17	1	15	1	14	5
November	18	0	16	7	15	1	14	5
December	18	8	16	8	15	9	14	4
1900.								
January	32	10	21	2	16	11	15	1
February	33	5	28	2	16	10	14	6
March	30	5	28	2	15	10	14	5
April	39	11	24	7	19	0	15	3
May	24	6	21	2	18	8	17	2
June	22	4	19	5	18	4	16	4

Beauharnois Canal.

Statement showing the depth of the river water on mitre sills of Lock No. 6, at lower entrance, and Lock No. 14, at upper entrance, during the fiscal year ended June 30, 1900.

Months.	Lock No. 6, Lower Sill.				Lock No. 14, Upper Sill.			
	Highest.		Lowest.		Highest.		Lowest.	
1899.	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.
July	11	8	10	5	11	10	11	11
August	10	4	9	9	11	6	10	10
September	9	7	9	4	11	2	10	6
October	9	9	9	6	11	1	10	4
November	9	11	9	4	11	0	10	3
December	9	10	9	4	11	0	10	2
1900.								
January	13	10	9	11	11	6	9	8
February	18	8	13	6	11	8	10	10
March	18	0	13	6	11	5	10	8
April	13	9	12	7	12	6	11	3
May	13	8	11	8	12	3	11	7
June	12	5	11	0	12	4	11	5

Chambly Canal.

Statement showing the depth of the river water on mitre sills of Lock No. 9, at lower entrance, and Lock No. 1, at upper entrance, during the fiscal year ended June 30, 1900.

Months.	Lock No. 9, Lower Sill.				Lock No. 1, Upper Sill.			
	Highest.		Lowest.		Highest.		Lowest.	
1899.	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.
July	10	0	9	0	8	8	7	0
August	8	10	7	11	8	0	7	3
September	8	3	6	10	8	7	7	0
October	8	3	6	10	9	1	7	0
November	10	3	8	5	8	9	7	0
December	12	9	9	1	9	3	7	5
1900.								
January	14	0	10	0	9	2	8	4
February	14	6	11	0	10	1	8	10
March	15	7	14	4	10	3	9	5
April	20	1	14	11	13	0	9	10
May	18	1	14	7	12	11	11	2
June	15	8	11	7	11	4	9	6

St. Ours Lock.

Statement showing the depth of the river water on mitre sills of St. Ours Lock, during the fiscal year ended June 30, 1900.

Months.	Lock No. 1, Lower Sill.				Lock No. 1, Upper Sill.			
	Highest.		Lowest.		Highest.		Lowest.	
1899.	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.
July	10	1	8	10	8	11	8	2
August	8	8	7	3	8	1	7	0
September	7	8	6	3	7	9	6	8
October	8	8	7	0	8	0	6	10
November	8	11	6	10	8	11	8	0
December	11	0	7	5	11	0	8	2
1900.								
January	12	2	10	4	9	1	8	4
February	14	3	10	4	11	0	8	3
March	14	6	13	1	10	9	9	10
April	20	7	14	10	16	5	11	1
May	17	3	13	0	14	2	11	7
June	14	0	10	1	12	0	9	10

St. Anne's Lock.

STATEMENT showing the depth of the river water on mitre sills of St. Anne's Lock, during the fiscal year ended June 30, 1900.

MONTHS.	LOCK NO. 1, LOWER SILL.				LOCK NO. 1, UPPER SILL.			
	Highest.		Lowest.		Highest.		Lowest.	
1899.	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.
July	11	11	11	0	13	9	12	6
August	10	11	9	10	12	5	11	1
September	9	10	9	4	11	3	10	4
October	10	3	9	5	12	4	11	5
November	10	0	9	5	11	9	11	0
December	11	4	9	5	12	5	10	10
1900.								
January	11	9	10	9	12	0	11	3
February	12	1	10	10	12	6	11	3
March	11	6	10	6	13	0	11	2
April	14	2	10	10	16	9	11	3
May	13	10	12	2	16	7	14	1
June	13	2	12	3	14	7	12	5

Carillon Canal.

STATEMENT showing the depth of river water on the mitre sills of Locks Nos. 1 and 2, Carillon Canal, during the fiscal year ended June 30, 1900.

MONTHS.	LOCK NO. 1, LOWER SILL.				LOCK NO. 2, UPPER SILL.			
	Highest.		Lowest.		Highest.		Lowest.	
1899.	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.
July	15	3	13	9	15	5	13	9
August	13	9	11	10	13	9	12	0
September	12	7	11	4	12	11	11	3
October	13	7	12	4	13	8	12	2
November	12	10	12	0	12	8	12	0
December	13	11	12	0	14	7	12	0
1900.								
January	13	10	13	0	16	8	13	9
February	13	7	13	2	14	3	12	8
March	14	6	12	8	12	8	11	2
April	18	9	12	8	19	6	11	4
May	18	5	15	7	19	2	16	0
June	16	1	13	4	16	6	13	5

Grenville Canal.

Statement showing the depth of the river water on mitre sills of Locks Nos. 3 and 7, Grenville Canal, during the fiscal year ended June 30, 1900.

Months.	Lock No. 3, Lower Sill.				Lock No. 7, Upper Sill.			
	Highest.		Lowest.		Highest.		Lowest.	
1899.	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.
July	19	0	16	8	15	10	13	10
August	16	7	13	11	13	10	11	2
September	15	6	13	2	13	6	10	3
October	16	6	14	11	14	0	12	3
November	15	5	14	5	12	9	11	7
December	18	0	14	2	13	4	11	6
1900.								
January	19	8	16	5	13	0	11	8
February	19	3	16	10	13	0	11	5
March	18	0	15	0	12	0	11	0
April	23	7	15	4	20	3	12	0
May	23	4	19	7	20	0	16	7
June	20	3	16	4	17	6	13	8

TRENT CANAL.

SUPERINTENDING ENGINEER'S OFFICE,

PETERBORO', August 24, 1900.

SIR,—I have the honour to submit the annual report on the works on the Trent canal under my charge for the fiscal year ending June 30, 1900.

The Trent canal is a term applied to the several water stretches lying for the greater part along the valley of the Trent river, between the Bay of Quinté, on Lake Ontario, and Georgian Bay, on Lake Huron, which, however, in their present condition do not form a continuous line of navigation. The object of the works at present going on is to connect these several water stretches by short canals so as to form a continuous line of land-locked navigation from Lake Huron to Lake Ontario. A glance at the map of the district will show how comparatively small the length of waterway to make or improve is the length already provided by nature in the way of its beautiful and deep lakes and rivers. The total distance between Lake Huron and Lake Ontario is about 200 miles. By utilizing the numerous lakes and rivers, and taking advantage of the natural features of the land to make flooded reaches it is hoped that not more than 15 or 20 miles of the total length will be actual canal. The Imperial Government as far back as the year 1835 chose this route as being the most natural and feasible to make a water communication between Lake Ontario and Lake Huron, and they spent considerable sums in carrying out this project, and in fact a sufficient sum of money was voted by the Government at that time to construct that part of the work lying between Lake Ontario and Balsam lake. The works then constructed have ever since been used for local traffic.

When the two divisions at present under construction are completed a continuous line of navigation between Heeley's Falls and the ports on Lake Simcoe, a distance of about 160 miles, will then be available. Though a draught of six feet is provided on all the sills the lands necessary to flood for a draught of eight feet has been purchased on the new sections at present under construction, so that if required a draught of eight feet could be provided at a comparatively little extra cost.

MAINTENANCE.

Navigation closed on the upper reach December 2, 1899, and opened April 24, 1900. On the lower reach navigation closed November 27, 1899, and opened April 24, 1900.

The height of water on the mitre sills of the locks was very fair throughout the season, though there is still room for much improvement in regard to the regulation of the water on the different reaches. The regulation of the water is under three different managements, namely, the Dominion Government, the Ontario Government and the lumbermen, consequently it is not surprising that there are complaints regarding the management of the water during the dry season. Owing to the immense country drained, and the country becoming every year more cleared, the proper regulation of the water becomes more difficult. The regulation of the water also between Peterborough is, under the present circumstances very unsatisfactory. Owing to the mills at Lakefield using all the surplus water, any temporary stoppage in the mills almost stops the entire flow, in consequence of which the mills below are often stopped for a time. If the mill-owners at Lakefield were to notify the caretaker of the dam at Lakefield when it was necessary to stop temporarily for repairs the cause of complaint would be removed.

With reference to the water supply it is not generally known that such a vast system of reservoirs exists as there are in the country to the north of the direct route of the canal. From a recent survey of these reservoirs it was ascertained that there are

over 50 dams at present constructed which control about 70,000 acres of water in which over 25 million cubic feet of water can be stored, not considering the large quantity that could also be stored by many new dams which could be constructed but which do not at present exist. The proper storing and regulating of the large quantity of water above referred to is a most important matter, not only to navigation but to the vast commercial interests that are located along the valley of the Trent.

The total number of lockages for the season was 4,491, being about 20 per cent of an increase over those of last year, though this does not fairly represent the traffic on the canal, as owing to many of the longer routes of the steamers not passing through a lock no record of the traffic is kept. There are 23 steamers engaged in commerce on the reach between Lakefield and Balsam lake, besides a like number of small steamers belonging to private individuals.

There are 7 steamers on the reach between Peterboro' and Heeley's Falls and several on Lake Simcoe. Many of the larger steamers are of considerable size; some of them carry as many as 450 passengers.

Repairs.

The following repairs were executed at the different stations :—

CHISHOLM'S RAPIDS.

The dam at this station is in a bad condition and a new dam should be built. It would be a useless expenditure to repair the present dam.

HEELEY'S FALLS.

The dam at this place is in a good state of repair. The dam is made up of two sluiceways and 451 feet of flat tumble dam. There should be four more sluiceways made in this dam in order to properly regulate the water level above.

HASTINGS.

A new pair of lock gates for the lower entrance were constructed. The guide booms leading to the dam were repaired and 200 feet of new three stick boom built. The flooring of the slide was rebuilt.

PETERBOROUGH.

New rails were placed on the dam as a track on which to move the stoplog winches. The platforms over the sluices were also repaired. The lock gates were repainted.

OTONABEE RIVER.

New buoys were placed in the river and the river was snagged.

LAKEFIELD.

New stoplog winches were provided for the dam. The channel on the west side of the island was dredged. The floor of the small slide was renewed.

YOUNG'S POINT.

Some new stoplogs were provided for the sluiceways.

STONY LAKE.

A number of new buoys were placed in the several channels in this lake and the old buoys were repainted.

BURLEIGH.

The swing bridge was replanked and several new stoplogs were provided for the dam.

LOVESICK.

A new lock house was built for the lockmaster to live in, the old house was too small and was in bad repair. New stoplogs were also provided for the dam.

BOBCAYGEON.

The wall of the west side of the dry dock was replanked. The floor of the lock was repaired, and was also the lock gates.

SCUGOG RIVER.

The beacons at the mouth of the river, which were injured by the ice, were repaired and painted.

FENELON FALLS.

New chains were put on the lock gates, the old ones having become so rusted that they were unsafe. New stoplog winches were also provided for the dam.

INCOME.

The following work chargeable to income was executed :—

HASTINGS.

The removal of rock from the navigation channel was continued and completed, and now there is a navigation channel 80 feet wide with over 6 feet of water through it. The length of the channel is 800 feet.

OTONABEE RIVER.

The shoal at the 'Yankee Bonnet' was removed and the new channel is greatly appreciated by the steamboat men. The channel is 80 feet wide and 700 in length, and has over 6 feet of water in it. From 3 to 4 feet of hard clay and hard-pan was removed from the bottom to make this channel.

BURLEIGH.

A new landing pier at the lower entrance to the lock was constructed. The substructure is cribwork and the upper work is of concrete. The piers are 150 feet long and 10 feet wide; the concrete superstructure is 7 feet base, 4 feet on top and 5 feet high. It is a great boom to navigation, as heretofore the snubbing ground was very inadequate.

LOVESICK.

A new landing pier 80 feet in length was constructed at the lower entrance to the lock. This pier was constructed wholly of concrete, and considerable of rock had to be blasted to provide a seat for this pier to rest on.

CAPITAL.

CONSTRUCTION.

Section No. 1, Simcoe-Balsam Lake Division.—The contract for this section was awarded to Andrew Onderdonk on April 22, 1895. The work on this section is almost completed but the finishing up has taken a very long time. The only work remaining to be done is the finishing of the small dam near Victoria Road Village, the placing of the concrete superstructure on the Victoria Road rest piers and some cleaning up of the bottom of the prism at several places. This work should be completed in a few weeks.

Section No. 1, Peterboro'-Lakefield Division.—The contract for this section was awarded to Messrs. Brown, Love & Aylmer, on August 19, 1895. The work on this section is completed with the exception of completing the dredging of the channel for about 600 feet below the lock at Lakefield. This would have been completed sooner, but the dredge could not be obtained, as it was engaged by the Department of Public Works at Lindsay. This contract should be completed by the end of this season.

Section No. 2, Peterboro'-Lakefield Division.—The contract for this work was awarded to Messrs. Corry & Laverdure on May 21, 1896. Progress on this contract has been very slow. Up to the end of June the necessary excavation for the lock pit was not completed. Only one concrete mixer was working at the hydraulic lock, and if the work is not pushed ahead much faster this contract will not be completed before the end of next season. The excavation for the embankment leading to the lock is only fairly well started; it will take many months yet, at the present rate of working, to complete the excavation for this embankment. There are a number of points along this section at which the work is left unfinished These unfinished pieces of work should be finished this season, and the only work remaining to be done will be the concrete walls and towers, and the excavation in connection with the hydraulic lock.

PRESS WELLS.

The contract for the excavation and the foundation of the press wells for the hydraulic lock was awarded to Messrs. Corry & Laverdure on January 15, 1900, and they were to be completed by the 1st of May last. Judging from the progress made up to June 30 it will be six months yet before the wells are completed.

HYDRAULIC LOCK.

The contract for steel work in connection with the hydraulic lock was awarded to the Dominion Bridge Company. The date of completion of the contract was May 1, 1900, but till the contracts for the concrete and press wells in connection with this lock is completed the work of erection cannot be gone on with. As stated above, the concrete walls and towers will not be completed much before the end of next season, therefore the work of erection of the steel work cannot go on till then. A considerable part of the steel work, including the cast steel sections for the press wells, has been delivered on the ground leased by the Government, and an advance has been paid to the contractors on the material delivered. The work of erection should not take over six months.

TRENTON DIVISION.

The surveys were made, the location of the works laid out, the plans and specifications prepared and the work advertised for letting, but the letting of the contract was postponed.

PORT HOPE ROUTE.

From instructions received, surveys are being made for a line between Port Hope and Rice lake with a view of a possible outlet for the canal into Lake Ontario. When the surveys are completed, plans and an estimate of the cost of this work will be made.

PLANT.

The dredge *Otonabee* with dump and drill scows was continuously employed throughout the year. Up to the end of July the dredge was leased to Andrew Onderdonk for dredging the entrance to the canal at Balsam lake. For about two months it was leased to Brown, Love & Aylmer for excavating the entrance to the canal at Lakefield. It was then employed till June 30 by the Department of Public Works in dredging the navigation channel in the Scugog river at Lindsay.

The stone lifter *Trent* was employed continuously in deepening the channels at Hastings and Yankee Bonnet.

TUG 'EMPIRE.'

The tug *Empire* has been fully employed throughout the year at hauling scows from the dredge, buoying out the navigation channel, delivering timber, gravel and stone for the various works of repair along the route.

I have the honour to be, sir,
Your obedient servant,

RICH'D B. ROGERS,
Superintending Engineer.

COLLINGWOOD SCHREIBER, Esq., C.M.G.,
Deputy Minister and Chief Engineer,
Railways and Canals.

RIDEAU CANAL.

SUPERINTENDENT ENGINEER'S OFFICE,
OTTAWA, July 16, 1900.

SIR,—I have the honour to submit herewith my annual report on the Rideau canal, under my charge, for the fiscal year ended June 30, 1900.

Navigation closed at Ottawa, November 30, 1899.
" " Kingston Mills, November 24, 1899.
" opened at Ottawa, May 1, 1900.
" " Kingston Mills, May 1, 1900.

The depth of water maintained in the various levels throughout the whole season of navigation was excellent, no trouble from low water having occurred anywhere.

The freshet last April was not so violent as usual, and was passed through the various weirs without any damage worth mentioning, except at Black Rapids, where the ice slightly damaged the centre bent of a new stoplog bulkhead, that had been built last winter.

The principal works and repairs performed at the various lock stations along the line of the canal are as follows:—

OTTAWA.

The lock house was partially destroyed by fire on February 2, the fire originating from defective insulation of the electric light wires. The damage has been made good at a cost of about $550. Two pairs of lock gates were renewed. Small repairs were made to the basin wharfs and to the roadway in rear of the same. The chambers and piers of two of the locks at this station were grouted with Portland cement, and the river lock was cleaned out by our diver. Ten of the manhole gratings, each 5 feet square, and which had hitherto always been of wood, were replaced by iron gratings. It will be noticed that this has been done at several stations, and is on account of an accident having occurred to myself at Long Island, last August, when one of the wooden gratings gave way under me, allowing me to drop 25 feet down the manhole. Fortunately the sluice was up at the time and I was carried by the water through the culvert in the lock wall out into the lock below. To prevent the possibility of a recurrence of a similar accident I am having the wooden gratings over the manholes taken up and replaced with iron ones.

STEWARTON BRIDGE.

The whole bridge was covered with 2-inch plank, which was laid over the old planking, and small repairs were made to the piers and to the turntable of the bridge. A small well was sunk for the bridge keeper's house.

BANK STREET BRIDGE.

Small repairs made to the machinery, and gravel placed on the approaches to the bridge.

HARTWELL'S.

The piers and chambers of both locks were grouted. Small repairs were made to the bridge, and sundry small repairs made to station. Three iron manhole gratings were put in place.

HOGSBACK.

Repairs were made to one of the guard posts in the new bulkhead, which had been damaged by ice. The planking between the old and new bulkheads was renewed, as well as repairs to the planking of the apron below. Small repairs were made to the cellar and porch of the lockhouse, and a tile drain laid from the former.

BLACK RAPIDS.

Extensive repairs were made to this station, on account of the damage done to the works a year ago. The long dam was shortened by building a stoplog bent into the end of it ; and two other weirs were rebuilt. The cribwork piers below the dam were repaired. A new ice breaker crib, 20 feet by 20 feet, was built above the new works, but it was badly damaged by ice this spring, in fact it was almost overturned. One of the new bents in the weir was shifted from its foundation by the ice, but it has been secured for the season, and will be repaired next winter. Two new iron manhole gratings put in place.

LONG ISLAND.

Twenty new stoplogs were made for the bulkhead. Two of the lock chambers were grouted. The upper wing walls of the upper lock will be rebuilt next winter, as well as the gates between them. Some clay was put in front of the weir, and small repairs made to the station. Four new iron manhole gratings put in place.

MANOTICK BRIDGE.

Trifling repairs were done here by the bridge keeper.

WELLINGTON BRIDGE.

The whole bridge was covered with 2-inch plank, laid over the old plank, excepting the swing, which was entirely replanked with 3-inch plank, and the approaches were graded up with gravel, the whole being done by contract with Mr. Butler, of Kars.

BECKETT'S LANDING BRIDGE.

Small repairs made to the planking by the bridge keeper.

BURRITT'S RAPIDS.

Small repairs made to the lock and to the swing bridge in the village.

NICHOLSON'S.

The bulkhead of the cut was rebuilt last winter. Sundry small repairs were made to the locks and bridge.

CLOWE'S.

One pair of footboards placed on lock gates, and small repairs, such as painting, pointing and grouting, &c.

MERRICKVILLE.

One pair of lock gates renewed. Five swing beams repaired, and four new chain blocks made. Portion of the south wall of the upper basin fell in this spring. Temporary repairs were made without delay to navigation, and the whole wall will be rebuilt next winter. Four new iron manhole gratings put in place.

KILMARNOCK.

A new stoplog bulkhead was built across the head of the upper cut, and a set of 40-foot stoplogs furnished therefor. The upper cut was blasted out and deepened, from the new bulkhead to the lock: the work being done by contract with Mr. Timothy Delaney, of Ottawa. This work was done under great difficulties ; as the extraordinary rainfall last winter kept the reaches so high that the work was constantly flooded with water and ice. A small portion of the excavation near the lock was unfinished, as the freshet drove the contractor's men out of the cut before they could reach that point; but the amount left undone was so small, as to be practically of little detriment to

navigation. A new stone wall of dry masonry was built on the north side of the cut, and mooring posts set therein to serve as a lay by place for boats. The usual small repairs were made to the station from time to time.

EDMOND'S.

Small repairs were made to the stone dam, and also to the lock and waste weir. A tile drain was put through the lock flat, between the lock and the lockhouse, and what was formerly a swamp, is now a dry lawn; the work having been done by the lockmaster.

OLD SLY'S.

The wooden swing bridge across the lock was taken down, and a new one erected, by our own carpenters. Five new ice breaker cribs were built above the waste weir, and sundry small repairs made to the station. Four iron manhole gratings put in place.

SMITH'S FALLS COMBINED.

Small repairs made to locks and swing bridge. Four new chain blocks made, and four new iron manhole gratings.

SMITH'S FALLS DETACHED.

One pair of lock gates renewed. Four swing beams repaired, and four new chain blocks supplied.

POONAMALIE.

The bulkhead piers at the head of the upper cut were repaired from low water line up. The retaining dam was repaired and strengthened, and the platform of the stoplog bulkhead was rebuilt. Gravel was furnished and spread on the dam, and above the cut, and sundry small repairs made to the station generally.

PERTH BRANCH.

The abutment of the retaining dam that was burned last summer, was rebuilt. Repairs were made to the rip-rap and culverts in the cut between the upper and lower locks, and sundry small repairs made to the station generally.

In the town of Perth, the basin wharfs were repaired where the planking was worn out. Repairs were made to the steel swing bridges, and to the culverts on the tow-path road.

OLIVER'S FERRY BRIDGE.

The swing span of the long bridge was rebuilt, and small repairs made to the flooring of the bridge.

THE NARROWS.

Gravel was placed on the dam, and sundry small repairs made to the station generally.

NEWBORO'.

Some boulders were taken out of the cut. Two new 40 foot stoplogs were furnished for the bulkhead, and small repairs made to the lock and station generally.

CHAFFEY'S.

Small repairs made to the lock and waste weir, and to the station generally.

DAVIS'S.

Small general repairs made to the station.

JONES'S FALLS.

The west wing wall of the upper lock on the lower side was taken down and rebuilt, and the upper sill of the basin lock had several new pieces of stone put in, and was thoroughly grouted. The whole station was grouted by our masons, who did the repairs above mentioned. Small repairs were made to the stone dam and to the swing bridge and station generally.

BREWER'S UPPER MILLS.

One pair of lock gates were renewed, and small repairs made to the locks, embankments and station generally.

BREWER'S LOWER MILLS.

The long piers above the lock were rebuilt. Gravel placed on dam, and small repairs made to the station generally.

KINGSTON MILLS.

One pair of lock gates renewed, and one pair of sluice frames and new foot boards framed and put on upper lock. The swing bridge was repaired, and gravel placed on the dam. The upper wing walls on the upper lock were rebuilt, and several new hollow quoin and coping stones put in at various parts of the locks.

BRASS'S POINT BRIDGE.

Small repairs made to the flooring and hand railing. The swing span will be rebuilt next winter.

GENERAL.

The pointing and grouting of the lock masonry was done, as usual, by the lockmen; the cement for which was furnished by contract with Messrs. Eyre & Gordon, of Ottawa. The painting of the houses, bridges, lock gates, &c., was also done by the lockmen: the paint being furnished by contract with Mr. W. G. Charleson, of Ottawa. The contract for the supply and delivery of the Douglas fir dimension timber required for the next winter's repairs, has been awarded to Mr. M. Ryan, of Smith's Falls.

DREDGING PLANT.

The dredge *Rideau* was employed last summer in dredging at Kingston Mills, and at Ottawa. She was entirely rebuilt last winter in the Canal basin in Ottawa, the boiler and machinery being placed in the new vessel. This work was done by contract with Mr. John Burns, of Ottawa, and was executed most satisfactorily. The tug *Shanly* was employed last season in attendance on the dredge, delivering stores, buoying out the channel, removing logs, stumps, &c., therefrom at various points, and also on inspection work. She was raised up this spring and thoroughly caulked and some of her lower planking renewed, and is now in first class shape.

Three of the dump scows were repaired this spring, and the whole of the fleet of scows, i.e., four dump scows and one flat coal scow are in fair order, although in a year or two new ones will be required altogether.

I append hereto, a table showing the highest and lowest water during each month of the year at Ottawa and Kingston Mills lock stations.

I have the honour to be, sir,
Your obedient servant,

ARTHUR T. PHILLIPS, Mem Can. Soc. C.E.,
Superintending Engineer.

COLLINGWOOD SCHREIBER, Esq., C.M.G.,
Deputy Minister and Chief Engineer,
Department of Railways and Canals.

SESSIONAL PAPER No. 20

RIDEAU CANAL.

TABLE showing monthly, the Highest and Lowest Water on the Lower Sills of the Locks at Ottawa and Kingston Mills, respectively, from July 1, 1899, to June 30, 1900.

OTTAWA.				KINGSTON MILLS.			
Highest.		Lowest.		Highest.		Lowest.	
	Ft. In.		Ft. In.		Ft. In.		Ft. In.
July 12	14 8	July 31	11 6	July 21-31	8 1	July 1-20	8 0
Aug. 2	11 7	Aug. 31	7 11	Aug. 1	8 1	Aug. 28-31	7 4
Sept. 30	9 10	Sept. 16-20	6 11	Sept. 1-6	7 4	Sept. 18-23	7 0
Oct. 3	11 0	Oct. 19	9 2	Oct. 1	7 1	Oct. 24-31	6 8
Nov	9 10	Nov. 30	8 3	Nov. 1-21	6 8	Nov. 27-30	6 6
Dec. 27-31	12 2	Dec. 1-11	8 3	Dec. 28-31	6 9	Dec. 1-6	6 6
Jan. 1	12 1	Jan. 23-31	9 9	Jan. 29-31	7 0	Jan. 1-4	6 9
Feb. 15	10 1	Feb. 28	8 10	Feb. 17-28	7 1	Feb. 1-16	7 0
Mar. 1	8 10	Mar. 16-31	8 7	Mar. 24-31	7 6	Mar. 1	7 1
April 28	19 9	April 1	8 7	April 28-30	7 11	April 1	7 6
May 1	19 0	May 31	15 3	May 18-23	8 0	May 9	7 8
June 5	16 2	June 27	11 0	June 20-31	8 0	June 1-19	7 11

A. T. PHILLIPS,
Superintending Engineer.

RIDEAU CANAL OFFICE,
OTTAWA, July 16, 1900.

ST. LAWRENCE DISTRICT.

SUPERINTENDING ENGINEER'S OFFICE,
CORNWALL, July 1, 1900.

SIR,—I beg to submit my annual report upon work of construction, survey, &c., as connected with the enlargement of the St. Lawrence canals, for the year ending June 30, 1900.

CORNWALL CANAL.

(Opened for traffic 1843.)

This canal was originally designed and constructed to allow vessels of not over nine feet draught to surmount the Long Sault Rapids, extending from Cornwall to Dickinson's Landing, a distance of $11\frac{1}{2}$ miles, with a rise of 48 feet, originally made in six locks, but since reduced to five.

The canal is situated on the north side of the St. Lawrence river on ground sloping rapidly towards the river and generally about 30 feet above it. The high embankments thus rendered necessary when not perfectly constructed, or when resting on treacherous foundations, which are common along this section of the river, have given rise to frequent landslides, accompanied by subsidence, entailing as in 1888, very serious consequences.

In order to make the St. Lawrence navigable by vessels of the same class that pass through the Welland canal, and to carry out the general scheme of enlargement adopted by the Government, work was commenced on the Cornwall canal division in 1876.

This work consisted in deepening, widening and straightening the original channel, stregthening and protecting the embankments, and in building enlarged locks 270 feet long by 45 feet wide, with not less than 14 feet of water on the mitre sill, when the river is at its lowest stage, supply weirs, bridges, &c., also in addition to the above and not included in the original contracts, the repair or renewal of the foundations and general restoration of the damaged masonry of the old locks 15, 16, 17, 18, 19 and 20, and the adaptation of the basin between old locks 16 and 17 to the purpose of a dry-dock, also dams, weirs, guard gates, and automatic dam at lock 20, rendered necessary by the adoption of the Sheik's Island channel, and the masonry superstructure with ice-breaker on the piers at the upper entrance.

The Sheik's Island channel does away with the imperfectly constructed embankments west of Mille Roches, embraced in contracts Nos. 6 and 7 and parts of 5 and 8, which were abandoned when the decision to construct the channel had been arrived at. This diversion from the line of the old canal does away with $3\frac{3}{4}$ miles of very tortuous canal navigation, unfit for the class of vessels for which the enlarged canal system was intended and substitutes $2\frac{3}{4}$ miles of what can be classed as lake navigation, thus dividing the canal into two sections, the lower or eastern section 6 miles long, upper or western section $2\frac{1}{4}$ miles, with $2\frac{3}{4}$ miles of lake navigation between, and saving about $\frac{1}{2}$ mile in distance.

The guard gates and automatic dam at lock 20 were constructed to protect the lower reaches from the large body of water impounded by the construction of the Sheik's Island dams, in case of accident to the locks or other structures.

For the purpose of construction, the canal was divided into nine sections, commencing with No. 1 at the lower or eastern entrance. The work of enlargement was commenced on this section in 1876 and was finished in 1882, except some work on old lock 17 and weir and headrace to the mills, which were afterwards completed under the contract for the 2nd section.

The next section to be let was No. 10 to Messrs. Jocks, Delorimier & Broder, who commenced work in 1884, and with the exception of the upper entrance, completed it in 1895.

LIST OF CONTRACTORS.

Locality.	Section.	Contractors.	Date of Contract.
Cornwall	2	Wm. Davis & Sons	Nov. 5, 1888.
Lock No. 19	3	"	"
Maple Grove	4	"	"
Sheik's Island Dams		"	June 19, 1893.
Mille Roches	5	The Gilbert Blasting and Dredging Co.	Nov. 2, 1888.
Moulinette	6	" "	"
Sand Bridge	7	" "	"
Long Sault	8	" "	"
Dickenson's Landing	10	Jocks, Delorimier & Broder	April 7, 1884.
Upper Entrance		The Weddell Dredging Co	

NOTE.—Section No. 8 adjoins Section No. 10.

During the past year the work in connection with the protection, &c., of the guard gates above lock 20 was completed under contract for section 4, and the extension of the guide piers above and below the guard gates by contract entered into with Messrs. J. & R. Miller.

The work to complete the upper entrance was let to Messrs. Weddell & McAuliffe under contract entered into on September 28, 1899, to be completed by November 13, 1900.

It consists in the extending, straightening and widening of the channel on the north or landward side of the present entrance from deep water which commences 900 feet west of the upper gates of guard lock No. 21 and extends to a point about 1,100 feet west of the lighthouse on the south entrance pier, a distance of about 3,500 feet. The contractors have had two dredges engaged on this work since last October, except during the period they were laid off for the winter, from December 30, 1899, to April 4, 1900. Between stations 37 and 71 the old channel has been completed, and the excavation of the north bank down to the bottom angle is well advanced. The fencing along the new canal limits is nearing completion.

The entrance to new lock 15 and the basin between locks 15 and 17 has been dredged to remove the large deposit of detritus that had accumulated after the accidents in July, 1898. Messrs. Manning & Macdonald's dredge having been employed on this work for 582 hours.

The old locks have been kept in a state of repair so that they could be used in case of accident to the new ones, by the class of vessels hitherto employed on the St. Lawrence, also for the purpose of admitting vessels requiring repairs to the dry-dock formed between locks 16 and 17.

FARRAN'S POINT CANAL.

(Opened for traffic 1847.)

This canal is situated about 5 miles west of the village of Dickenson's Landing, the head of the Cornwall canal. It was built to overcome a short, swift rapid above the village of Farran's Point, and was about $\frac{3}{4}$ mile long with a lockage of $3\frac{1}{2}$ feet. In the year 1847 the original canal, for 9 feet navigation, was opened for traffic. The present enlarged canal has been extended to Empey's Bay; thus increasing the length to $1\frac{1}{2}$ miles and the lockages to 4 feet.

The enlargement having been authorized, tenders were advertised for, and on June 1, 1897 a contract was entered into with the Canadian Construction Company to undertake the necessary work and to have it completed by January 31, 1899.

The time for completion has since been extended.

The works undertaken in connection with the enlargement consisted of, forming a new eastern or lower entrance, north of the original and free from the eddies produced by the above rapids.

The building of a flotilla lock 800 feet long and 50 feet wide with 14 feet of water on sill at the lowest known stage of the river, (the lock extends from deep water at its eastern entrance to a point about 200 feet west of the old lock and nearly parallel to it on the north side,) also of the deepening and straightening the old channel to the head of the old canal and its extension through Point Avoyon to Empey's Bay, also the building of a road to replace a portion of the Queen's old highway occupied by the enlargement. It is intended to keep the old lock in repair so that it can be used in case of accident to the new lock.

The new lock was ready for traffic September 6, 1899, and has since been used by all heavy draught vessels.

The work done during the past fiscal year was as follows:—

The contractor's dam at the eastern end of lock-pit was removed.

At the eastern entrance, the timber superstructure of the north pier is now well advanced and the first course of masonry has been laid on crib substructure of the south pier.

At the upper or western entrance, the north pier has been completed and the south pier is also complete except some stone filling at the back of the masonry superstructure.

The work of putting stone protection on the banks has been commenced.

All the masonry in connection with the lock has been completed and oak mooring posts placed on the north side. The excavation of the canal channel by dredging, &c., has been far advanced that more than 14 feet depth of water is available at the lowest stage of the river.

An agreement has been entered into with the contractors to further protect the banks by sodding. This work is now being proceeded with.

WILLIAMSBURG CANALS.

RAPIDE PLAT CANAL.

(Opened for traffic 1847.)

The lower entrance of the Rapide Plat or Morrisburg canal is situated about 9½ miles west from the present head of the Farran's Point canal. It was designed to overcome the Rapide Plat, requiring a lockage of 11½ and extends from the village of Morrisburg to Flagg's Bay, a distance of 3¾ miles.

Ths original canal for vessels of 9 feet draught, was opened for traffic in 1847.

The works of enlarging for the 14 feet draught vessels was commenced in 1884 and consisted in the deepening and widening of the old channel, the building of a new lift and a guard lock of 270 feet by 45 feet, supply weirs, and regulating weir, &c., and the construction of a new road to replace the highway destroyed by the canal improvements.

The old lift lock was also put in thorough repair and the still lowered so as to admit of 9 feet navigation through it at lowest water.

For the purpose of enlargement the canal was divided into four sections, each lot as a seperate contract as follows: —

Location.	Section	Contractors.	Date of Contract.
Morrisburg	1	Poupore & Fraser	January 26, 1891.
Mariatown	2	Weddell Dredging Co	" 12, 1891.
New Road	3	Poupore & Fraser	" 26, 1891.
Flagg's Bay	4	William Broder	April 2, 1884.

The work on all the sections has been completed, and the final estimates have all been completed and forwarded to the department for approval.

The work of widening and straightening at Mariatown Point, once commenced but afterwards held in abeyance, will shortly be resumed by the Weddell Dredging Co., under their contract for section 2.

It is also proposed to widen and deepen the upper entrance so as to make a safer and better approach from the west. The necessary surveys, plans, &c., for this work have been made and tenders will be invited.

GALOPS CANAL.

(Opened for traffic in 1847.)

Between the head of the Rapide Plat canal and the foot of the Galops at the village of Iroquois, there is a $4\frac{1}{2}$ mile stretch of river navigation. What is now known as the Galops canal was orginally built as two separate canals, with a short stretch of river navigation between.

These were opened for 9 feet of navigation in 1847. The lower, or easterly section called the Point Iroquois canal, commenced at the village of Iroquois and extended to Presque'ile. It was 3 miles long and had a lockage of 5 feet 7 inches, which overcame the rapid of Pointe aux Iroquois.

The upper, or westerly section commenced at the village of Cardinal and extended up stream 2 miles to the head of the Galops rapids, it had a lockage of 6 feet 8 inches, and surmounted the Cardinal and Galops rapids. This was known as the Galops canal.

About ten years after the completion of these canals, they were connected by an embankment built in the river, and other improvements made, increasing the total length of canal to $7\frac{1}{8}$ miles and the lockages to 14 feet 10 inches, thus avoiding the rapid current of the short stretch of river navigation.

In 1888, Messrs. Murray & Cleveland entered into a contract with the Government to enlarge the upper entrance; the work consisting of the building of a new lift lock, connecting directly with the river immediately below the Galops rapids, and a new guard lock, both 270 feet long by 45 feet wide, and a supply weir. The removal of the old guard lock, and also the deepening, widening and straightening of the channel from the upper entrance to the new locks at Round Bay, a distance of about 1 mile.

This has all been completed except the pier below the guard lock, and the improvement of the channel at McLaughlin's Point.

In the year 1897 the Government advertised for tenders for the enlargement of the other portions of the canal, dividing it into two sections of contracts of about 3 miles each, Iroquois and Cardinal. Messrs. Larkin & Sangster obtained the first named and Messrs. Wm. Davis & Sons the latter. In each case the work was to be completed by the 31st January, 1899.

The time for completion has since been extended.

The scheme of enlargement contemplated the raising of the level of the reach between Iroquois and Cardinal 6 feet, that is to the height of the lowest known level of the river at the head of the Galops rapid, and overcoming the whole rise with one lift lock at Iroquois.

The lift lock at Cardinal will be cut off from the canal and connected directly with the river and used only to accommodate the village of Cardinal, its industries and the coasting trade.

IROQUOIS SECTION.

Work on the enlargement of this section was commenced in May, 1897. It consisted of excavating a new entrance channel, the building of two entrance piers, flotilla lock 800 feet long by 50 feet wide, weir, bridges, retaining walls, &c., and the straightening, deepening and widening of the canal for about 3 miles, also the reconstruction of the highway north of the old canal, &c.

During the past fiscal year all the masonry in connection with lock, sluiceways, regulating and power weir, retaining walls, culverts, &c., was completed except two culverts and a short stretch of retaining wall between the north-west wing wall of old lock and the weir. The excavation at the entrance is practically finished, also the south-east entrance pier with its masonry superstructure. The north-east pier is complete for 500 feet east from the lock. The prism of the canal is all down to grade and of full width except at two or three points which are now being dredged. The inside slopes of the banks have been protected with broken stone for a few feet above and below the water line of the canal, and the inside crests of the banks are being sodded as a further protection, as is also the north slope of the north bank; considerable work has been done toward trimming up the banks. The swing and fixed bridges across the prism of the old canal and the head of the new lock have been placed in position, and the highway north of the Canal rebuilt. The right of way across Presqu'ile has been fenced and considerable ditching done on the south side, and mooring posts have been placed in position around the lock.

The sluice gates for the lock, regulating weir and gates for the power openings in weir have been built and placed in position.

There remains to be done considerable trimming and sodding, the extension of the north-east pier for a further distance of 150 feet, the deepening of the Government ditch north of old canal, the removal of some portions of the old canal bank, the building of two culverts and other small items of work.

CARDINAL SECTION.

Commencing at the western end of the Iroquois section at Presqu'ile it extends west through the rear of the village of Cardinal to Gate's Point, the eastern end of the upper entrance contract, a distance of about 3 miles.

The work consists in the widening, deepening and straightening of the old canal at each end of the section and construction of an entirely new piece of canal, through and on either side of the village of Cardinal, requiring the excavation of the prism, the building of banks and their protection, and the construction of cribwork and masonry revetments through the 'Deep Cut,' also the building of bridge piers and abutments, &c.

The chief feature is the 'Deep Cut' in rear of the village of Cardinal, 5,900 feet long and 68 feet deep at the highest point, requiring the excavation of about 2,000,000 c. yds. of material, of which 1,813,500 c. yds. have been removed, leaving 186,500 c. yds. still to take out, principally for the formation of the highway along the north side and for the removal of the dams at either end.

Deep Cut.—The quantity of earth removed during the year was 153,500 c. yds., up to August 25, 1899, three steam shovels were employed day and night at this excavation, and during the day only, from that date until November 2, 1899, when all had been accomplished that could be done by this method, the shovels were then removed from the cut.

Earth excavation east of Deep Cut.—This includes the widening of the old canal, the removal of a portion of old tow-path, and the dredging of new prism across Glasford's Bay, requiring the excavation of 228,000 c. yds. of material; of this 75,000 c. yds. have been excavated, leaving 153,000 c. yds. still to be removed. During the year 49,000 c. yds. were taken out, one dredge being employed up to December 12, 1899, resuming April 29, 1900; she still continues at this work. A steam shovel has also been at work here since May 19, 1900.

EARTH EXCAVATION WEST OF 'DEEP CUT'.

This consists of widening and deepening of the old canal at Gate's Point, removal of portions of the old south bank and the dredging of prism of new canal, and the seat of cribwork and embankment across Gate's Bay.

Total material to be excavated was about 324,000 cubic yards, of which 257,000 cubic yards have been taken out, leaving about 67,000 cubic yards to be removed. During the year 61,000 cubic yards were excavated. One dredge only was engaged on this work, working last season till December 12, 1899, resuming May 19, 1900 and continuing until July 1, 1900.

About 430,000 cubic yards of the material excavated has been utilized in raising and widening of south bank of canal at east end of section, and forming of new banks across bays east and west of 'Deep Cut' and raising of highway on the north side of canal at east end of section. With the exception of the gap across the old canal at east end of 'Deep Cut' all the banks are practically finished and about 5,800 lineal feet at the east end of section has been protected with stone.

ROCK EXCAVATION.

About 10,000 cubic yards square of solid or ledge rock was encountered in the 'Deep Cut' and all excavated during the past year. The total quantity of solid rock and boulders excavated on section during the year was 11,000 cubic yards.

RAILWAY AND HIGHWAY SWING BRIDGE ACROSS 'DEEP CUT.'

The laying of masonry for this structure commenced June 29, 1899, and was completed September 15, 1899. The foundations of the pivot pier, east and west rest piers and the north abutment were on solid rock. The south abutment rests on a foundation of timber and concrete. The total masonry in these structures is 3,350 cubic yards. The erection of the steel superstructure of this bridge commenced September 28, and was completed and brought into use January 23, 1900. The masonry revetment walls on the rock in 'Deep Cut' were commenced July 1, 1899 and completed May 1, 1900. They are each 860 feet long and connect with the crib and masonry revetment walls at each end. These walls contain about 10,500 cubic yards of masonry.

The construction of the cribwork revetment along the sides of the 'Deep Cut' for a length of 5,500 feet was started August 3, 1899 and finished January 10, 1900, except a short length that cannot be built till the east dam is removed. The filling in, and behind the cribwork with stones was carried on as nearly simultaneously with its construction as was practicable, 300,000 cubic feet of timber, 267,000 lbs. of iron, and 42,000 cubic yards of stone were required for this structure.

The building of the masonry revetment wall on top of the cribs was commenced April 2, 1900 and continued until May 30. 1,200 lineal feet of wall at the west end of the 'Deep Cut' was completed and the space behind filled with stone. There still remains 4,200 lineal feet of this wall to construct, the cut stone for which is on the section.

All the work that could be done dry in the 'Deep Cut' having been finished, water was let in from the reach below the lock on June 1, 1900.

Several small slides from the face of the slopes of the 'Deep Cut' have occurred during the year, the most serious during the night of January 20, 1900, at station 273, north side, carrying about 60 feet of cribwork partly across the canal. This piece of cribwork had only been partly filled with stone, and the slide sheared off the upper portion; the lower portion 6 feet in height, that had been filled, remained intact. The slides always occurred after heavy rains and contain about 3,000 to 5,000 cubic yards each of material, the total not exceeding 25,000 cubic yards or about $1\frac{1}{4}$ per cent of the quantity taken out of the cut.

GALOPS RAPID IMPROVEMENT.

This work consists in the excavation of a straight channel 200 feet wide and 17 feet deep through the shoals of the rapid, which are known by the following names, viz.:—Upper Bar, North and Caledonia Shoals, Island Shoal and Lower Bar. The whole of these shallow places are included in a distance of 3,300 feet.

The work is subaqueous and has to be performed through the swift water of the rapid.

The work as originally designed was finished in November, 1888, but in view of the apparent permanent lowering of the water surface of the River St. Lawrence in the channel, and for the purpose of making a satisfactory test and survey of its bottom, and at the same time to be prepared for the removal of any material above the original con-

tract grade, an agreement was entered into in the year 1897 with the Gilbert Brothers Engineering Company, Limited, to perform the necessary work. Operations were commenced the same year. In the year 1898 it was decided to widen the entrance to the existing channel toward the south or Adam's Island.

The plant employed consists of a dredge, drill scow, tugs, scows, &c., all adapted to the special work in hand.

During the past fiscal year the dredge was employed from June 30, to July 8, in widening the entrance and from the last mentioned date to December 8, in sweeping and sounding on the lower bar; she was then laid up. The work of sweeping and sounding was resumed April 18, 1900 and the whole channel completed May 28. Since May 31, she has been dredging for the widening of the entrance. The soundings taken after the sweeping show that the channel through the shoals is all down to grade, except at three points on Island Shoal has been blasted.

The drill scow was engaged in drilling and blasting on the upper bar from July 1, to September 6, 1899, and on Island Shoal from September 12, to November 11, from November 14 to December 1, she was engaged in making a survey of the north point of Island Shoal and was then laid up. Work was resumed on Island Shoal May 14, 1900, and continued up to the end of the fiscal year.

The advisability of lowering the grade on Island Shoal from 6 inches to 1 foot, as recommended in former reports, is again submitted for immediate action by the department.

NORTH CHANNEL.

This channel commences about one mile west of the upper entrance to the Galops canal and extends in a straight line to deep water off Chimnet Point, a distance of $2\frac{1}{3}$ miles.

It was constructed to avoid the sinuous natural channel passing through American waters, which is about $\frac{3}{4}$ of a mile longer and could not be navigated with safety by the class of vessels for which the present enlarged canals were designed.

The work consists in the excavation of a channel 200 feet wide, subsequently increased to 300 feet, through the bed of the St. Lawrence river, and Drummond and Spencer islands, the construction of embankments on either side of the channel and the building of entrance piers.

The work having been authorized and tenders advertised for, it was let to Mr. M. A. Cleveland, May 14, 1897, the work to be finished on January 31, 1899.

The time has since been extended.

In connection with this contract it is proposed to form a dam across the 'Gut' channel between Adams and Galops islands by utilizing the rock excavation from the east end of the 'North Channel.' This question awaits the decision of the department and is considered urgent.

At the lower entrance, below the dam a channel 175 feet wide and of the full depth has been made through the shoals and the subaqueous drilling and blasting necessary for the full width of 300 feet is well advanced. About 600 lin. ft. of crib-work pier has been built, ballasted and partially protected by a stone talus and a portion of the lower dam excavated.

At Drummond island a steam shovel was kept constantly at work during the season in excavating the prism.

At the upper entrance all the shoals obstructing the channel have been dredged out for the full depth and width.

About 360 lin. ft. of bank protection was built, also 3,000 lin. ft. of curbing or coping.

On September 4, 1899, the upper dam was cut and water admitted to the space temporarily dammed off from the river. During the fiscal year 324,000 cubic yards of earth have been excavated and about 21,000 cubic yards of rock. On May 12, 1900, the channel was formally opened for navigation and has since been in constant use by all classes of vessels.

RIVER REACHES.

IMPROVEMENT OF CHANNEL—LAKE ST. FRANCIS.

From head of Soulanges canal to foot of the Cornwall canal, the length of the navigable channel is about 32¾ miles, of this distance 30 miles is through Lake St. Francis.

During the previous fiscal year a channel has been located between the above mentioned points with a minimum depth of 16 feet at low water, and surveys had been made with a view to straightening and widening it at certain points.

ST. REGIS SECTION, 2½ MILES EAST OF CORNWALL.

It is situated about midway between the foot of Cornwall Island and First Crab Island. The work here consists in the dredging of a channel 1,100 feet long and 300 feet wide through what is known as the St. Regis shoals, and protecting it with a dyke terminating with crib piers. This work was let to Messrs. Manning & Macdonald, May 24, 1898, to be completed November 30, 1898.

The time has since been extended.

At the end of the last fiscal year, 1898-9, the channel was over 150 feet wide and the dyke and cribwork partly constructed.

The channel is now 275 feet wide, the dyke practically completed and the cribwork finished. The work remaining to be done will be fully completed by the end of the present season.

Hamilton Island section.—Between the 7th and 11th mile east of the foot of the Cornwall canal.

The work consists in the dredging of a channel through, or of the removal of the following shoals:

The Middle Ground	10	miles east of Cornwall.	
The Highlander Shoal	10½	"	"
The Horseback	11	"	"

A contract was entered into with Messrs. Manning & Macdonald, May 24, 1898 to be completed November 30, 1898.

The time for completion has since been extended.

The work on the Middle Ground, 700 feet long, was completed during the past fiscal year, except the protection of the Island crib, which still remains in the same condition.

On Highlander shoal, 600 feet long, the work proving too difficult for the class of dredge employed there, the contractors decided to wait untill they could bring their more powerful machine from St. Regis shoal.

The Horseback, it having been decided not to remove this shoal at present, Clark's Island shoal, 350 feet long, has been substituted for it. No work has yet been done here.

ST. LAWRENCE RIVER AND CANALS.

During the past fiscal year all the reaches of the River St. Lawrence between Cotean Landing and Prescott have been thoroughly examined and swept, and the location for the new series of buoys, required to increase the scale of navigation from nine feet to fourteen feet ascertained, which on the opening of navigation for 1900 were placed in position, and have proved a valuable aid to the navigation of the river.

It is proposed to supplement the spare buoys by gas buoys, four of which have been delivered at the north channel, and will be placed upon the completion of the buoy steamer.

The following is a list of the positions and number of gas buoys ordered for delivery, in time for the Fall navigation of 1900 :—

North Channel and Upper Entrance Galops Canal	4 buoys.
Crossover Shoal	1 "
King William Shoal	1 "
Sparrowhack's Point	1 "
Tousaints Island	2 "
Point Iroquois	1 "
Morrisburg East Shoal	1 "
Doran's Island	1 "
Weagan's Shoal	1 "
Jack Ass Shoal	2 "
Foot of Gooseneck Island	1 "
Crysler's Island	1 "
Weaver's Point	1 "
Cook's Point, East Williamsburg	1 "
The Cat Islands Channel	1 "
Baker's Point	1 "
The Brickfield Shoal	1 "
Hoople's Creek	1 "
Cornwall Island	1 "
Clark's Island	1 "
Squaw Island Shoal	1 "
Island Bank	2 "
Point Mouille Flats	1 "
Port Lewis Flats	1 "
Hay Point	1 "
St. Zotique	1 "
	32 "

A few isolated boulders or points of rock found in the channel have been removed, and the change to 14 foot navigation has been carried into effect without interruption or accident.

The building of a combination buoy and derrick steamboat to be employed in the maintenance of the St. Lawrence river navigation was authorized and the contract for the hull let to Messrs J. & R. Miller, and that for the engines and boiler to the Waterous Engine Works Company, to be completed by May 1, 1900.

The hull was ready to receive the engines at the opening of navigation, but up to the present they have not been delivered.

I have the honour to be, sir,
Your obedient servant,

TOM S. RUBIDGE,
Superintending Engineer.

COLLINGWOOD SCHREIBER, Esq., C.M.G.,
Deputy Minister and Chief Engineer, Railways and Canals,
Ottawa.

WELLAND CANAL.

St. Catharines, Ont., Sept. 26, 1900.

Sir,—I have the honour to report upon the operation and maintenance of the Welland canal and its branches for the fiscal year ending June 30, 1900.

The Welland canal system is as follows :—

Main line of canal, from Port Dalhousie to Port Colborne.

Length in miles	26¾
No. of lift locks	25
" guard "	2
" aqueducts	1
" highway bridges	17
" railway "	6
" ferries	3

Constructed for 14 feet of water upon the mitre sills.

Old canal, from Port Dalhousie to Allanburg ; now used chiefly for water power.

Length in miles	12½
No. of lift locks	25
" guard "	1
" highway bridges	13
" railway "	1

Nine feet of water is available at present.

Welland canal feeder, from junction with main line of canal to Grand river at Dunnville.

Length in miles	21
No. of locks	2
" highway bridges	9
" railway "	2
" ferries	1

Five feet of water available at present.

Stromness branch, from Stromness, on the feeder, to Port Maitland, on Lake Erie,

Length in miles	1¾
No. of locks	1
" highway bridges	1

Five feet of water available at present.

Chippewa branch, from Port Robinson, on the main line of canal, to the Niagara River at Chippewa.

Length in miles	8¼
No. of locks	1
" highway bridges	3
" railway "	3

Nine feet of water available at present.

The operation of the canal has been uninterrupted during the navigation season ; the canal having been opened April 27, 1900, for the passage of downward bound boats, prior to which date the entrance at Port Colborne was closed by heavy ice.

There was 14 feet of water, and upwards, on the mitre sill of the lock at Port Dalhousie throughout the season, and the same may be said of the condition of the water at Port Colborne except in the months of September, October, November and Decem-

ber, 1899, when, occasionally and for short periods, the water fell a little below the 14 feet mark. On two days in November, 1899, during easterly gales, the water for a few hours fell to 13 feet 1 inch on the mitre sill.

The Welland lockmaster, James Foster, was superannuated at the age of 78 years, and was succeeded by a new man.

A bridge tender on the new canal, Thomas Welch, was drowned July 17, 1900, and a new man was appointed in his place.

There were also four deaths of superannuated employees:

James McCabe,	died	November	8,	1899,	aged	72.
William Ellis,	"	December	15,	"	"	73.
John Neill,	"	January	30,	1900,	"	66.
Celia Cook,	"				"	80.

An attempt was made on the evening of April 21, 1900, to blow up lock No. 24, new canal, explosives being placed below the upper and lower gates and there exploded by fuses.

The attempt failed, beyond some damage to the gates which was soon made good, and the offenders were arrested the same evening at Niagara Falls, Ontario, thanks to the intelligent exertions of the Thorold police force, the Niagara Falls police force, and other citizens who rendered good service.

The offenders were tried at the Welland County Assizes in May, 1900, and were sentenced to imprisonment for life in the Kingston Penitentiary on May 25. The names of the offenders were Carl Dullman, John Walsh and John Nolan.

For the protection of the works a police force has been established on the canal under the control of the Dominion Police officials.

During the season of closed navigation the Grand Trunk Railway Company constructed the masonry and fender works for a new double track swing bridge to cross the canal below lock No. 17 by an over crossing.

The arrangement under which the bridge was constructed provides that it is to be maintained and operated by the Grand Trunk Railway Company at its sole expense, vessels having the right of way at all times.

The usual minor repairs to locks, weirs, bridges, towing-paths, embankments and ditches, have been made as required, absorbing large quantities of material, and keeping the repair force fully employed.

The canal was closed December 15, 1899, and opened for navigation April 27, 1900.

CAPITAL ACCOUNT.

Under the item of capital account are included the works of improvement of Port Colborne Harbour, and the construction of a swing bridge across the canal on the line of the 4th concession of Humberstone.

In connection with the agitation for a 20 foot waterway from salt water to the upper lakes, it occurred to the writer that the trade and commerce of the Dominion might be more widely and permently benefited with a comparatively small expenditure, by making Port Colborne a point of transhipment for the upper lake vessels drawing more than 14 feet of water.

A design for docks at Port Colborne in 22 feet of water was accordingly prepared and submitted to the department, and after full discussion and the preparation of plans and specifications, tenders were invited and a contract awarded to Messrs. Hogan, Macdonnell & Co., who commenced work in May, 1900.

The design provided for a depth of 22 feet of water from the south end of the west pier outwards to deep water in Lake Erie, and over a sufficient area to admit of the largest vessels on the upper lakes entering and tieing up at docks to be constructed in extension of the west pier, which docks would be available for the construction of elevators to receive grain from the upper lake vessels too large to pass through the Welland canal and transfer it to canal size vessels or railway cars.

It was understood that a breakwater was to be constructed at Port Colborne by the Department of Public Works to enable the largest upper lake vessels to approach and tie up, or leave the new docks in all weathers, as without such protection a satisfactory business could not be expected.

In addition to the new works at the south end of the west pier, the specifications also provided for the basin being docked on each side with cribwork and a concrete superstructure, to afford berths for canal size vessels.

Mr. J. S. Weller was appointed engineer in charge to see the contract carried out.

The necessity for a bridge across the canal on the line of the 4th concession of Humberstone has long been felt, and the bridge now in course of construction is being built so as to afford an unobstructed channel one hundred feet in width between fenders.

The piers and east abutment are founded on piles and are composed of concrete laid in layers inside cofferdams.

The contract for the structure and approaches was awarded to Messrs. Rowan & Elliott of St. Catharines, April 5, 1900, and is now nearly completed.

The contract for the steel superstructure, which is an equal arm swing bridge 249 feet in length, and a fixed span of 26 feet clear span, was awarded to the Hamilton Bridge Works Company of Hamilton, May 21, 1900, and should be completed October 30, 1900.

The state of the steel and iron trade made it difficult to obtain the required material, and it is uncertain whether the contract will be finished on time.

INCOME ACCOUNT.

Under income appropriations, 977 lineal feet of the west pier at Port Dalhousie was renewed by Mr. John Riley under his contract dated September 8, 1898, the old cribwork being removed to a foot below low water mark, and concrete blocks 4 ft. x 4 ft. x 6 ft. formed of Portland cement concrete placed on both faces of the pier, which was raised to the finished height with Portland cement concrete placed behind moulds.

The hearting of the pier was composed of concrete formed of natural hydraulic cement manufactured in the neighbourhood.

The pile protection and fender works at Allanburgh were renewed by the canal repair force, as also were the crib fender works at Allanburgh and Port Colborne bridges.

Under Messrs. A. H. Irvine & Company's contract dated September 23, 1898, certain slides in the deep cut, amounting to 11,538 cubic yards, were dredged out, scowed to Port Colborne and dumped to the east of the second reef east of Port Colborne.

On the old canal, in addition to innumerable minor repairs, the weir aprons at locks 5, 6, 7, 8, 9, 10, 13, 14, 16 and 21 were repaired, and the foot bridges on weirs 4, 8 and 14 were renewed.

New head gates were put in lock No. 5, the guard gates above lock No. 24 were renewed, two new head gates were put in the Port Robinson lock, and four new gates in the Welland lock. The Keefer bridge over lock 22 level was rebuilt.

The scow *Hamilton* and Tool-boat *Hanlon* were rebuilt and painted, and the scow *Chippewa* was caulked and repaired.

The bridge houses at Marlatts, Allanburg, Port Robinson, and the Welland lock house were painted, also the Allanburgh bridge over the old canal, and the lock houses at the Junction.

COLLECTORS' OFFICES.

There are on the Welland canal system five offices for the collection of canal revenues, namely, Port Dalhousie, St. Catharines, Chippewa, Port Colborne and Dunnville, those at Port Dalhousie and Port Colborne being open day and night except during the daylight hours of Sunday when the canal is closed.

The payment of hydraulic and other rents is not altogether satisfactory, the non-payment amounting to a discrimination against similar industries elsewhere. In some localties the non-payment appears to have been reduced to a system which is spreading, and increasing the difficulty of collecting rents. The remedy is not in the hands of the local officers.

Appended will be found a statement of damages to canal property, and amounts paid or due for the same, and to whom paid.

Also a statement of fines collected from vessels or canal employees for breaches of canal rules and regulations.

Also a statement of the highest and lowest recorded depths of water monthly on the mitre sills of the locks at Port Dalhousie and Port Colborne.

I have the honour to be, sir,
Your obedient servant,

W. G. THOMPSON, M. Inst. C.E.,
Superintending Engineer.

COLLINGWOOD SCHREIBER, Esq., C.M.G.,
Deputy Minister and Chief Engineer, Railways and Canals,
Ottawa.

STATEMENT of Damages to Welland Canal property during the fiscal year ending June 30, 1900, and the amount paid and unpaid on account of said damages.

Date of Damage.	Name of Vessel.	Amount of Damages.		Date Paid.	Where Paid.
		Paid.	Unpaid.		Collector's Office.
1898.		$ cts.	$ cts.	1900.	
Aug. 15.	Steamer S. Langell	17 50		May 24.	Port Dalhousie.
1899.					
June 1.	" St. Andrews		29 31		
				1899.	
Aug. 9.	Standard Oil Co. No. 52	9 75		Sept. 9.	"
" 30.	Steamer Badger State.	5 87		" 18.	"
" 30.	" Empire State.	40 00		" 18.	"
Sept. 2.	" Tecumseh.	6 77		Oct. 17.	"
" 24.	" Peshtigo	9 00		" 18.	"
" 28.	" Rosemont	8 50		" 14.	"
				1900.	
Oct. 25.	Brig Agustus	29 80		May 19.	"
				1899.	
Nov. 10.	" Porto Rico	10 00		Nov. 10.	"
		137 19	33 61		

STATEMENT of Fines collected from Vessels and Shippers contravening Canal Rules and Regulations, for the fiscal year ending June 30, 1900.

Date of Fine.	Name of Vessel and Shipper.	Amount of Fine.		Date Paid.	Where Paid.
		Paid.	Unpaid.		Collector's Office.
1899.		$ cts.	$ cts.	1899.	
Oct. 10.	Steamer Lincoln	20 00		Oct. 18.	Port Dalhousie.
1900.					
Apl. 20.	Tug Landford	5 00		Apl. 20.	Port Colborne.
May 15.	Schooner W. H. Rounds.	5 00		May 15.	"
	Shipper.				
Apl. 25.	J. H. Kratz	15 00		" 11.	St. Catharines.
		45 00			

STATEMENT showing the Highest and Lowest Depth of Water on the Lower Mitre Sill of Lock No. 1, New Welland Canal, Port Dalhousie, for the fiscal year ending June 30, 1900.

MONTHS.	LOWER SILL.				MONTHS.	LOWER SILL.			
	Highest.		Lowest.			Highest.		Lowest	
1899.	Ft.	In.	Ft.	In.	1900.	Ft.	In.	Ft.	In
July	16	1	15	7	January	14	7	14	
August	15	9	15	3	February	15	1	14	
September	15	6	14	8	March	15	2	14	
October	14	10	14	5	April	16	0	15	
November	14	10	14	4	May	16	3	15	
December	14	6	14	1	June	16	1	15	8

STATEMENT showing the Highest and Lowest Depth of Water on the Upper Mitre Sill of Lock No. 27, New Welland Canal, Port Colborne, for the fiscal year ending June 30, 1900.

MONTHS.	UPPER SILL.				MONTHS.	UPPER SILL.			
	Highest.		Lowest.			Highest.		Lowest.	
1899.	Ft.	In.	Ft.	In.	1900.	Ft.	In.	Ft.	In.
July	15	2	14	6	January	16	7	13	1
August	14	11	13	9	February	15	7	13	6
September	14	10	13	9	March	14	10	13	5
October	14	2	13	6	April	15	1	13	7
November	14	6	13	1	May	15	1	14	3
December	15	3	13	3	June	15	10	14	2

ST. LAWRENCE DISTRICT.

SUPERINTENDING ENGINEER'S OFFICE,
CORNWALL, July 1, 1900.

SIR,—I have the honour to report on the maintenance of the canals under my charge during the fiscal year ending June 30, 1900.

The St. Lawrence district includes the Cornwall, Farran's Point, Rapide Plat, Galops, North Channel, and Murray canals, the improvement of the rapids and channels of the navigable reaches of the River St. Lawrence and Lake St. Francis.

CORNWALL CANAL.

Navigation for the season of 1899, closed on December 8, 1899.

The canal was unwatered for usual repairs on April 9, 1900, and remained unwatered until April 22, when it was opened for traffic.

The locks at lower entrance were dismantled and are properly secured for winter.

During the season of navigation the dry dock was almost constantly in use for repairs to steam vessels, barges and contractors' plant, and during the winter it was used to its full capacity by contractors' tugs and dredging plant undergoing repairs, and also by local steamboats and tugs.

The usual work in preparation for spring repairs was carried on during the winter at the workshops.

Watchhouses for guard gates, Cornwall swing bridge, and lock No. 15, were placed in position.

During the past year navigation was maintained without interruption, and the water supply to the mills not interfered with.

New chain-well machinery was put in at locks 19 and 20.

The guard gates above lock 20 have been completed and brought into use.

The dredging in basin between new locks 15 and 17 has been completed to fifteen feet, and also the entrance below lock 15.

A life chain 200 feet long was placed in front of retaining wall at foot of Pitt Street, Cornwall, also three electric lights placed on north bank between Cornwall swing bridge and east end of retaining wall.

The following repairs were proceeded with:—

Thirty snubbing posts renewed between locks 18, 19 and 20.

Worm gear placed on weir at lock 20.

Old locks 18, 19 and 20, put in good working order.

The storehouse, icehouse, and the lockmaster's house, lock 15, shingled.

The outbuildings at overseer's residence thoroughly repaired.

Floor of Mille Roches bridge renewed.

Top-bars and bridge plank renewed on upper gates, lock 19.

Top-bars placed on spare gates, lock 18.

Gate lifter caulked.

Rip-rap west of lock 17 weir, south bank renewed.

Fence built around the Government land, north of lock 19, also on north bank west of guard gates.

Safety latches were placed on all gates of locks 15, 17, 18, 19 and 20, also on automatic gates at guard gates.

The ice-breaker and piers at lower entrance require extensive repairs.

A new regulating and supply weir at the head-race to the lower mills at lock 17, and extensive repairs to north bank between Pitt and Amelia Streets, are urgently required.

There have been superannuations during the year.

The following are the fines imposed during the year :—

1899.	July 1	Fine	Barge 'Alberta'	$ 5 00	paid.
1899.	" 29	"	" 'Gaskin'	2 00	"
1899.	" 30	Damages	Str. 'Melbourne'	5 00	"
1899.	Aug. 9	Fine	" 'Persia'	5 00	"
1899.	" 22	"	Barge 'Fannie'	2 00	"
1899.	Sept. 1	Damages	" 'Fred Carney'	5 00	"
1899.	" 10	"	Tug 'Larkin'	20 00	"
1899.	" 23	Fine	Str. 'Ocean'	5 00	"
1899.	" 24	Damages	" 'Melbourne'	5 00	"
1899	" 27	"	Tug 'W. J. Poupore'	15 00	"
1899.	Nov. 8	"	" 'Mary Ellen'	5 00	"
1899.	" 9	Fine	Str. 'Lake Michigan'	5 00	"
1899.	" 21	Damages	Barge 'Brighton'	5 00	"
1899.	" 22	"	" 'Richard'	10 00	"
1899.	" 23	Fine	Tug 'Spray'	5 00	"
1900.	May 14	"	Barge 'Delaware'	5 00	"
1900.	" 21	Damages	Str. 'Theano'	25 00	not paid.
1900.	" 30	Fine	Tug 'Kate'	5 00	paid.
1900.	June 18	Damages	Barge 'Richard'	5 00	"
1900.	" 20	Fine	" 'Alberta'	2 00	"
1900.	" 20	Damages	Sch. 'Moonlight'	8 00	paid at Dalhousie.
1900.	" 26	"	" 'Bothina'	10 00	not paid.

The highest water recorded during the season of navigation at lock 15, lower entrance, was 10 ft. 7 in., and the lowest 8 ft. 8 in.

The highest water recorded during the season of navigation at lock 21, upper entrance, was 10 ft. 4 in., and the lowest 7 ft. 11 in.

The highest and lowest water during the year ending June 30, 1900, at locks Nos. 15 and 21, is as under :—

Lock 15, highest—21 ft. 2 in., March 1, 1900.
" 15, lowest—8 ft. 7 in., Dec. 30, 1899.
" 21, highest—12 ft., March 6, 1900.
" 21, lowest—7 ft. 7 in., Jan. 18, 1900.

The above levels are with reference to the mitre sill of old locks 15 and 21.

WILLIAMSBURG CANALS.

The several divisions of these canals, viz. : Farran's Point canal, Rapide Plat canal and the Point Iroquois, the Junction and the old Galops canal, collectively known as the 'Galops canal,' were closed on December 8, 1899, and re-opened for the season of 1900 on April 23, but the actual date on which the several locks were opened was varied to suit the requirements of the contractors for the enlargement.

Navigation was maintained in a fairly satisfactory manner during the past year, in view of the extensive works of enlargement now in progress.

No accidents have occurred during the year, and no fines have been imposed during the season.

The repairs staff has been chiefly occupied in maintaining the old locks in working order, and on the following repairs :—

Cleaning out old lock 22.

Snubbing posts renewed where required at locks 22, 24 and 25.

A new storehouse built at lock 26 to replace one destroyed at Glucose factory fire.

Cleaning out upper entrance to lock 26.

General repairs to all locks, lock gates, buoys and buildings.

Buoy-boat and scow overhauled and repaired.

Spare buoys prepared and ironed.

The buoy service from Cornwall to Prescott was duly performed at the close of navigation in December, 1899, and again at the opening of navigation in April, 1900.

The lowest water on the mitre sill of old lock 23, formerly the governing point on the canals in this district, during the season of navigation was 6 ft. 4 in. on October 27, 1899.

The lowest water on the mitre sill of old guard lock No. 27, during navigation was 7 ft. 7 in. on October 28, 1899, and the highest 10 ft. 5 in. on June 29, 1900.

MURRAY CANAL.

Navigation closed on December 15, 1899, and opened again on April 13, 1900.

748 vessels passed through the canal from July 1, 1899, to June 30, 1900.

No accidents occurred during the year.

The tow-path ditches and back ditches were cleaned out.

Weeds and brush were cut.

Stone scow was repaired.

Eastern and western entrance piers were repaired where necessary.

Floors of all road bridges renewed where required.

600 yards of tow-path graded.

The rip-rap was repaired for a distance of 840 yards and 945 cubic yards of broken stone used.

A new culvert was put in west of Brighton road bridge on north side of canal.

A dry wall was built in rear of blacksmith's shop.

The overseer Mr. T. P. Keeler, whose services were dispensed with on April 15, 1900, was replaced by Mr. W. Bensley on May 3, 1900.

The highest water recorded during the season of navigation 1899-1900, was 13 ft. 3 in. on June 9, 1900, and the lowest 11 ft. 6 in. on November 20, 1899.

I append a statement showing the highest and lowest water during the past year on each of the canals in my district, also a condensed statement of the highest and lowest water during the season of navigation, from the year 1891 to 1899, both inclusive.

I have the honour to be, sir,
Your obedient servant,

TOM S. RUBIDGE,
Superintending Engineer.

COLLINGWOOD SCHREIBER, Esq., C.M.G.,
Deputy Minister and Chief Engineer, Railways and Canals,
Ottawa, Ont.

STATEMENT of the Highest and Lowest Water on the Canals in the St. Lawrence District, for the year ended June 30, 1900.

MONTH.	CORNWALL CANAL.						WILLIAMSBURG CANALS.						LAKE ONTARIO.			
	Lock 15.		Lock 21.		Lock 22.		Lock 23.		Lock 24.		Lock 25.		Lock 27.		Murray Canal.	
	High.	Low.	High.	Low.	High.	Low.	High.	Low.	High.	Low.	High.	Low.	High.	Low.	High.	Low.
	Ft. in.	Ft. in.	Ft. in.	Ft. in.	Ft. in.	Ft. in.	Ft. in.	Ft. in.	Ft. in.	Ft. in.	Ft. in.	Ft. in.	Ft. in.	Ft. in.	Ft. in.	Ft. in.
1899.																
July	10 2	9 7	10 0	9 6	9 4	8 9	9 0	8 3	9 6	8 4	12 0	10 10	10 0	9 4	13 2	12 6
August	9 10	9 5	9 7	9 0	8 11	8 4	8 6	7 8	8 8	7 5	11 3	10 1	9 6	8 8	12 10	12 5
September	9 6	8 9	9 4	8 5	8 8	7 10	8 8	6 11	8 2	7 1	10 8	8 10	9 2	7 9	12 6	12 0
October	9 1	8 9	8 9	7 11	8 0	7 4	7 1	6 4	7 5	6 4	9 9	8 5	8 7	7 7	12 0	11 9
November	9 2	8 8	8 8	8 0	8 0	7 0	7 5	6 5	7 5	6 1	10 2	8 6	8 8	7 8	11 11	11 6
December	9 6	8 7	9 9	8 0	8 9	7 0	8 2	6 3	8 2	6 5	10 3	8 4	8 9	7 8	11 9	11 4
1900.																
January	19 7	9 3	8 10	7 7	8 1	7 0	7 6	6 0	7 5	6 0	9 8	8 2	8 7	8 0	11 10	11 6
February	26 9	15 9	9 10	7 11	9 10	7 6	8 2	6 5	7 5	6 3	9 9	8 5	9 3	7 8	12 1	11 7
March	21 2	14 2	11 8	8 8	11 4	8 3	8 9	6 8	7 8	6 0	10 0	8 3	8 8	7 9	12 4	12 0
April	15 9	10 2	10 0	9 1	9 9	8 6	8 9	7 9	9 3	8 0	11 9	10 2	9 9	8 7	13 3	12 4
May	10 4	10 0	10 3	9 8	9 6	9 0	9 2	8 5	9 5	8 6	11 10	11 0	9 8	9 1	13 3	13 1
June	10 9	9 7	10 3	9 8	9 7	9 0	9 6	8 6	9 5	8 5	12 3	10 9	10 5	8 9	13 3	12 7

STATEMENT of the Highest and Lowest Water on the Canals in the St. Lawrence District, May to November in each year.

YEAR.	CORNWALL CANAL.								WILLIAMSBURG CANALS.							
	Lock No. 15.				Lock No. 21.				Lock No. 22.				Lock No. 23.			
	Highest.		Lowest.		Highest.		Lowest.		Highest.		Lowest.		Highest.		Lowest.	
	Month.	Ft. in.	Month.	Ft. in.	Month.	Ft. in.	Month.	Ft. in.	Month.	Ft. in.	Month.	Ft. in.	Month.	Ft. in.	Month	Ft. in.
1891	May	11 10	Nov	8 9½	May	11 11	Nov	8 2	May	10 11	Nov	7 6	May	11 1	Nov	7 0
1892	August	12 1	May	9 4	August	10 10	"	8 10	July	10 3	"	7 10	July	9 9	May	7 6
1893	May	12 5	Nov	9 7	May	11 9	"	9 0	May	11 2	"	8 3	May	11 1	Nov	7 1
1894	June	11 0	"	9 2	June	10 11	"	8 6	June	10 6	"	7 10	June	10 1	"	7 0
1895	May	9 10	"	8 6	May	9 4	"	7 4	May	8 9	"	5 10	"	8 0	"	4 10
1896	"	10 2½	Oct.	8 6½	"	9 11	"	7 8	"	9 4	"	6 11	"	8 11	"	5 9
1897	August	10 3	Nov	8 5	"	10 0	"	7 5	"	9 10	"	7 2	"	8 11	"	4 9
1898	May	10 4	"	8 9	June	10 2	Oct.	8 1	"	9 7	"	6 11	"	9 3	"	6 0
1899	"	10 7	"	8 8	May	10 4	"	7 11	"	9 6	"	7 0	May	9 4	Oct.	6 4

STATEMENT of the Highest and Lowest Water on the Canals in the St. Lawrence District, May to November in each year—*Continued*.

YEAR.	WILLIAMSBURG CANALS *Continued*.								LAKE ONTARIO.							
	Lock No. 24.				Lock No. 25.				Lock No. 27.				Murray Canal.			
	Highest.		Lowest.		Highest.		Lowest.		Highest.		Lowest.		Highest.		Lowest.	
	Month.	Ft. in.	Month.	Ft. in.	Month.	Ft. in	Month	Ft. in.	Month.	Ft. in.	Month.	Ft. in.	Month	Ft. in.	Month	Ft. in.
1891	May	12 0	Nov	6 9	May	13 11	Nov	9 0	May	12 0	Nov	8 0	May	14 9	Nov	11 5½
1892	Sept	10 0	"	7 0	July	12 8	"	9 4	July	10 3	"	8 3	July	13 6	"	12 1
1893	May	11 2	August	7 4	May	13 10	"	10 0	May	11 6	"	8 2	June	14 9	"	12 2
1894	June	10 5	Nov	6 9	July	13 3	"	9 1	July	10 9	"	9 1	"	14 0	"	12 2
1895	May	8 3	"	4 5	May	10 10	"	6 8	May	9 10	"	6 9	May	12 5	"	12 4
1896	"	9 3	"	5 7	"	12 0	"	8 3	"	10 6	"	7 6	"	12 10	"	11 1
1897	July	9 3	"	4 8	June	11 8	"	6 6	June	10 0	"	6 8	July	13 5	"	11 2
1898	June	9 6	"	6 0	"	12 0	"	8 0	"	10 0	"	7 2	June	13 6	"	11 0
1899	May	9 9	"	6 4	May	12 3	Oct.	8 5	May	10 1	Oct.	7 7	"	13 5	"	11 6

ST. PETER'S CANAL.

CANALS REVENUE BRANCH, CANAL OFFICE,
ST. PETER'S, June 30, 1900.

DEAR SIR,—I have the honour to submit my annual report on the work performed on the St. Peter's canal under my charge during the fiscal year ending June 30, 1900.

1. Replaced 25 hanging fenders.

2. Fitting and placing 4 pieces of 12 x 10 timber, on west side of canal wall, 53 feet in length.

3. Digging a ditch or drain at foot of slope above the lock on west side and a small box drain across the roadway to the face of canal wall, and levelled and gravelled tow-path between north and south gates and placing one warping post.

4. Repairing the north-west end of the east side abutment of swing bridge.

5. Re-roofing the kitchen, extension to the lockhouse, repairing porch and painting kitchen with two coats of paint and main building one coat paint.

6. Painting bridge the second coat, and two coats to lock gates and winches.

7. Repairing by marine divers the north low water gate that was leaking owing to the gates being too long and not mitreing properly.

8. Inspecting and working four days at south low water gates by marine divers in order to get said gates to work lighter, but failed. According to marine diver's report the flooring of the lock has two holes that were cut through while repairing locks five years ago for placing water pumps, the lock leaks and the valves cannot carry off the water as freely as it comes in the lock through flooring, hence causing a pressure of water at all times against the gates when tide is on them. When the tide is off them they work as well as any other gates on the canal. We open them now by main strength, and it takes six men to do it.

9. Repairing, by marine diver, toe roller on high water gate by putting a band of iron with bolts through the gate, said toe roller being loose and liable to come off at any time.

10. The completion of the work included in last year's estimates, viz., section 4 of cribwork and three warping posts.

11. The completion of section 3 from swing bridge southerly, length 150 feet, cribwork 6 feet, with necessary fenders.

12. The completion of section 4, length 150 feet and crib 2 feet.

13. The completion of section 5, starting from 275 feet south of swing bridge 150 feet long, 6 feet crib and finished on same principle and plan of section 3.

14. There are required other necessary repairs on St. Peter's canal, as per report of E. V. Johnson, Esq., inspecting engineer; also main roads on Government property leading to canal requires immediate repairs.

15. Navigation opened on April 24, 1899, and closed January 24, 1900. During that time 1,729 steamers and vessels passed through St. Peter's canal.

The St. Peter's canal has four pairs of gates and one lock 200 feet by 48, and 18 feet of water at all tides on mitre sill. Meantime I have the honour to be,

Your obedient servant,

JNO. H. DEVEREAUX.

COLLINGWOOD SCHREIBER, Esq., C.M.G.,
Deputy Minister and Chief Engineer,
Ottawa, Ont.

OTTAWA RIVER SURVEYS.

SPARKS' CHAMBERS, OTTAWA, March 10, 1900.

DEAR SIR,—I beg to ask for an advance of $300 for current expenses, on the Ottawa River Surveys.

Of the $500 advanced on November 15, I have put in accounts for $387.39 and I have advanced besides, $228.69 to the two parties. The total expenditure to the end of February is $5,454.93 not including stationery which was supplied by the department.

Mr. Carre has surveyed the river for 8 miles below the Interprovincial Bridge, and made borings where necessary over 7 miles. He found no rock, at 16 feet under lowest water. Mr. Stanton has surveyed the greater part of the shoals, just west of Ste. Anne, and had found no rock, at the same depth of water, mostly soft blue clay.

I am, yours truly,

HENRY F. MACLEOD

COLLINGWOOD SCHREIBER, Esq., C.M.G.

SPARKS' CHAMBERS, OTTAWA, April 9, 1900.

DEAR SIR,—I beg to inclose accounts and pay-lists in duplicate for March, 1900, for the Ottawa River Surveys, amounting to $1,705.65, of which $436.27 is paid, and I would ask payment for $1,269.38.

The surveys down to Ste. Anne were completed on the 27th ultimo, except the levels which will be closed to-day.

The calculations for the traverse tables for plotting are nearly completed, and the plans and soundings will be plotted soon. I think a scale of 5,000 feet to the inch will do for the plan from Ottawa to Ste. Anne and where excavation is required, 200 feet. I would like to get from Mr. Marceau, a copy of the plan and profile from Grenville to Carillon. Shall I send to have them traced?

The borings and soundings have turned out to be more favourable than anticipated, only about 200 lineal feet of limestone rock will have to be excavated about 6 feet deep, the rest is mostly sand and mud.

I am yours truly,

HENRY F. MACLEOD.

COLLINGWOOD SCHREIBER, Esq., C.M.G.

SPARKS' CHAMBERS, OTTAWA, May 31, 1900.

DEAR SIR,—I have to report, that the survey which you instructed me to make, in your letter of November 13, 1899, of that portion of the proposed 'Georgian Bay canal,' on the Ottawa river, between Lake Deschenes and Ste. Anne, has been completed.

It was commenced on November 15, from Deschenes to Ottawa Harbour—that on the north shore being made by Mr. Henry Carre, and on the south, by Mr. H. G. Stanton. They were finished on January 23.

While check lines of levels were being made between Ottawa and Britannia, on the south side,—Mr. Stanton made an examination of the river from Ottawa Harbour to Ste. Anne, omitting the portion occupied by the Grenville and Carillon canals. The channel of the river was swept by means of a steel rail, suspended from a steam tug, which struck the bottom when less than 16 feet below water, was reached. An experienced pilot was employed to keep the boat in the proper channel, and the positions of the shoals were noted.

The making of plans, &c., was commenced on January 23, and continued until February 28.

To take advantage of the ice, for the purpose of making soundings, surveys were resumed, between Ottawa and Ste. Anne, on February 28—the part of the river from Ottawa to Montebello being surveyed by Mr. Carre, and that from Montebello to Ste. Anne, omitting the Grenville and Carillon canals, by Mr. Stanton.

These surveys were completed on April 10, when work on the plans and estimates was continued, until May 31.

The length of line surveyed from Deschenes to Ottawa at the mouth of the Government log slide, on the north side of the river, is 6·34 miles.

From the Government log slide to Montebello .... 43·72 miles.
From Montebello to Grenville..... .... 16·61 "
From Carillon to 2 miles west of Ste. Anne .. . . 23·60 "

in all 90·27 miles.

For the 2 miles west of Ste. Anne, a plan of recent surveys, made for the Government has been obtained, and reduced to the scale of 2,000 feet to an inch.

In addition to the above, three alternative lines, on the Deschenes and Chaudière section were surveyed, viz.—the line on the south side, from Britannia, to the mouth of the Government timber slide 7 miles.

The line passing over Table Rock..... .... 0·86 miles.
And the line through Brewery Creek..... .... 2·84 "

making a total, not including cross sections, traverses for land to be flooded and for other purposes, of 100·97 miles.

The proposed scale of the canal, is for 14 ft. navigation, with locks 280 feet long and 45 feet wide. In the open reaches the bottom will be 2 feet deeper, or 16 feet below lowest water. The width of the bottom to be 100 feet, with slopes in rock of $\frac{1}{4}$ to 1 in. earth and in other materials, 2 to 1.

Of the distance given above, 90 27 miles, with the 2 miles west of Ste. Anne added in making 92·27 miles, 74·31 miles are now navigable for vessels of the above draught, (14 feet)—14·52 miles can be excavated by dredging to the required depth, the material being composed of mud, sand and clay, and 3·44 miles are in rock excavation, in approaches to locks and in lock pits.

The entrance to the canal from Lake Deschenes, may be either on the north shore, near Deschenes mills, or on the south, at Britannia, and may again take either the north or south shore on approaching the Remoux rapids.

Before construction commences it will be well to verify the elevations of the highest and lowest water in the various reaches of the river.

On the north shore excavation commences at station 4, on the projected line, and extends 1,900 feet to station 23, where a lock is to be built. The cutting ranges from 8 feet to 13 feet deep in rock. On the south side of this cutting there will be 1,300 feet of cribwork, made water-tight by means of a core of puddle, with masonry above low water. There will be guide piers of cribwork and booms from station 4 to station 10. The lift of the lock will be from 10 feet to 18 feet in high water. The lower entrance will be 350 feet long to deep water at station 30. It will be in rock 15 to 18 feet deep. Cribwork and masonry guide piers, 350 feet long, will be built on each side of the lower entrance, and on the north side of the upper.

The water is deep for 2·37 miles from station 30 to station 155, on the north shore, where the excavation above the Remoux rapids begins.

From station 155 to station 218 there will be rock excavation 6,300 feet long, ranging from 0 to 13 feet deep. From station 218 to station 234 the water is deep for 1,600 feet. From station 234 to station 248 to the lock in the Little Chaudière rapids there will be rock excavation, 1,400 feet long, from 8 feet to 12 feet deep. The lift of this lock will be from 12 feet to 19 feet at high water. The lower entrance, from station 251 + 50 to station 253, will be in rock, 150 feet long, and from 0 to 15 feet deep. Cribwork and masonry guide piers, 400 feet long, will be built at the upper and lower entrances of the lock, three in number.

It is not intended to interfere in any way with the usual fluctuations of the water surface between the Deschenes and Remoux rapids, and it is proposed to extend these levels beyond Remoux rapids till the lock is reached in the Little Chaudière rapids. To effect this it will be necessary to build a water-tight cribwork and masonry embankment, as described above, on the south side of the excavation from station 185 to the lock at station 248, 6,300 feet long, or to build a dam across the river, at the head of the Little Chaudière rapids, where the water is at a low stage, from 3 to 4 feet deep. The dam would be 2,300 feet long and about 6 feet high to top of stop logs. It would reduce the length of the cribwork and masonry embankment, 5,500 feet, making it 800 feet long, instead of 6,300 feet.

From station 253 to station 288 the water is deep for 3,500 feet. The Canadian Pacific Railway bridge is passed through the second span from the north shore at station 278, where a swing bridge will be required, with an opening of 100 feet, concrete and masonry pivot pier, abutments and rest piers. The depth of the water is from 40 to 50 feet, and the height of the piers 60 feet. By passing through the first span of the railway bridge the cost may be considerably reduced.

From station 288, eastward, three different routes may be taken: No. 2, by Table Rock, adjoining the suspension bridge, so-called; No. 3, through the E. B. Eddy Co's. mills and the Government log slide, and No. 4, by way of Brewery Creek.

Route No. 3.—Following No. 3 route through the Eddy mills the excavation for the approach begins at station 288 and extends to station 204 + 50, in rock 1,650 feet to the next lock, which is placed at Eddy's dam, or bulkhead. This dam will have to be maintained. The depth of this cutting is about 10 feet. This lock has a lift of from 0 to 10 feet in high water, and is placed in this position so as not to interfere with the level of water in the pond, from which numerous wheels take their supply. Entrance guide piers of cribwork and masonry, 400 feet long, will be built at the upper end.

From station 308 to station 312 + 50 will be a passing basin, 450 feet long, in rock excavation, 10 feet deep, the sides of which will be of dry masonry. Bridge Street is passed near the lower end of this basin; it will require a swing bridge, with an opening of 80 feet, with piers, abutments, &c., of concrete and masonry. The tracks of private sidings are crossed here, which will have to be diverted through the swing bridge, as well as the tracks of the Ottawa Electric Railway.

The lock at station 312 + 50 will have a lift of 15 feet.

From station 316 to station 320, there will be a passing basin, 400 feet long. Very little excavation will be required in this basin. There will be a dry masonry wall on the north side, and a cement masonry wall on the south, to provide an open channel for the tail race of the mills above.

The next lock is placed at station 320, with the object of getting rid of the water from the tail-race just mentioned, as soon as possible. The lift of this lock is from 15 feet to 25 feet at lowest water in Ottawa Harbour.

From station 323 to station 335, the lower entrance to the lock will be excavated in rock, 1,200 feet long, and averaging 18 feet deep. The expense would be reduced some $50,000, by placing the lock at station 330, and extending the wall and the tail-race channel. Entrance guide piers of cribwork, 400 feet long will be placed at lower end of rock.

At station 328, a swing bridge will be required to carry the track of the Eddy railway. The opening will be 100 feet, the piers and abutments of concrete and masonry, the pivot pier being 45 feet high.

Regulating and supply weirs will be required on the north side of the two upper locks and a waste weir, on the north side of the lower lock.

The work required from station 330 in Ottawa Harbour to Grenville, and from Carillon to Ste. Anne, has been described above.

Route No. 2.—At station 288, above mentioned, route No. 2 begins, and diverges towards the south, passing over Table Rock. For 1,350 feet to station 301 + 50 at the lock, the entrance will be in rock, with an average depth of 7 feet. Guide piers of cribwork and masonry will be required on the south side from station 287 to the lock at station 301 + 50, 1,450 feet long and on the north side for 400 feet.

The lock will have a lift of from 15 feet to 25 feet in high water.

From station 305 to station 311, will be a passing basin, which will be inclosed on the north and south by water-tight cement and masonry walls. A similar water-tight wall is also required on the north side of the lock, to connect it with the dam now built.

Bridge Street is crossed at station 310 Here a swing bridge with an opening of 80 feet will be required, the piers, abutments, &c., of concrete and masonry. The pivot pier will be 30 feet high. The double tracks of the Ottawa Electric Railway will pass over this bridge.

The second and last lock will be at station 311, it will have a lift of from 25 feet to 0 at high water.

From station 314 + 50 to station 333 + 50, will be the lower entrance, 1,900 feet long in rock excavation, the surface here is irregular, and the depth of cutting from 0 to 35 feet. The present cribwork will also have to be removed. A pier of cribwork will be built on the south side from the lock at station 314 + 50 to station 333. It will be 30 feet wide and 35 feet high. A guide pier of cribwork and masonry, 400 feet long, will be required on the north side.

A channel for the tail-races of the mills nearly parallel to the lower entrance, will be excavated in rock, along the foot of the cliff. It will be 500 feet long, 50 feet wide and 34 feet deep.

A regulating and supply weir, will be required on the north side of the upper lock, and a waste weir on the north side of the passing basin.

Route No 4.—The Brewery Creek route, No. 4, begins at station 288, which is equal to station 148 + 50 on the chainage of the Brewery Creek line.

This route diverges to the north, from route No. 3, and reaches the first lock at station 136. The entrance, which is 1,250 feet long, will be in rock, 10 feet deep.

An entrance guide pier of cribwork and masonry, 1,400 feet will be built along the south side, 400 feet long on the north, and 400 feet on the north and south sides of eastern entrance.

The lock will have a lift of from 0 to 10 feet in high water.

From this lock to the next at station 111 there will be excavation in rock, 2,150 feet long, from 10 feet to 15 feet deep.

Main Street is crossed at station 132, and will require a swing bridge, with an opening of 80 feet. The pivot pier of concrete and masonry will be 25 feet high—there will also be abutments and rest piers. The double tracks of the Hull Electric Railway will cross this bridge.

Wright Street, at station 125, will require a swing bridge, with an opening of 100 feet, with pivot pier, abutments, and rest piers of concrete and masonry. The pivot pier, 24 feet high.

Brewery Street will also require a swing bridge similar to that at Main Street. The track of the Hull Electric Railway will cross on this bridge.

The lock at station 111 will have a lift of 15 feet. There will be entrance guide piers on each side, above and below this lock, each 400 feet long.

From station 107 + 50 to station 25 + 50, at the last lock, the work will be partly in rock excavation and partly in embankment. The first cutting at the lower end of the lock is 100 feet long and from 12 feet to 0 deep—the next at station 105 is 200 feet long, from 5 feet to 0 deep—the next at station 100 is 800 feet long, from 13 feet to 0 deep—the next from station 89 to station 60 + 50 is 2,850 feet long, from 5 to 12 feet deep, and the next at station 47 is 300 feet long, from 2 feet to 0 deep. Water-tight embankment is required on the north side, from station 62 to the lowest lock at station 25 + 50. This embankment will be 4,400 feet long, 14 feet deep, 15 feet on top, with slopes of 2 to 1.

On the south side, about 75 acres of land which is now flooded in high water, will be permanently overflowed, to the same level.

At station 29, the Gatineau Point road, will require a swing bridge with an opening of 100 feet, with piers, abutments, &c. The pivot pier is 27 feet high.

The lock at station 25 + 50 will have a lift of from 25 feet to 0 in high water.

The lower entrance, from the Ottawa river, will be from station 22 to station 2, in rock excavation, 2,000 feet long, from 10 feet to 15 feet deep. There will be entrance guide piers, 400 feet long at the upper end of the lock, on each side. At the lower end they will extend to station 10, in the river, 1,200 feet on each side, and will be from 25 feet to 30 feet high.

Regulating and supply weirs will be required on the north sides of the upper and middle locks, also a waste weir near station 58, with an off-take ditch.

SOUTH SHORE LINE, BRITANNIA TO OTTAWA HARBOUR.

The entrance to the lock, on the south or Britannia side, begins at station 0, of the projected line, and extends to the lock at station 24, in rock excavation, 2,400 feet long, from 6 feet to 20 feet deep. A quantity of loose rock spoil about 5 feet deep, will also require to be removed.

The north side of the excavation will require a water-tight embankment, 2,400 feet long, of cribwork, made water-tight with a puddle core, and masonry above low water. Four guide piers of cribwork, with booms, will also extend into the lake, to the west of station 0.

The lock will have a lift of from 10 feet to 18 feet in high water.

The lower entrance from station 27 + 50 to station 32 + 50, will be in rock, from 0 to 16 feet deep, 500 feet long. Three guide and entrance piers of cribwork and masonry, 400 feet long, will be built, one above the lock on the south side, and two below the lock, north and south.

Deep water is found for 2·53 miles from station 32 + 50 to station 165, where work begins on the south shore above the Remoux rapids.

Route No. 1.—From station 165, being the upper end of route No. 1, to station 236 + 50 at the next lock, there will be rock excavation, 7,150 feet long,—from 5 feet to 15 feet deep. As on the North Shore, a water-tight cribwork and masonry embankment will be required. It will extend from station 180 to the lock, 5,650 feet, and will be from 12 to 25 feet high.

In place of this water-tight embankment, a dam may be built across the river as described for the North Shore route, which would cost considerably less. The excavation would also be reduced by changing the route, so as to pass through the centre of the Remoux rapids, but the alignment would not be so good.

The lock at the Little Chaudière rapids will have a lift of from 12 to 19 feet in high water. Entrance guide piers, 400 feet long, one at the upper end, and two below, are required.

From station 240 to station 300 + 70, at the next lock is in rock excavation, except for 500 feet, where it is sufficiently deep. The first cutting, 50 feet long, 0 to 16 feet deep—the second, 1,400 feet long, from 5 feet to 15 feet deep—the third 2,700 feet long, from 5 feet to 13 feet deep, and the fourth, 1,330 feet long, 25 feet deep.

The Canadian Pacific Railway bridge is passed, in the second span from the South Shore. A swing bridge will be required here, with an opening of 100 feet, with piers, abutments, &c., of concrete and masonry. The pivot pier will be 40 feet high.

The Ottawa Water Works intake pipe, 3 feet 6 inches diameter, must be crossed at station 279, by excavating a trench in the rock, and constructing a syphon culvert or pipe below the bottom of the prism.

Water-tight masonry and cement walls will be required on each side of the cutting, from station 292 at the present dam or bulkhead, to the lock station 300 + 30, 830 feet long, and from 6 to 8 feet high.

At station 299, Bridge Street is crossed, requiring a swing bridge of 80 feet opening, with piers, abutments, &c., of concrete and masonry. The pivot pier will be 30 feet high. The double tracks of the Ottawa Electric Railway will cross this bridge.

The lock will have a lift of from 15 feet to 25 feet in high water. Guide piers of cribwork and masonry, 400 feet long, on each side, at the upper entrance are required.

From station 303 + 70 to station 310 + 30, there will be a passing basis, 660 feet long; excavation, from 13 feet to 30 feet in rock. Cement masonry walls will be built on each side, north and south.

At station 310, a swing bridge will be required, with an opening of 80 feet, with piers, abutments, &c., of concrete and masonry. The height of the pivot pier, is 20 feet.

The lowest lock at station 310 + 30, will have a lift of from 25 feet to 0 at high water.

The lower entrance of the Ottawa river, extends from station 313 + 70 to station 325, being 1,130 feet long, in rock, from 0 to 17 feet deep. A guide entrance pier on the north side, 28 feet high and 600 feet long, will be required,

A regulating and supply weir will be required on the north side of the lock at station 300 + 30, and a waste weir, for the passing basin, above the lowest lock.

Borings.—The nature of the material to be excavated, and the surface of the rock has been ascertained by borings.

Plans, &c.—Plans and profiles of the various lines have been prepared, and tracings of the same are inclosed.

Cost.—The estimated cost of the canal, from Lake Deschenes to Ste. Anne, not including the Grenville and Carillon canals, following the North Shore, and route No. 3, through the Eddy mills, is $3,215,000.

Following the South Shore, and route No. 1, the estimated cost is $41,000 less than the North Shore.

The line which would cause the least inconvenience to local interests, is that by the North Shore and Table Rock, route No. 2. It would cost $65,000 more than No. 3 through the Eddy mills. It requires only one highway bridge, which would also carry the Ottawa Electric Railway tracks.

The Brewery Creek route, No. 4, would cost $415,000 more than route No. 3. A large quantity of land is flooded on this route. Two projected railways, and four high ways, two of them with electric railways, will require bridges.

The South Shore and route No. 1, intersects the Ottawa Water Works intake pipe, requires two highway bridges, one of them carrying the Ottawa Electric Railway, and interferes with sidings of the Canada Atlantic Railway. It is, however, the line best adapted to the interests of the city of Ottawa.

Estimates.—Appendices A to F, give the cost in detail of the various lines on the North Shore, from Deschenes lake to Montebello. Appendices G to K give the same on the South Shore, from Deschenes Lake to Ottawa Harbour, and from Montebello to Ste. Anne, excepting the Grenville and Carillon canals. Appendix L, is a summary of the lines on the North Shore, showing the difference in cost of each route. Appendix M is a summary of the cost of the South Shore line.

The work of surveying was considerably interrupted by stormy weather on the lake and river, and by the depth of snow upon the ice

I am, yours truly,

HENRY F. MACLEOD, M. Inst. C.E.

APPENDIX A.—NORTH SHORE.

Deschenes Rapids.

Estimate of cost of Lock and Canal, from station 4 to 30, Lake Deschenes to foot of Deschenes Rapids.

No.	Item.	Quantity.	Unit.	Rate.	Cost.
				$ cts.	$
1	Rock excavation	87,697	C. yds.	1 00	87,697
2	" " in lock pit	21,842	"	1 50	32,763
3	Lock, 18 ft. lift		18 ft. lift.		128,000
4	Lock gates, 18 ft. lift		"		9,500
4	" " 8 "		8 "		6,200
5	Culvert sluices				1,200
6	Lock gate machinery				1,000
7	Masonry on cribwork above and below locks	4,550	C. yds.	5 00	22,750
8	Cribwork for masonry	5,593	"	4 00	22,372
9	Stone filling between walls	4,044	"	0 50	2,022
10	1,300 ft. cribwork with puddle wall	5,533	"	4 00	22,132
11	Masonry on cribwork	3,226	"	5 00	16,130
12	Puddle for wall	3,959	"	0 60	2,375
13	Cribs for booms	1,615	"	4 00	6,460
14	Booms	57,600	Ft. B.M.	30 00	1,728
15	Braces (6 in. x 8 in.)	22,880	"	20 00	458
16	Planking	89,700	"	20 00	1,794
17	Timber for puddle walls	6,500	"	20 00	130
18	Upright planking	3,120	"	20 00	62
19	Cleaning out crib foundations			1 00	1,400
20	Coffer dam				1,000
21	Bolts for booms	5,210	Lbs.	0 07	365
	Add for engineering and contingencies			15 p. c.	55,462
					425,000

(Sgd.) HENRY F. MACLEOD.
HENRY CARRE.

APPENDIX B.—NORTH SHORE.

Remoux and Little Chaudière.

Estimate of cost of Lock and Canal, from station 155 to 252+75, head of Remoux to foot of Little Chaudière Rapids.

No.	Item.	Quantity.	Unit.	Rate.	Cost.
				$ cts.	$
1	Rock excavation	256,669	C. yds.	1 50	385,000
2	Lock, 19 ft. lift		19 ft.		132,000
3	Lock gates		"		9,700
3	"				6,200
4	Lock machinery				1,000
5	Culvert sluices				1,200
6	Masonry entrance walls	3,000	C. yds.	5 00	15,000
7	Masonry	10,100	"	5 00	50,500
8	Canadian Pacific Railway bridge				80,000
9	Crib for masonry	28,850	C. yds.	5 00	144,250
10	Crib entrances	13,500	"	4 00	54,000
11	Outside crib	17,750	"	3 50	62,125
12	Stone filling	138,800	"	0 30	41,640
13	Puddle	18,150	"	0 60	11,250
14	Boarding	506,000	Ft. B.M.	20 00	10,120
15	Braces	500,000	"	20 00	10,000
16	Cleaning out foundation for cribs	7,000		1 00	7,000
17	Drowned land		33 acres.	400 00	13,200
	Add for engineering and contingencies			15 p. c.	154,815
					1,189,000

(Sgd.) HENRY F. MACLEOD.
HENRY CARRE.

APPENDIX C.—NORTH SHORE.

Route No. 3, Through Eddy's Yards, Chaudière.

Estimate of cost of Locks and Canal, from station 288 to station 335, from head to foot of Chaudière Falls.

No.	Item.	Quantity.	Unit.	Rate.	Cost.
				$ cts.	$
1	Rock excavation	150,555	Cubic yds.	1 00	150,555
2	" " in lock pits	87,534	"	1 50	131,300
3	1 25-ft. lift lock and wing walls	1	25 feet.	156,000 00	156,000
4	1 15-ft. " "	1	15 "	116,000 00	116,000
5	1 10-ft. " "	1	10 "	99,400 00	99,400
6	Masonry in supply weirs and gates, and 2 waste weirs				22,000
7	Masonry in cement walls between locks	3,555	Cubic yds.	7 00	24,885
8	Masonry in walls on crib above lock	7,800	"	5 00	30,000
9	Stone filling between walls above lock	6,900	"	0 50	3,450
10	1 pair lock gates	1	25 feet.	11,000 00	11,000
10	1 " "	1		5,000 00	5,000
11	1 " "	1	15 feet.	7,700 00	7,700
11	1 " "	1		5,000 00	5,000
12	2 " "	2	10 feet.	6,500 00	13,000
13	Culvert sluices for 3 locks	12		300 00	3,600
14	Lock gate machinery for 3 locks	3		1,000 00	3,000
15	Masonry and superstructure for bridge at Bridge Street				35,000
16	Masonry and superstructure for Ry. bridge				46,000
17	Pumping prism and lock pit				10,000
18	Cribwork in guard pier above locks	9,300	Cubic yds.	4 00	37,200
19	" " " below locks	14,815	"	4 00	59,260
20	Dry stone masonry on north side between locks	3,555	"	4 00	14,220
21	Excavation for tail-race in gully	4,300	"	1 00	4,300
22	Right of way				200,000
	Add for engineering and contingencies			15 p.c.	179,130
					1,376,000

(Sgd.) HENRY F. MACLEOD.
HENRY CARRE.

APPENDIX D.—OTTAWA TO MONTEBELLO.

Earth and rock excavation, in the Ottawa River, from Ottawa Harbour to Montebello.

Location.	Cubic Yards.	Rate.	Cost.
		$ cts.	$
Kettle Island—			
Earth excavation	127,363	0 15	29,104
East Templeton—			
Earth excavation	228,328	0 15	34,249
Rock "	17,083	1 00	17,083
Blanche River—			
Earth excavation	159,890	0 15	23,983
Lièvre River—			
Earth excavation	86,647	0 15	12,999
Isle Ronde—			
Earth excavation	96,899	0 15	14,534
Add for engineering and contingencies		15 p.c.	20,048
			152,000

(Sgd.) HENRY F. MACLEOD.
HENRY CARRE.

APPENDIX E.—NORTH SHORE.

Route No. 2, Table Rock Line.

Estimate of cost of Locks and Canal, from station 298 to 334.

No.	Item.	Quantity.	Unit.	Rate.	Cost.
				$ cts.	$
1	Rock excavation in prism	233,661	C. yds.	1 00	233,661
2	" in lock pit	51,688	"	1 50	77,532
3	Bridge St. excavation	3,852	"	1 50	5,778
4	Excavation in tail race	33,000	"	1 00	33,000
5	Masonry walls	14,600	"	5 00	73,000
6	Coffer-dams				10,000
7	Cribwork (upper level)	17,800	C. yds.	4 00	71,200
8	" (lower level)	77,778	"	4 00	311,112
9	Foundations				3,850
10	Swing bridge				35,000
11	2 locks (25 ft. lift)	2	25 lift	156,000 00	312,000
		2	Sets	11,000 00	22,000
12	Lock gates	1	"	5,000 00	5,000
		1	"	6,600 00	6,600
13	Masonry and excavation in supply weir, waste weir and gates				11,000
14	8 culvert sluices	8		300 00	2,400
15	Right of way, Table Rock				40,000
	Add for engineering and contingencies			15 p.c.	187,867
					1,441,000

(Sgd.) HENRY F. MACLEOD.
HENRY CARRE.

APPENDIX F.—NORTH SHORE.

Route No. 4, Brewery Creek Line.

CHAUDIÈRE.

Estimate of cost of Locks and Canal, from station 288, Chaudière to deep water in Ottawa River, foot of Brewery Creek.

No.	Item.	Quantity.	Unit.	Rate.	Cost.
			$ cts.	$ cts.	$
1	Rock excavation	345,000	C. yds.	1 25	431,250
2	Earth embankment	83,000	"	0 25	20,750
3	Lock, 25 ft. lift	1	25 ft.	156,000 00	156,000
4	" 15 ft. lift	1	15 ft.	116,000 00	116,000
5	" 10 ft. lift	1	10 ft.	99,400 00	99,400
6	Lock gates	1	Set	11,000 00	11,000
7	"	1	"	5,000 00	5,000
8	"	1	"	7,700 00	7,700
9	"	1	"	5,000 00	5,000
10	"	2	"	6,500 00	13,000
11	12 culvert sluices	12		300 00	3,600
12	Lock machinery				3,000
13	2 regulating weirs				20,000
14	Waste weir				1,000
15	Crib entrances	94,700	C. yds.	4 00	378,800
16	Masonry walls, entrances	13,500	"	5 00	67,500
17	Gatineau Valley Ry. bridge				35,000
18	Brewery Street bridge				28,000
19	Main St. bridge				28,000
20	Wright St. bridge				25,000
21	Pontiac Pacific Junction Ry. bridge				35,000
22	Gatineau Road bridge				30,000
23	Flooded lands	75	Acres.	500 00	37,500
	Add for engineering and contingencies			15 p.c.	233,500
					1,791,000

(Sgd.) HENRY F. MACLEOD.
HENRY CARRE.

APPENDIX G.—SOUTH SHORE.

Deschenes Rapids.

Estimate of Cost of Lock and Canal at Britannia, South Shore, from head to foot of Deschenes Rapids.

No.	Item.	Quantity.	Unit.	Rate.	Cost.
				$ cts.	$
1	Earth excavation	17,298	C. yds.	22	3,806
2	Rock "	131,134	"	1 00	131,134
3	" " in lift lock	17,433	"	1 50	26,150
4	18 feet lift lock and wing walls				123,000
5	Masonry weir	150	C. yds.	5 00	750
6	Masonry in retaining walls on top of water-tight embankment	7,824	"	5 00	39,120
7	One pair lock gates	1 pair	9 lift	6,400 00	6,400
7	" "	"	18 "	9,500 00	9,500
8	Culvert sluices	4		300 00	1,200
9	Lock gate machinery				1,000
10	Puddle in trench	4,568	C. yds.	0 60	2,741
11	Cribs under wall	13,859	"	4 00	55,436
12	Cribs for puddle trench	17,356	"	3 00	52,068
13	Timbers in braces	165,760	Ft. B.M.	18 00	2,984
14	1-in. sheeting in puddle trench	124,800	"	15 00	1,872
15	Cleaning bottoms for cribs	3,000	Ft. lin.	1 00	3,000
16	Stone filling behind walls	10,591	C. yds.	0 30	3,177
17	Coffer-dams	1,500	Sum.	1,500 00	1,500
18	Pumping in prism and lock pit	5,000	"	5,000 00	5,000
19	Iron in spikes, &c	8,000	Lbs.	0 07	560
20	Guide piers	5,000	C. yds.	3 00	15,000
21	Glance booms	200	Lin. ft.	3 00	600
	Add for engineering and contingencies			15 p. c.	74,002
					565,000

(Sgd.) HENRY MACLEOD.
H. G. STANTON.

APPENDIX H.—SOUTH SHORE.

Remoux and Little Chaudière Rapids.

Estimate of cost of Lock and Canal, from head of Remoux to foot of Little Chaudière Rapids.

No.	Item.	Quantity.	Unit.	Rate.	Cost.
				$ cts.	$
1	Rock excavation	243,337	C. yds.	1 00	243,337
2	" in lock pit	32,600	"	1 50	48,900
3	Old cribwork excavation	4,045	"	1 00	4,045
4	19 feet lift lock and wing walls				135,000
5	Masonry in weir	150	C. yds.	5 00	750
6	Masonry in retaining wall on top of water tight embankment	12,904	"	5 00	64,520
7	One pair lock gates	1 pair	8 lift		6,200
7	"	1 pair	19 lift		9,700
8	Culvert sluices	4	"	300 00	1,200
9	Lock gate machinery			1,000	1,260
10	Puddle in trench	13,029	C. yds.	60	7,817
11	Cribs under wall	25,349	"	4 00	101,396
12	Cribs for puddle trench	11,134	"	3 00	33,402
13	Timber in braces	778,950	Ft. B. M.	18 00	14,021
14	1-in. sheeting in puddle trench	371,200	"	15 00	5,568
15	Cleaning bottoms in crib	5,800	Ft. Lin.	1 00	5,800
16	Stone filling in embankment	78,750	C. yds.	30	23,625
17	Riprapping embankment	6,967	"	1 50	10,450
18	Cofferdam				3,000
19	Pumping prism and lock-pit				10,000
20	Iron in spikes, &c.	6,000	Lbs.	07	420
21	Land damaged by flooding	88	Acres.	200 00	17,600
	Add for engineering and contingencies			15 p.c.	112,249
					860,000

(Sgd.) HENRY A. F. MACLEOD.
H. G. STANTON.

APENDIX I.—SOUTH SHORE.

Little Chaudière Rapids to Chaudière Falls.

Estimate of cost of deepening Channel from foot of Little Chaudière Rapids to head of Timber Slide, Chaudière Falls.

No.	Item.	Quantity.	Unit.	Rate.	Cost.
				$ cts.	$
1	Masonry in pivot and rest piers, C.P.R. bridge.	2,171	C. yds.	10 00	21,710
2	Timbers in piers	1,055	"	4 00	4,220
3	Swing bridge superstructure		100 ft. op'gs.		20,000
4	Rock excavations under water	161,765	C. yds.	2 00	323,530
5	Trench and syphon pipes for Ottawa Waterworks				7,000
	Add for engineering and contingencies			15 p.c.	56,540
					433,000

(Sgd.) HENRY A. F. MACLEOD
H. G. STANTON.

APPENDIX J.—SOUTH SHORE.

Chaudière Falls.

Estimate of cost of two Locks and Canal from head of Timber Slide, Chaudière Falls, to deep water in Ottawa Harbour.

No.	Item.	Quantity.	Unit.	Rate.	Cost.
				$ cts.	$
1	Rock excavation	246,918	C. yds.	1 00	246,918
2	" in lock-pit	87,766	"	1 50	131,649
3	(2) 25 ft. lift locks and wing walls				312,000
4	Masonry and excavation in weir and gate				10,000
5	Masonry in walls above and between locks	7,798	C. yds.	5 00	38,990
6	2 pairs 25 ft. lock gates	2	Each.	11,000 00	22,000
7	1 " "	1			5,000
8	1 " "	1			6,500
9	Culvert sluices	8		300 00	2,400
10	Lock gate machinery	2	Each.	1,000 00	2,000
11	Masonry and superstructure in bridge at Bridge Street				35,000
12	Masonry and superstructure in bridge at Montreal Street				25,000
13	Pumping prism and lock-pit				10,000
14	Guide pier below lock, Ottawa Harbour	12,000	C. yds.	4 00	48,000
15	Crib under wall at upper entrance	4,740	"	4 00	18,960
16	Right of way, &c.				30,000
7	Removing C. A. Ry. sidings				3,000
	Add for engineering and contingencies			15 p.c.	141,583
					1,089,000

(Sgd.) HENRY F. MACLEOD.
H. G. STANTON.

APPENDIX K.—GRENVILLE, STE. ANNE.

EARTH excavation in Ottawa River above Grenville Canal. Earth and rock excavation in Lake of Two Mountains from Carillon to Ste. Anne.

Location.	Cubic Yds.	Rate	Cost.
		$ cts.	$
Grenville Bay—			
Earth excavation	4,911	0 20	982
Jones' Island—			
Earth excavation	102,922	0 15	15,438
Cadieux Island—			
Earth excavation	168,665	0 15	25,299
From deep water to Ste. Anne—			
Earth excavation	112,009	0 15	16,800
Rock excavation	6,766	1 00	6,766
Add for engineering and contingencies		15 p.c.	9,715
			75,000

(Sgd.) HENRY F. MACLEOD.
H. G. STANTON.

APPENDIX L.—NORTH SHORE.

SUMMARY of cost of canal and locks, North Shore, from Deschenes to Ottawa Harbour, and Ottawa Harbour to Ste. Anne, omitting Grenville and Carillon canals.

Deschenes Rapid	$	423,000
Remoux and Little Chaudière Rapids		1,189,000
Chaudière, No. 3, Eddy's		1,376,000
	$	2,988,000
Ottawa to Montebello		152,000
At Grenville and Carillon to Ste. Anne		75,000
		3,215,000

ALTERNATIVE LINES—CHAUDIÈRE FALLS.

Chaudière, No. 2, Table Rock	$	1,441,000
Chaudière, No. 4, Brewery Creek		1,791,000

(Memo.)—
No. 2 costs $65,000 more than No. 3.
No. 4 costs $415,000 more than No. 3.

H. F. MACLEOD.

APPENDIX M.—SOUTH SHORE.

SUMMARY of cost of canal and locks, South Shore, from Deschenes Lake to Ottawa Harbour, and Ottawa Harbour to Ste. Anne, omitting the Grenville and Carillon canals.

Deschenes Rapids	$	565,000
Remoux and Little Chaudière Rapids		860,000
Little Chaudière to Chaudière Falls		433,000
Chaudière Falls		1,089,000
	$	2,947,000
Ottawa to Montebello		152,000
At Grenville and Carillon to Ste. Anne		75,000
	$	3,174,000

H. F. MACLEOD.

SESSIONAL PAPER No. 20

OTTAWA RIVER SURVEYS.

193 Sparks Street,
Ottawa, November 27, 1900.

Dear Sir,—Since my last letter to you, of October 19, on the subject of the surveys of the Ottawa river, now being made, I beg to say that they have been continued on the Rocher Fendu and Calumet channels, and on the channels surrounding the Allumette island, in the paquette rapids, and up the Culbute channel.

Mr. Carre's party has completed the survey of the Rocher Fendu channel, and of the lake of that name to the foot of the Sable rapids, at the east end of the Calumet island. He has also made a survey of the Grand Calumet rapids, near Bryson, which is at the head of the obstructed waters, between Chats lake and Bryson.

Check levels have been carried from the Sable rapids to the head of the Grand Calumet. The distance surveyed is about ten miles, besides traverses, triangulations and cross sections.

On the lower portion of the Rocher Fendu channel, from Long rapids to the Rocher Fendu chute, the shores are flatter than they are above. The water is deep to the chute, a sudden pitch of four or five feet, the banks of which are bold and rocky.

In the Rocher Fendu lake the water is deep to the lower end, where there are islands, with shoals between and swift water.

The Sable rapids are the last, in the Calumet channel.

Its waters flow into those coming from the Rocher Fendu lake. The rapids are short, with a fall of about 5 feet.

Going up the Calumet channel, there are two other rapids, the Mountain rapids, and Dargirs rapids, between the Sable and the Grand Calumet.

From the head of the Grand Calumet, to the foot of the Sable rapids, is about five miles, and the fall, in that distance, about 84 feet. The fall in the Grand Calumet rapids is about 56 feet, in about $\frac{3}{4}$ of a mile.

The rest of the Calumet channel, to the head of the island of that name, at La Passe, is reported by the captain of a steamboat, plying on these waters, to be deep, except for a few short shoals of sand.

Mr. Stanton's party completed the survey of the East channel of the Paquette rapids, and made a careful survey of the West, or Log channel, with cross sections, and contour lines, to fix the position of dams, intended to reduce as much as possible, the quantity of land to be flooded. As the level of the Allumette lakes cannot be raised without flooding valuable lands, there will be a considerable amount of excavation towards the upper ends of the rapids, in limestone rock and drift.

A survey with micrometer and transit, has been made of the small lake at the foot of Paquette rapids, and the same kind of survey has been extended up the Culbute channel to Indian, or Hicobar Point, with more careful measurements where shallow water is found.

The distance surveyed is about 8 miles, not including triangulations, cross sections, &c.

There has been a great deal of broken weather, with high winds, rain and snow which interfered a good deal with the progress of the work.

It is expected to get surveys completed, before the work ceases, of the rest of the Culbute channel, of some shoals about two miles east of Fort William, of the river from Paquette rapids to Black's Falls, where the first party commenced, of the upper part of the Calumet channel, from La Passe to Bryson, and the lower portion from the Grand Calumet to the Sable rapids. Also of the river from Sable rapids towards the Chats rapids, leaving out Chats lake of which we already have sufficient information.

There are a few miles of Lake Deschenes at the upper end from the Chats rapids to Crown Point, where soundings are required.

The rest of the lake, as I learned last summer from the captain of a steamboat, on which I sailed, is deep, to the Deschenes rapids.

As the water is low just now in the river, it is easier to make surveys, and the rapids can be examined more closely.

The above would complete the information required, from the upper end of our surveys made last winter at Deschenes rapids, up to the Des Joachims rapids, including both the Rocher Fendu and the Calumet channels, the Allumette and Culbute channels, being a distance of about 130 miles.

I made a trip on a steamboat from Pembroke to the Des Joachims rapids via the Allumette lake, and Deep river, and ascertained from the captain of the boat, that the water was deep all the way, except at the shoals near the head of Allumette island, which I mentioned to you in my former letter, where a dredge was at work when I passed ; also at another shoal and group of islands, where there are two sharp curves in the channel, with only eight feet of water, situated some two miles east of Fort William.

I have not yet discovered, whether these shoals extend to the line, which will pass up from the Culbute channel.

I am, yours truly,

HENRY F. MACLEOD.

COLLINGWOOD SCHREIBER, Esq., C.M.G.

REPORT

OF THE

SECRETARY OF THE RAILWAY COMMITTEE

OF THE

PRIVY COUNCIL

RAILWAY COMMITTEE OF THE PRIVY COUNCIL.

The Honourable the Minister of Railways and Canals being the Chairman of the Railway Committee of the Privy Council, on which certain extensive duties are imposed by the Railway Act, 1888, and its amendments, it seems proper that a brief record should here be made of the matters submitted to the Committee during the period from November 1, 1899, to October 1, 1900, and the decisions arrived at.

They are as follows:—

Petition of the Lake Erie and Detroit River Railway Company for running powers over the Canada Southern Railway, between Ridgeville and St. Thomas, a distance of about 44 miles. Order issued to the effect, that as adequate and sufficient running rights could not be assured the Lake Erie and Detroit River Railway Co., recommends that a contract be entered into for the subsidy in accordance with the Railway Subsidy Act, 62-63 Victoria, chapter 7, section 2, and subsection 49.

Application of the Corporation of the City of Toronto for permission to have a temporary crossing, at rail level, over the tracks of the Canadian Pacific and Grand Trunk Railway Companies, at Lansdowne Avenue, until a decision has been given as to a permanent crossing.—Granted, subject to certain terms and conditions.

Application of the Kingston, Napanee and Western Railway Company for permission to cross the Canadian Pacific Railway, at rail level, at Tweed.—Under consideration.

Petition of the County of Frontenac, asking that the Grand Trunk Railway Company be compelled to place protection at the crossings at Cataraqui and Perth Roads and at the Outer Station, Kingston.—Under consideration.

Application of the Portage and North-western Railway Company for an extension of time to cross the Manitoba and North-western Railway, at Portage la Prairie, before the installation of the interlocking appliances.—Granted.

Application of the Portage and North-western Railway Company for an extension of time to cross the Canadian Pacific Railway at Portage la Prairie, before the installation of the interlocking appliances.—Granted.

Application of the Pontiac Pacific Junction Railway Company for permission to cross the Hull Electric Railway at Aylmer, before the installation of the interlocking appliances.—Granted.

Application of the Montreal Island Belt Line Railway Company (now Montreal Terminal Company), for certain modifications to be made in the Order, dated September 28, 1897, approving of the Chateauguay and Northern Railway Company crossing with its railway the tracks of the Montreal Street Railway, at rail level, on Ontario Street, in the City of Montreal.—Granted.

Application of the Montreal Street Railway Company for a variation of the Order, dated March 29, 1899, granting authority to the Montreal Island Belt Line Company (now Montreal Terminal Company) to run a branch of its railway along Davidson Street, in the City of Montreal.—Granted.

Application of the Montreal Island Belt Line Company (now Montreal Terminal Company), for permission to cross, at rail level, the Montreal Street Railway, on St. Catherine Street, Montreal.—Granted.

Application of the Montreal Belt Line Railway Company (now Montreal Terminal Company,) for permission to cross, at rail level, the Montreal Street Railway, on Notre Dame Street, Montreal.—Granted.

Application of the Grand Trunk Railway Company for approval of overhead bridge across the tracks of the Central Ontario Railway Company at Trenton, Ontario.—Approved.

Application of the Midland Railway Company of Nova Scotia for permission to use its junction with the Intercolonial Railway at Truro, Nova Scotia, before the installation of the interlocking appliances.—Granted.

Application of the Midland Railway Company of Nova Scotia for permission to use its junction with the Dominion Atlantic Railway at Windsor, before the installation of the interlocking appliances.—Granted.

Application of the Rutland and Noyan Railway Company for permission to cross, at rail level, the Canada Atlantic Railway at Noyan Junction.—Granted.

Complaint of Messrs. Thomas Conant and E. R. Mothersill, that the Oshawa Electric Railway Company's tracks are too near their property at East Whitby, and ask that the Railway Company be compelled to remove the said tracks.—Dismissed.

Complaint of Mr. John Campbell, that the Canadian Pacific, Grand Trunk and other railway companies have discriminated against him in freight rates on flour.—Dismissed.

Application of the Grand Trunk Railway Company for permission to lay certain tracks and sidings in the town of Goderich.—Granted.

Complaint of Mr. George M. Lay, *re* Canada Atlantic Railway Company's crossing on Grand Ile Line Road, Valleyfield, being in a dangerous condition.—Settled by parties interested.

Application of the Corporation of the City of Toronto for authority for the Toronto Railway Company to extend its tracks along Bloor Street across the tracks of the Grand Trunk Railway, (Northern Division), the Toronto, Grey and Bruce Railway, Grand Trunk Railway and the Canadian Pacific Railway, and for protection of the Northern Railway crossing by gates and watchmen.—Dismissed.

Application of the Corporation of the City of Toronto for an order directing that gates and watchmen be placed at the crossing of Dunn Avenue by the Grand Trunk Railway, Toronto.—Under consideration.

Application of the Corporation of the City of Toronto for an order directing that gates and watchmen be placed at the crossing of Cherry Street by the Grand Trunk Railway, Toronto.—Under consideration.

Application of the Corporation of the City of Toronto, for an order directing that gates and watchmen be placed at the crossing of Dowling Avenue by the Grand Trunk Railway, Toronto.—Under consideration.

SESSIONAL PAPER No. 20

Application of the Corporation of the City of Toronto for an order directing that gates and watchmen be placed at the crossing of Jamieson Avenue by the Grand Trunk Railway, Toronto.—Under consideration.

Application of the Corporation of St. Andrews, P.Q., for an order compelling the Great Northern Railway Company to operate the Lachute and St. Andrews Railway without delay.—Withdrawn.

Application of the Corporation of the City of St. Henri, *re* opening of Gareau Street across the tracks of the Grand Trunk Railway.—Under consideration.

Application of the Corporation of the Town of Galt for permission to make a crossing over the track of the Canadian Pacific Railway at Myrtle Avenue.—Under consideration.

Application of the Winnipeg Street Railway Company for permission to cross, at rail level, the Canadian Pacific Railway at Main Street and Higgins Avenue, in the City of Winnipeg.—Under consideration.

Petition of the Toronto, Hamilton and Buffalo Railway Company asking that order No. 7447, *re* highway crossing at station 100+12, be rescinded, and that the matter be reconsidered.—Under consideration.

Re protection to be provided at the crossing of the Intercolonial Railway by the St. John Electric Street Railway, in St. John, N.B.—Under consideration.

Application of the Central Ontario Railway Company for permission to remove the packing from the frogs and wing rails from the month of December to the month of April of each year, both months included.—Under consideration.

Complaint of the Sun Oil Refining Company and the Gall Schneider Oil Company against the Grand Trunk and Canadian Pacific Railway Companies, with regard to freight rates upon petroleum and its products.—Order fixing the rates, as per schedule annexed the said order.

Application of the Municipal Council of the County of Richmond, P.Q., for a highway crossing over the track of the Grand Trunk Railway on the town line road between the Townships of Melbourne and Durham, at Gore Station.—Granted.

Application of the Great Northern Railway Company for approval of three proposed crossings, at rail level, of the Canadian Pacific Railway, at point, north of Joliette, south of St. Jerome, and west of Lachute.—Approved.

Application of the Great Northern Railway Company for approval of proposed crossing, at rail level, of the Carillon and Grenville Railway, near Grenville.—Approved.

Application of the Canadian Pacific Railway Company for permission to construct a branch line from the line of the Ontario and Quebec Railway to the Marl Quarry, in the Township of Holland, County of Grey.—Granted.

Application of the Quebec Railway, Light and Power Company for approval of the crossing, at rail level, of the Canadian Pacific Railway, by its electric railway on St. Valier Street, Quebec.—Approved.

Application of the St. Thomas Street Railway Company for a further extension of time for putting in the interlocking appliances at the crossing of the London and Port Stanley Railway, directed to be installed by the Order of June 29, 1899.—Granted.

Application of the Canadian Pacific Railway Company for approval of certain proposed road diversions on School Sections in Manitoba and the North-west Territories.—Approved.

Application of the Grand Trunk Railway Company for a rehearing in the matter of the crossing of the Grand Trunk Railway by a branch line of the Canada Southern Railway, leading to the Canada Peat Fuel Company's Works.—Granted.

Application of the Toronto, Hamilton and Buffalo Railway Company for approval of plan, profile and book of reference of a proposed branch line, northerly and westerly from its main line on Lot 7, Concession 3, Township of Barton, to a point a short distance west of Wellington Street and north of Simcoe Street, Hamilton.—Approved.

Application of the Toronto, Hamilton and Buffalo Railway Company for approval of plan and profile of proposed crossings of Great Western and Northern and Northwestern Divisions of the Grand Trunk Railway, by its proposed branch line.—Approved.

Application of the Toronto, Hamilton and Buffalo Railway Company for approval of plan and profile of proposed crossing of the Hamilton Radial Electric Railway, by its proposed branch line.—Approved.

Application of the Toronto, Hamilton and Buffalo Railway Company for approval of plan and profile of proposed crossing, at rail level, of the Hamilton, Grimsby and Beamsville Electric Railway, by its proposed branch line.—Approved.

Application of the Toronto, Hamilton and Buffalo Railway Company for approval of plan and profile of proposed crossing, at rail level, of the Hamilton Street Railway on Barton Street, in the city of Hamilton, by its proposed branch line.—Approved.

Application of the Toronto, Hamilton and Buffalo Railway Company for approval of plans and profiles of certain highway crossings, by its proposed branch line.—Approved.

Petition from the Parish of St. Jerusalem d'Argenteuil asking that the Great Northern Railway Company be compelled to provide gates and watchmen at the proposed crossing of the front road on south side of the North River near Lachute.—Under consideration.

Application of the Corporation of the City of Toronto for an order authorizing the construction and maintenance of a street by means of an overhead bridge at York Street, Toronto, across the tracks of the Grand Trunk and Canadian Pacific Railway Companies.—Under consideration.

Complaint of the Municipal Council of the Village of Lennoxville, that the Canadian Pacific Railway Company have laid a new siding across College street, which is already crossed by tracks of the Grand Trunk, Canadian Pacific and Boston and Maine Railway Companies; and asks the Committee to prevent sidings being laid across this street, or to compel the railway companies to adopt measures of protection to the public.—Under consideration.

Application of the Niagara, St. Catharines and Toronto Railway Company for permission to run along certain highways in the city of St. Catharines, the townships of Grantham and Louth and the village of Port Dalhousie.—Granted.

Application of the Canadian Pacific Railway Company for approval of a plan of a tramway from the North Star Branch of the British Columbia Southern Railway, said plan having been filed under section 5 of Act 61, Victoria, chap. 60.—Approved.

Application of the Corporation of the City of Fredericton for permission to extend Church Street across the Canada Eastern and the Canadian Pacific Railways.—Under consideration.

Application of the Niagara, St. Catharines and Toronto Railway Company for permission to intersect and unite with the Wabash Company's line, which the latter have leased from the Grand Trunk Railway Company.—Under consideration.

Petitions from the Municipal Council of the County of Peterboro' and the Township of Woodhouse, South Norfolk and others, asking that the various railway companies be compelled to observe the Railway Act by building cattle-guards that will effectually safeguard the interests of the farmers and the travelling public.—Under consideration.

Application of the Canada Atlantic Railway Company for permission to extend their line across Bridge Street and the tracks of the Ottawa Electric Railway Company thereon, in the city of Ottawa.—Granted.

Application of the Canadian Pacific Railway Company for permission to run a track along Wolfe Street, Peterborough, also to cross three other tracks on the said street, and to divert a portion of the street, the said siding to extend easterly across George Street. —Under consideration.

Application of the Corporation of the Town of Woodstock, Ontario, for permission to extend Walter Street across the Port Dover branch of the Grand Trunk Railway.—Granted.

Application of the Montreal Terminal Railway Company for approval of plan, profile and book of reference of proposed branch line through part of the parish of Longue Pointe and the village of Beaurivage, County of Hochelaga.—Approved.

Application of the Toronto, Grey and Bruce Railway Company (C. P. Ry.) for permission to build a branch line from a point on their line near Queen's Wharf, Toronto, to a point on the south limit of Fraser Avenue.—Under consideration.

Application of the Township of Nepean for an order directing that a subway or overhead crossing be constructed under or over the tracks of the Canadian Pacific and Canada Atlantic Railways, a few rods south of the Richmond Road, or near Elm Street. —Under consideration.

Application of the Municipal Council of the Corporation of the Township of Metcalfe, County of Middlesex, for permission to clean out and deepen the Moore drain across the land of the Canada Southern Railway Company.—Granted.

Application of the Rutland and Noyan Railway Company for approval of plans and profiles of two highway crossings, at rail level, in the parish of St. Thomas, one being at station 154 + 50, section 6, and the other being at station 187 + 14, section 6.—Approved.

Application of the Rutland and Noyan Railway Company for approval of plan showing slight change in the crossing of the Canada Atlantic Railway by its railway at Noyan Junction, and that said plan be substituted for the plan already approved of.—Under consideration.

Application of the Canada Southern Railway Company for power to extend its branch line at Ruscombe (constructed under the order dated June 22, 1895, file No. 5826) a distance of about 3,700 feet further south, through lots 28, 29 and 30, in concession four of the Township of Rochester, and into lot 23 in 11th concession of the Township of Gosfield, County of Essex, Ontario.—Granted.

Application of the Grand Trunk Railway Company for permission to construct a branch line from its main line at Cardinal station to the Edwardsburg Starch Company's works in the village of Cardinal, County of Grenville, Ontario.—Granted.

Application of the Columbia and Western Railway Company for approval of plan and proposed site of a bridge to be built across the Columbia River below Robson, British Columbia.—Approved.

Application of the Toronto, Hamilton and Buffalo Railway Company for approval of plan and profile of its crossing of Victoria Avenue, in the city of Hamilton.—Approved.

Application of the Grand Trunk Railway Company for permission to construct a branch line from its line from a point at or near the Town of Meaford to the harbour at the Town of Meaford, County of Grey, Ontario.—Granted.

Application of the Corporation of the Town of St. Louis for an order directing that a street may be made across the tracks of the Canadian Pacific Railway Company on the line of the Pacific Avenue in the said town.—Granted.

Application of the Montreal Terminal Railway Company for approval of the place and mode of crossing, at rail level, by a branch line of its railway of Darling Street and a portion of Davidson Street in Hochelaga ward of the city of Montreal.—Approved.

Application of the Grand Trunk Railway Company for permission to construct a siding along Jefferson Avenue, Toronto.—Granted.

Order permitting the engines and trains to pass over the crossing of the Jacques Cartier Union Railway by the Canadian Pacific Railway at Western Junction without stopping.

Application of the Municipality of the Village of Warwick for an order directing that a highway crossing, at rail level, may be made across the track of the Grand Trunk Railway on the street running from the Powers Town Road on lot 131, Township of Warwick, through lots 135, 144, 143 and 142 to the Provincial Road.—Granted.

Application of the Grand Trunk Railway Company for permission to construct a siding from its tracks on Ferguson Avenue, in the city of Hamilton, along the south side of Rebecca Street to Wellington Street.—Granted.

Application of the Corporation of the City of Toronto for an order authorizing the extension of Vine Street, in the City of Toronto, from Front Street southerly to Mill Street, across the tracks of the Canadian Pacific Railway Company, and the laying down of a sewer and a water main thereon or therein.—Granted.

Application of the Ontario and Quebec Railway Company for approval of the change in location of the line of its railway, situate in the township of South Sherbrooke, in the County of Lanark, Ontario, in the following lots, viz.: lot No. 10 in the 10th concession; lots Nos. 10 and 11, in the 8th concession, and lot No. 11 in the 7th concession in the said township.—Approved.

Application of the Grand Trunk Railway Company for permission to construct a siding from its tracks, South Wharfe Street, across Bain (or Oneida) Street, and along and across Wharfe Street to the premises of Messrs. Wood Brothers, Millers, in the city of Brantford.—Granted.

Application of the Ontario and Rainy River Railway Company for approval of the plan and proposed site of a bridge to be built across the Rainy River, in the Province of Ontario.—Approved.

Application of the South Shore Railway Company for approval of the plan and proposed site of a bridge to be built across the St. Francis River at St. Francis, P.Q.—Under consideration.

Application of the Hamilton Radial Electric Railway Company for approval of the plan and proposed site of a bridge to be built across the Grand River at Freeport, Ontario.—Under consideration.

Application of the Quebec Bridge Company for approval of an amended plan showing the channel span of the proposed bridge over the St. Lawrence, near Quebec, from 1,600 to 1,800 feet.—Under consideration.

Application of the Montreal Street Railway Company for permission to cross with its railway the tracks of the Montreal Terminal Railway Company, on Valois Avenue, Montreal, and La Salle Avenue, Maisonneuve.—Under consideration.

Complaint of the Yarmouth Steamship Company against the Dominion Atlantic Railway Company, *re* unjust discrimination in rates by the Dominion Atlantic Railway Company in favour of their own steamers, and also in the connection of the trains with the Yarmouth Steamship Company's boats.—Under consideration.

Application of the Grand Trunk Railway Company for permission to construct a branch, or siding, along Charles Street, in the town of Berlin.—Under consideration.

Complaint that the crossings of the Grand Trunk Railway on Wentworth Street, Victoria Avenue and Wellington Street, in the city of Hamilton, are dangerous, and should be protected by gates and watchmen.—Under consideration.

Application of the Corporation of the Town of Peterborough, for an order directing that gates and watchmen be established by the Grand Trunk Railway Company at its crossings at Charlotte Street and Simcoe Street, in the said town.—Under consideration.

Application of the Pontiac Pacific Junction Railway Company for approval of plan and profile of proposed overhead crossings of Alma, Inkerman, Britannia, Albion, Kent and Lake streets, in the city of Hull.—Under consideration.

COLLINGWOOD SCHREIBER,
Secretary, Railway Committee, P.C.

Prepared by
J. W. PUGSLEY,
Clerk of the Railway Committee, P.C.

PART II

STATEMENTS OF THE ACCOUNTANT

No. 1.

STATEMENT showing the amount expended by the Department of Railways and Canals, Dominion of Canada, during the Fiscal Year ending June 30, 1900.

Name of Work.	Chargeable to Capital.	Chargeable to Income.	Chargeable to Revenue.	
			Staff.	Repairs.
CANALS.	$ cts	$ cts.	$ cts.	$ cts.
Beauharnois		4,959 22	20,147 59	14,505 30
Carillon				
Grenville	22,802 27	4,476 50	13,657 06	14,666 71
Chambly		5,448 88	18,397 58	13,995 00
Cornwall	169,889 51	18,547 50	18,798 10	13,998 29
Culbute	3,085 00			
Lachine	125,009 41	12,210 88	56,791 45	31,988 81
Lake St. Louis	11,765 70			
Lake St. Francis	15,431 46	12,288 39		
Murray			5,613 83	2,777 60
Rideau	2,750 00	11,780 41	30,623 27	30,237 09
Sault Ste. Marie	27,157 98		13,901 40	13,219 87
Soulanges	693,806 24		6,711 84	5,000 00
Ste. Anne's			1,840 51	2,679 21
St. Lawrence—North Channel	225,000 00			
St. Lawrence—Galops Channel	50,000 00			
St. Lawrence—River Reaches	72,484 41			
St. Ours		1,596 88	2,181 43	2,681 10
St. Peters			2,833 24	1,483 30
Trent	334,583 01	8,043 39	5,131 52	9,989 26
Welland	18,167 29	37,164 84	84,888 36	59,507 64
Williamsburg: Galops	752,799 27			
" Rapide Plat	14,298 74	4,137 04	11,092 06	10,897 79
" Farran's Point	100,534 64			
Total	2,639,564 93	120,653 93	292,609 24	227,626 97
GENERAL ON CANALS.				
Arbitrations and awards		566 85		
Dredge vessels, Lachine				2,000 00
" Rideau				6,908 41
Miscellaneous			250 56	3,681 43
Salaries and contingencies, canal officers			30,706 37	
Sunday labour			15,199 80	
Surveys and inspections		1,311 60		
Ottawa River surveys		9,994 90		
Total		11,873 35	46,156 73	12,679 84
RAILWAYS.				
Canadian Pacific	236 11			
Drummond County	1,459,000 00			
Intercolonial	1,796,348 29		4,431,404 69	
Prince Edward Island	53,546 02		220,931 81	
Windsor Branch			12,891 56	
Total	3,309,130 42		4,665,228 06	
GENERAL ON RAILWAYS.				
Exploratory survey Stikine River and ocean port, B.C.		24,457 50		
Railway statistics		34 91		
Railway subsidies		725,720 35		
Carried forward		750,212 76		

STATEMENT showing the amount expended by the Department of Railways and Canals, &c.—*Concluded.*

Name of Work.	Chargeable to Capital.	Chargeable to Income.	Chargeable to Revenue.	
			Staff.	Repairs.
	$ cts.	$ cts.	$ cts.	$ cts.
Brought forward		750,212 76		
GENERAL ON RAILWAYS—*Concluded.*				
System of electric light to Governor General's car "Victoria"		1,400 00		
Reporting evidence before Railway Committee of the Privy Council		488 30		
Subscription to Railway Congress, Brussels		194 66		
Surveys and inspections		6,921 62		
Total		759,217 34		
MISCELLANEOUS.				
Costs of litigation		644 78		
Salaries of engineers, draughtsmen, &c		19,464 04		
" extra clerks, &c		2,693 36		
Total		22,802 18		
RECAPITULATION.				
Total on Canals	2,639,564 93	120,653 93	292,609 24	227,626 97
" " general		11,873 35	46,156 73	12,679 84
Total on Canals	2,639,564 93	132,527 28	338,765 97	240,306 81
Total on Railways	3,309,130 42		4,665,228 06	
" general		759,217 34		
Total on Railways	3,309,130 42	759,217 34	4,665,228 06	
Grand Total, Railways and Canals, including Miscellaneous	5,948,695 35	914,546 80	5,003,994 03	240,306 81

Total amount expended, $12,107,542.99.

S. LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

No. 2.

STATEMENT showing the amount expended on Construction, Renewals, Ordinary Repairs and Working Staff of the Canals of the Dominion of Canada, up to June 30, 1900.

ST. PETER'S CANAL.

—	Year ending June 30.	Capital.	Renewals, Chargeable to Income.	Staff.	Repairs.
		$ cts.	$ cts.	$ cts.	$ cts.
Government expenditure prior to Confederation	....	156,523 32	....	....	....
" since "	1868	21,519 72	....	....	....
" " "	1869	70,719 80	....	....	....
" " "	1870	....	46,193 57	....	....
" " "	1871	....	....	225 36	555 78
" " "	1872	....	....	280 00	6,122 67
" " "	1873	....	....	343 32	6,539 58
" " "	1874	....	....	725 93	1,558 57
" " "	1875	20 97	....	560 00	889 35
" " "	1876	11,125 00	....	641 55	....
" " "	1877	63,330 18	....	600 00	17 45
" " "	1878	26,511 51	....	600 00	....
" " "	1879	107,337 75	....	631 50	....
" " "	1880	80,120 54	....	400 00	....
" " "	1881	69,434 76	....	959 58	....
" " "	1882	484 00	....	1,920 54	200 63
" " "	1883	....	....	2,089 19	232 42
" " "	1884	2,471 40	....	2,601 47	307 85
" " "	1885	16,820 15	....	1,929 11	183 11
" " "	1886	2,316 85	....	2,360 67	297 81
" " "	1887	1,087 75	750 00	2,777 13	343 23
" " "	1888	....	....	3,217 77	1,588 40
" " "	1889	....	500 00	3,085 29	353 38
" " "	1890	....	....	3,110 15	255 34
" " "	1891	972 65	510 53	3,255 30	312 02
" " "	1892	14,387 00	30,936 82	3,007 70	1,461 24
" " "	1893	811 59	9,987 78	2,938 15	1,856 30
" " "	1894	437 05	3,852 21	2,935 94	1,986 70
" " "	1895	868 44	26,222 46	2,499 81	353 55
" " "	1896	1,455 21	16,743 64	2,182 04	260 90
" " "	1897	....	....	2,728 38	1 20
" " "	1898	....	111 70	2,785 25	453 86
" " "	1899	....	....	2,819 86	456 61
" " "	1900	....	....	2,833 24	1,483 30
		648,755 64			
LESS—Refunds of previous years....	....	208 50			
Total		*648,547 14	135,808 71	57,044 23	28,130 64

* Expenditure as above..... .. ..$ 648,547 14
Less expenditure prior to Confederation 156,523 32

Agreeing with Public Accounts, 1900, page xvi.....$ 492,023 82

S. LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

STATEMENT showing the amounts expended on Construction, Renewals, &c.—*Con.*

BAIE VERTE CANAL.

	Year ending June 30.	Capital.	Income.
		$ cts.	$ cts.
Government expenditure prior to Confederation			
" since "	1868		
" " "	1869		
" " "	1870		
" " "	1871		17,929 34
" " "	1872		6,399 41
" " "	1873		14,943 83
" " "	1874		4,018 90
" " "	1875		443 00
" " "	1876		110 75
" " "	1877		22 30
" " "	1878		
" " "	1879		
" " "	1880		
" " "	1881		520 00
" " "	1882		
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" " "	1897		
" " "	1898		
" " "	1899		
" " "	1900		
Total			44,387 53

S. LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

STATEMENT showing the amounts expended on Construction, Renewals, &c.—*Con.*

LACHINE CANAL.

	Year ending June 30.	Chargeable to Capital.		Renewals Chargeable to Income.	Staff.	Repairs.
		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Expenditure by Imperial Government	....	40,000 00				
Government expenditure prior to Confederation	....	2,547,532 85				
Government expenditure since Confederation	1868	....		1,852 70	13,742 05	16,431 51
" "	1869	2,000 00			14,269 02	12,085 84
Cost of original construction and enlargement of 1843 to 1848	....		2,589,532 85			
Expenditure by Dominion Government	1870				15,834 49	13,302 39
" "	1871			12,231 40	17,478 52	15,093 25
" "	1872	36,708 15			16,076 93	12,334 69
" "	1873	7,824 28		35,158 21	23,601 03	34,300 60
" "	1874	158,618 35			25,811 07	22,828 66
" "	1875	197,420 52			28,592 01	30,057 34
" "	1876	327,769 39			33,795 73	29,103 65
" "	1877	1,489,375 73			33,148 86	19,824 33
" "	1878	1,484,619 63			39,062 97	13,646 41
" "	1879	958,053 30			42,338 84	12,400 78
" "	1880	369,566 74			38,950 90	10,223 62
" "	1881	292,165 51			39,027 99	19,888 33
" "	1882	252,821 33		2,978 66	41,158 90	17,116 46
" "	1883	396,496 96		1,850 68	45,554 91	18,199 59
" "	1884	188,266 18			48,624 51	19,683 24
" "	1885	111,215 23			49,004 85	20,199 78
" "	1886	210,509 42			50,969 10	19,199 18
" "	1887	28,772 52		12,981 59	53,113 97	22,567 81
" "	1888	19,414 34		7,996 38	52,229 61	19,999 64
" "	1889	76,032 96		972 71	54,110 67	22,957 71
" "	1890	7,448 03		8,288 46	53,114 34	22,999 38
" "	1891	217 53		16,155 75	50,721 69	36,292 98
" "	1892	87,852 35		27,480 80	52,729 37	67,499 62
" "	1893	445,983 21		50,937 40	53,185 00	51,616 79
" "	1894	64,345 14		17,152 48	60,174 03	40,939 70
" "	1895	189,944 36		32,405 20	56,337 44	25,891 45
" "	1896	184,998 25		8,193 15	58,342 96	24,950 20
" "	1897	282,052 48		14,664 21	57,533 20	25,820 73
" "	1898	216,717 44		819 62	57,282 50	33,391 92
" "	1899	162,351 83		3,103 99	55,990 00	35,776 90
" "	1900	125,609 41		12,210 88	56,791 45	31,988 81
Cost of enlargement	....	....	8,322,570 57			
Total	....	....	10,912,103 42	266,097 53	1,388,640 91	812,613 29

Total expenditure on capital account as above		$10,912,103 42
Less charged to St. Lawrence River and Canals, see page 9	$2,950,104 15	
Less expenditure by Imperial Government	40,000 00	
		2,990,104 15
Agreeing with Public Accounts balance sheet, 1900, page xvi.		$ 7,921,999 27

S. LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

STATEMENT showing the amounts expended on Construction, Renewals, &c.—*Con.*

BEAUHARNOIS CANAL.

	Year ending June 30	Capital.	Renewals Chargeable to Income.	Staff.	Repairs.
			$ cts.	$ cts.	$ cts.
Government expenditure prior to Confederation		1,611,424 11			
" since "	1868		63,193 75	9,349 99	6,216 98
" " "	1869		55 00	9,626 99	6,498 57
" " "	1870		27 50	10,117 57	6,384 81
" " "	1871			12,316 53	5,722 36
" " "	1872		27 50	11,792 46	15,733 38
" " "	1873		5,122 50	12,210 73	9,882 06
" " "	1874		26 00	15,392 51	10,990 56
" " "	1875		36 00	14,399 32	12,253 01
" " "	1876			14,465 86	17,170 83
" " "	1877			14,377 63	15,207 36
" " "	1878			14,383 37	9,861 05
" " "	1879			15,015 86	10,370 71
" " "	1880		266 15	15,362 61	8,997 34
" " "	1881			17,659 93	10,770 67
" " "	1882			18,804 53	20,813 86
" " "	1883		6,727 44	18,287 77	15,826 71
" " "	1884		3,277 98	19,107 38	16,232 61
" " "	1885		7,991 79	18,960 40	14,637 70
" " "	1886		8,493 80	19,228 90	14,356 90
" " "	1887		3,633 57	18,867 45	14,999 88
" " "	1888		14,411 97	19,325 05	14,285 98
" " "	1889		10,993 52	20,019 11	14,982 54
" " "	1890			19,847 42	14,999 20
" " "	1891		17,085 68	18,886 86	12,537 39
" " "	1892		1,636 23	20,050 01	14,999 80
" " "	1893			20,348 34	14,107 11
" " "	1894		6,547 72	20,574 53	13,903 46
" " "	1895		27,982 93	20,128 59	12,299 49
" " "	1896			20,725 47	15,050 85
" " "	1897		9,813 15	21,012 64	14,862 98
" " "	1898	25,000 00	5,790 34	20,650 00	16,164 92
" " "	1899		1,000 00	20,613 22	13,463 01
" " "	1900		4,959 22	20,147 59	14,505 30
Total		[1]1,636,690 26	198,908 59	562,356 62	429,088 48

[1] See page 9 for total cost of St. Lawrence River and Canals.

S. LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

SESSIONAL PAPER No. 20

STATEMENT showing the amounts expended on Construction, Renewals, &c.—*Con.*

ST. LAWRENCE RIVER AND CANALS, SURVEYS, &c.

	Year ending June 30.	Chargeable to Capital.				Chargeable to Income.
		North Channel.	River Reaches.	Galops Channel.	Total.	
		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Government expenditure prior to Confederation					18,442 85	98,378 46
Government expenditure since Confederation	1868					
" "	1869					
" "	1870					
" "	1871					
" "	1872					
" "	1873				32,241 69	
" "	1874				26,541 30	
" "	1875				20,611 36	
" "	1876				50,215 47	
" "	1877				47,377 31	
" "	1878				5,570 46	
" "	1879				9,265 77	
" "	1880				9,214 56	
" "	1881				6,927 96	
" "	1882		6,933 45	22,000 00	28,933 45	
" "	1883		3,574 31	41,300 00	44,874 31	
" "	1884		15,546 03	74,300 00	89,846 03	
" "	1885		13,710 17	101,400 00	115,110 17	
" "	1886		16,251 73	99,800 00	116,051 73	
" "	1887		20,037 31	54,400 00	74,437 31	
" "	1888		16,282 85	40,400 00	56,482 85	
" "	1889		1,293 92	17,200 00	18,493 92	
" "	1890		18,279 91	5,700 00	23,979 91	
" "	1891		35,137 25		35,137 25	
" "	1892		59,779 31		59,779 31	
" "	1893		52,643 39		52,643 39	
" "	1894		13,721 66		13,721 66	
" "	1895		1,223 72	181,552 03	182,775 75	
" "	1896		7,457 05		7,457 05	
" "	1897		12,347 31		12,347 31	
" "	1898	171,336 65	7,491 11	32,710 00	211,537 76	
" "	1899	461,979 50	9,366 47	42,430 00	513,775 97	
" "	1900	225,000 00	72,484 41	50,000 00	347,484 41	
		858,316 15	383,561 36	763,192 03	2,232,278 27	98,378 46

ST. LAWRENCE RIVER AND CANALS.

St. Lawrence River and Canals, as above			$ 2,232,278 27
Beauharnois Canal, see page	8		1,636,690 26
Cornwall Canal	"	12	6,732,897 51
Williamsburg Canals	"	14	8,038,224 91
Lake St. Louis	"	10	261,832 18
Soulanges Canal	"	26	5,792,066 07
Lachine Canal, from prior to Confederation to June 30, 1875, see page 7			2,950,104 15
Lake St. Francis, see page 11			41,961 46
Agreeing with Public Accounts Balance Sheet, 1900, page xvi.*			$27,686,654 81

S. LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

STATEMENT showing the amounts expended on Construction, Renewals, &c.—*Con.*

LAKE ST. LOUIS.

—	Year ending June 30.	Chargeable to Capital.	Chargeable to Income.
		$ cts.	$ cts.
Government expenditure prior to Confederation			
" " since "	1868		
" " " "	1869		
" " " "	1870		
" " " "	1871		
" " " "	1872		
" " " "	1873		
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" " " "	1894		
" " " "	1895	4,753 14	
" " " "	1896	49,909 31	
" " " "	1897	73,300 41	
" " " "	1898	64,495 83	
" " " "	1899	57,607 79	
" " " "	1900	11,765 70	
Total		*261,832 18	

* Included in total cost of St. Lawrence River and Canals, see page 9.

S. LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

STATEMENT showing the amounts expended on Construction, Renewals, &c.—*Con.*

LAKE ST. FRANCIS.

	Year ending June 30.	Capital.	Renewals Chargeable to Income.
		$ cts.	$ cts.
Government expenditure since Confederation	1868		
" " " "	1869		
" " " "	1870		
" " " "	1871		
" " " "	1872		
" " " "	1873		
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" " " "	1896		
" " " "	1897		
" " " "	1898	3,420 00	
" " " "	1899	23,110 00	
" " " "	1900	15,431 46	12,288 39
Total		*41,961 46	12,288 39

* Included in total cost of St. Lawrence River and Canals, see page 9.

S. LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

STATEMENT showing the amounts expended on Construction, Renewals, &c.—*Con.*

CORNWALL CANAL.

—	Year ending June 30.	Chargeable to Capital.		Renewals Chargeable to Income.	Staff.	Repairs.
		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Government expenditure prior to confederation		1,933,152 69				
Government expenditure since Confederation	1868			2,786 00	11,244 47	3,774 18
" "	1869	10,692 04			10,347 91	3,859 14
" "	1870			17,780 05	10,368 16	7,145 42
" "	1871			7 50	11,848 39	8,891 61
" "	1872			10,000 21	10,594 30	8,163 70
" "	1873			1,011 75	13,042 25	12,467 65
" "	1874				13,405 20	7,610 70
" "	1875	1,780 00			13,351 91	7,097 34
Cost of original construction			1,945,624 73			
Expenditure by Dominion Government	1876				13,320 61	6,423 67
" "	1877	49,211 37			13,375 70	6,440 54
" "	1878	145,015 45			13,825 50	4,935 21
" "	1879	143,092 05			13,817 96	4,983 15
" "	1880	109,454 95			14,440 33	9,735 76
" "	1881	53,948 14			15,173 60	5,524 10
" "	1882	44,587 61			15,052 20	6,634 62
" "	1883	21,728 93			18,283 67	8,361 71
" "	1884	22,018 13			18,475 48	9,007 73
" "	1885	62,034 90		16,298 96	15,988 96	12,368 51
" "	1886	57,829 83		6,960 95	15,994 80	11,832 83
" "	1887	46,966 43			17,529 54	12,100 29
" "	1888	67,945 74			16,938 54	13,942 64
" "	1889	163,993 85			17,890 55	58,205 26
" "	1890	365,038 01		2,000 00	17,063 49	12,758 18
" "	1891	599,001 85		1,459 98	16,077 72	9,830 05
" "	1892	398,555 25		2,345 26	15,596 66	9,864 36
" "	1893	352,536 13			15,173 01	9,668 14
" "	1894	404,990 22			15,344 02	7,733 54
" "	1895	450,689 65		21,497 74	15,414 56	13,053 55
" "	1896	448,408 31		2,175 09	15,472 26	25,259 56
" "	1897	438,487 51			15,540 43	16,438 32
" "	1898	133,208 96			15,011 50	15,431 02
" "	1899	37,649 00		15,960 80	16,000 00	14,023 90
" "	1900	169,889 51		18,547 50	18,798 10	13,998 29
Cost of enlargement			4,787,272 78			
Total			*6,732,897 51	118,831 70	489,792 78	378,164 67

* Included in total cost of St. Lawrence River and Canals, see page 9.

S. LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

STATEMENT showing the amounts expended on Construction, Renewals, &c.—*Continued.*

WILLIAMSBURG CANALS.

	Year ending June 30.	Capital.				Renewals Chargeable to Income.	Staff.	Repairs.
		Farrau's Point.	Galops.	Rapide Plat.	Total.			
		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Government expenditure prior to Confederation being amount of original construction					1,320,655 54			
Government expenditure since Confederation	1868						5,745 97	6,442 41
" " "	1869						5,769 81	5,670 88
" " "	1870						5,573 13	6,546 16
" " "	1871						6,382 17	5,308 41
" " "	1872					1,077 00	5,542 94	3,230 07
" " "	1873						6,424 49	7,347 75
" " "	1874						6,857 19	7,395 92
" " "	1875						6,547 62	4,110 29
" " "	1876						7,418 39	11,690 98
" " "	1877						7,388 68	10,053 61
" " "	1878						7,430 11	4,419 78
" " "	1879						7,517 20	3,549 71
" " "	1880						7,590 15	3,999 77
" " "	1881						7,572 35	5,020 73
" " "	1882						7,589 41	7,447 69
" " "	1883				13 19		7,423 48	7,299 39
" " "	1884				2,473 44		7,757 04	7,349 37
" " "	1885		70,764 07	32,473 05	103,237 12		7,696 67	8,198 03
" " "	1886		78,014 92	71,820 79	149,835 71		7,671 54	7,847 05
" " "	1887		32,862 02	82,990 98	115,853 00		7,635 54	7,904 76
" " "	1888		16,628 95	53,499 34	70,128 29	1,615 67	7,646 79	8,190 13
" " "	1889		37,661 15	22,206 11	59,867 26		7,485 28	8,794 61
" " "	1890		126,417 42	12,660 95	139,078 37		8,951 55	8,191 69
" " "	1891	2,853 76	172,779 88	55,036 96	230,670 60		8,678 25	7,987 40
" " "	1892		218,511 17	158,034 15	376,545 32	797 83	9,458 33	8,551 32
" " "	1893		154,524 01	217,669 28	372,193 29	3,675 00	8,676 65	8,347 97
" " "	1894		223,992 81	274,397 42	498,390 23		10,230 09	7,029 95
" " "	1895		118,464 53	228,892 70	347,357 23	13,720 36	9,675 09	7,371 37

STATEMENT showing the amounts expended on Construction, Renewals, &c.—*Concluded.*

WILLIAMSBURG CANALS—*Concluded.*

	Year ending June 30.	Capital.				Renewals Chargeable to Income.	Staff.	Repairs.
		Farran's Point.	Galops.	Rapide Plat.	Total.			
		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Government expenditure since Confederation	1896	4,980 00	150,744 16	286,396 96	442,121 12	8,607 04	9,588 51	9,036 00
" " "	1897	.....	262,795 78	205,480 55	468,274 33	3,880 76	8,697 54	8,210 71
" " "	1898	231,321 44	734,492 07	116,072 55	1,081,886 06	.....	10,708 66	8,032 84
" " "	1899	346,956 54	987,186 44	57,869 18	1,392,012 16	7,410 00	9,960 64	10,000 00
" " "	1900	100,531 64	752,799 27	14,298 74	867,632 65	4,137 04	11,092 06	10,897 79
Total		686,646 38	1,138,636 65	1,889,799 71	8,038,224 91	14,918 70	260,385 11	241,504 54

* Original construction ..... $ 1,320,655 54
Cost of Enlargement 6,717,569 37

Total ..... $ 8,038,224 91

Included in total cost of St. Lawrence River and Canals, page 9.

S. LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

STATEMENT showing the amounts expended on Construction, Renewals, &c.—*Con.*

WELLAND CANAL.

—	Year ending June 30.	Capital.	Renewals Chargeable to Income.	Staff.	Repairs.
		$ cts.	$ cts.	$ cts.	$ cts.
Imperial Government		222,220 00			
Government expenditure prior to Confederation		7,416,019 83			
" since " "	1868	12,097 84		37,679 05	38,852 96
" " " "	1869	43,486 36		39,060 61	50,773 03
" " " "	1870		22,173 72	40,340 45	65,009 19
" " " "	1871		48,569 10	42,383 33	53,381 02
" " " "	1872	53,680 32	6,022 44	37,085 37	50,276 90
" " " "	1873	82,282 20	47,876 27	45,382 99	66,550 73
" " " "	1874	746,420 61		50,966 48	103,666 99
" " " "	1875	1,047,119 91		52,595 00	88,539 99
" " " "	1876	1,569,478 19	700 00	57,623 31	81,376 12
" " " "	1877	2,199,962 61		59,903 47	49,783 93
" " " "	1878	2,138,392 99		60,138 50	66,393 53
" " " "	1879	1,552,697 41		59,942 23	56,755 57
" " " "	1880	1,252,924 75		63,198 10	76,535 25
" " " "	1881	1,242,943 37	6,593 19	56,398 04	69,249 53
" " " "	1882	603,402 17	13,664 80	74,641 51	84,374 97
" " " "	1883	549,433 29	5,979 03	109,207 21	72,707 62
" " " "	1884	432,336 21		113,276 87	90,926 97
" " " "	1885	463,505 38	6,150 21	112,670 00	91,534 66
" " " "	1886	215,380 75	1,359 00	111,660 22	69,507 48
" " " "	1887	1,071,073 87	3,828 67	109,371 69	77,440 80
" " " "	1888	429,720 94	10,740 86	110,806 01	86,518 97
" " " "	1889	225,910 21	43,803 80	113,587 05	77,547 77
" " " "	1890	117,633 22	51,648 28	109,202 02	72,686 19
" " " "	1891	36,371 03	19,767 73	107,662 63	82,548 30
" " " "	1892	29,541 21	9,008 80	104,673 73	73,771 87
" " " "	1893	8,259 94	25,103 13	104,926 73	65,016 84
" " " "	1894	1,571 78	13,430 20	102,018 80	53,053 71
" " " "	1895	3,809 35	24,245 02	90,438 07	48,270 94
" " " "	1896	1,677 67	18,768 09	87,988 11	62,542 64
" " " "	1897	2,282 35	22,283 06	88,095 20	41,247 81
" " " "	1898		34,803 25	84,806 54	59,571 66
" " " "	1899		30,093 84	86,110 88	56,270 60
" " " "	1900	18,167 29	37,164 84	84,888 36	59,507 64
Total		*23,789,803 05	503,784 23	2,608,788 65	2,242,192 18

*Total expenditure as above	$	23,789,803 05
Less expenditure by Imperial Government		222,220 00
Agreeing with Public Accounts Balance Sheet, 1900, page xvi	$	23,567,583 05
Original cost of construction, including first enlargement	$	7,693,824 03
Enlargement, including new Welland Canal		16,095,979 02
Total expenditure as above	$	23,789,803 05

S. LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

STATEMENT showing the amounts expended on Construction, Renewals, &c.—*Con.*

STE. ANNE'S LOCK AND CANAL.

	Year ending June 30.	Capital.	Renewals Chargeable to Income.	Staff.	Repairs.
		$ cts.	$ cts.	$ cts.	$ cts.
Government expenditure prior to Confederation		134,456 51			
" since " "	1868			778 16	432 47
" " " "	1869			1,062 96	1,873 51
" " " "	1870			1,136 54	1,280 36
" " " "	1871			1,285 84	1,539 02
" " " "	1872		1,939 46	1,106 80	1,393 63
" " " "	1873		540 11	2,199 64	1,264 40
" " " "	1874	12,753 27		2,614 90	7,208 63
" " " "	1875	32,627 71		1,859 20	4,506 68
" " " "	1876	24,935 85		1,952 14	4,033 72
" " " "	1877	30,003 08		1,982 65	1,756 93
" " " "	1878	14,618 85		2,057 32	541 95
" " " "	1879	22,113 02		2,202 03	3,259 70
" " " "	1880	3,054 68		2,152 57	1,704 71
" " " "	1881	69,042 76		2,553 02	3,257 92
" " " "	1882	193,158 30		2,611 30	2,343 90
" " " "	1883	172,959 95		2,569 86	3,448 83
" " " "	1884	142,006 25		2,775 32	2,725 49
" " " "	1885	93,679 57		2,618 60	4,042 04
" " " "	1886	124,681 67		2,611 90	5,803 01
" " " "	1887	45,276 08	6,054 10	2,537 41	1,499 96
" " " "	1888	18,910 55	1,372 59	2,505 61	1,380 75
" " " "	1889	24,786 33		2,569 22	1,730 79
" " " "	1890	6,151 14		2,571 04	1,525 51
" " " "	1891		8,173 69	2,505 69	1,503 56
" " " "	1892		25,471 61	2,571 28	1,666 21
" " " "	1893		6,521 88	2,581 08	2,800 03
" " " "	1894		3,497 56	2,640 00	2,799 63
" " " "	1895		3,694 33	2,508 14	3,025 91
" " " "	1896			2,495 54	4,993 89
" " " "	1897			2,357 51	1,688 12
" " " "	1898			1,904 10	1,699 44
" " " "	1899			1,920 12	1,997 96
" " " "	1900			1,840 51	2,679 21
Total		*1,170,215 63	57,265 33	71,638 00	83,407 96

* Included in total cost of Ottawa River Works, see page 19.

Original construction	$ 134,456 51
Enlargement, including new lock	1,035,759 12
	$ 1,170,215 63

S. LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

SESSIONAL PAPER No. 20

STATEMENT showing the amounts expended on Construction, Renewals, &c.—*Con.*

CARILLON AND GRENVILLE CANAL.

—	Year ending June 30.	Capital.	Renewals Chargeable to Income.	Staff.	Repairs.
		$ cts.	$ cts.	$ cts.	$ cts.
Imperial Government..		*			
Government expenditure prior to Confederation		63,053 54			
" since " ..	1868		19,817 22	6,301 88	8,911 28
" " " ..	1869			6,549 38	10,157 42
" " " ..	1870		4,167 96	6,617 81	9,852 09
" " " ..	1871		23,119 37	8,676 90	8,218 24
" " " ..	1872	165,257 28		8,324 51	17,235 31
" " " ..	1873	133,199 10	3,051 38	10,068 28	8,781 50
" " " ..	1874	245,258 38		10,710 88	10,605 82
" " " ..	1875	339,864 76		10,378 57	18,520 44
" " " ..	1876	326,203 16		10,764 38	11,475 96
" " " ..	1877	245,738 04		11,050 27	10,304 06
" " " ..	1878	22,676 20		11,401 30	5,082 72
" " " ..	1879	243,141 24		11,501 22	7,629 98
" " " ..	1880	281,514 27		11,959 14	7,625 54
" " " ..	1881	336,707 53		13,059 18	8,076 91
" " " ..	1882	433,084 39		14,387 49	7,582 68
" " " ..	1883	433,575 10		17,479 58	8,310 02
" " " ..	1884	390,267 16		17,393 91	7,918 42
" " " ..	1885	157,187 72		19,702 30	10,429 26
" " " ..	1886	104,973 24	75 00	20,597 82	9,303 31
" " " ..	1887	20,747 11		20,011 36	10,554 41
" " " ..	1888	38,906 29		21,531 12	10,036 62
" " " ..	1889	268 17		22,098 88	10,135 66
" " " ..	1890	17 58	4,526 61	15,896 16	7,582 38
" " " ..	1891		4,395 25	21,230 22	10,796 68
" " " ..	1892	34,585 64	15,036 48	17,458 69	8,620 15
" " " ..	1893	207 00	42,298 74	16,762 71	10,669 28
" " " ..	1894	385 55	20,034 94	14,144 98	11,620 09
" " " ..	1895		5,963 76	15,453 21	12,303 25
" " " ..	1896	3,850 31		13,995 69	12,161 10
" " " ..	1897	1,908 44	4,939 20	13,780 29	11,607 95
" " " ..	1898	82,663 37	5,082 03	11,697 81	10,993 61
" " " ..	1899	39,999 37		11,919 27	11,478 88
" " " ..	1900	22,802 27	4,476 50	13,657 06	14,666 71
Total...		†4,177,162 31	156,984 44	456,562 55	339,247 73

* Expenditure not given—records relating to same were kept in Ordnance Office at Montreal and were destroyed by fire in 1852.

† Included in total cost of Ottawa River Works, see page 19, cost of enlargement $1,114,108.67.

S. LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

STATEMENT showing the amounts expended on Construction, Renewals, &c.—*Con.*

CULBUTE LOCK AND DAM.

——	Year ending June 30.	Capital.	Renewals Chargeable to Income.	Staff.	Repairs.
		$ cts.	$ cts.	$ cts.	$ cts.
Government expenditure since Confederation.	1868	.....	.....	.....	.....
" " " ..	1869	.....	.....	.....	.....
" " " ..	1870	.....	.....	.....	.....
" " " ..	1871	.....	.....	.....	.....
" " " ..	1872	.....	.....	.....	.....
" " " ..	1873	.....	835 53	.....	.....
" " " ..	1874	.....	38,388 99	.....	.....
" " " ..	1875	63,659 29	.....	.....	.....
" " " ..	1876	76,842 44	.....	.....	.....
" " " ..	1877	56,081 87	.....	.....	.....
" " " ..	1878	5,933 53	.....	.....	.....
" " " ..	1879	20,694 19	.....	.....	.....
" " " ..	1880	16,688 20	.....	202 50	259 31
" " " ..	1881	4,721 62	.....	962 85	.....
" " " ..	1882	29,567 15	.....	790 00	162 33
" " " ..	1883	14,249 60	.....	695 00	288 99
" " " ..	1884	8,151 16	.....	733 50	.....
" " " ..	1885	19,071 76	.....	730 00	572 75
" " " ..	1886	26,385 27	.....	730 00	2,396 14
" " " ..	1887	7,760 88	.....	730 00	967 33
" " " ..	1888	7,573 99	.....	739 50	730 60
" " " ..	1889	17,112 01	.....	1,050 00	116 53
" " " ..	1890	2,818 35	.....	747 83	.....
" " " ..	1891	2,183 15	9,122 05	745 25	499 91
" " " ..	1892	.....	1,546 25	736 00	.....
" " " ..	1893	.....	1,420 65	749 00	13 55
" " " ..	1894	.....	2,540 14	730 00	494 43
" " " ..	1895	.....	1,475 26	436 05	434 28
" " " ..	1896	.....	.....	.....	.....
" " " ..	1897	.....	.....	.....	.....
" " " ..	1898	.....	.....	.....	100 00
" " " ..	1899	.....	.....	.....	.....
" " " ..	1900	3,085 60	.....	.....	.....
Total	.....	*382,579 46	55,328 87	11,507 48	7,036 15

* Included in total cost of Ottawa, River Works, see page 19.

S. LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

STATEMENT showing the amounts expended on Construction, Renewals, &c.—*Con.*

RIDEAU CANAL.

——	Year ending June 30.	Capital.	Renewals Chargeable to Income.	Staff.	Repairs.
		$ cts	$ cts	$ cts.	$ cts.
Imperial Government		3,911,701 47	.....	.....	.....
Government expenditure prior to Confederation		153,062 60	.....	.....	.....
" since " "	1868	166 50	7,298 12	18,397 28	16,475 21
" " " "	1869	.....	.....	19,250 71	13,140 77
" " " "	1870	.....	13 16	20,022 37	19,469 33
" " " "	1871	.....	11,732 98	22,814 58	18,120 52
" " " "	1872	.....	4,967 50	22,139 48	14,005 32
" " " "	1873	.....	18,070 97	22,841 51	26,074 49
" " " "	1874	.....	5,793 16	26,815 44	22,957 40
" " " "	1875	9,310 85	.....	26,553 37	19,699 81
" " " "	1876	2,163 96	.....	26,430 77	14,428 25
" " " "	1877	214 11	.....	25,959 56	14,198 18
" " " "	1878	.....	.....	26,651 51	11,034 22
" " " "	1879	7,703 88	.....	26,042 52	7,134 55
" " " "	1880	.....	.....	26,463 88	11,434 05
" " " "	1881	.....	133 50	26,024 71	8,627 00
" " " "	1882	.....	.....	26,915 29	13,860 28
" " " "	1883	.....	70 65	27 322 81	23,524 84
" " " "	1884	.....	4,597 50	26,938 95	19,245 02
" " " "	1885	.....	2,098 76	26,971 32	18,189 55
" " " "	1886	.....	550 00	27,045 95	35,648 04
" " " "	1887	.....	20,823 96	29,440 46	18,565 34
" " " "	1888	.....	18,889 48	33,458 83	25,478 87
" " " "	1889	.....	6,665 22	33,891 77	18,106 36
" " " "	1890	.....	21,124 10	34,270 57	18,025 21
" " " "	1891	.....	20,967 25	34,641 98	21,537 56
" " " "	1892	.....	31,363 23	35,500 82	21,507 16
" " " "	1893	.....	24,274 71	35,022 49	18,789 50
" " " "	1894	.....	14,485 11	34,943 35	16,939 47
" " " "	1895	.....	31,559 48	33,827 08	19,897 32
" " " "	1896	.....	21,452 29	34,052 77	30,196 38
" " " "	1897	.....	19,079 11	31,461 55	29,535 94
" " " "	1898	.....	13,608 39	30,759 05	26,599 93
" " " "	1899	.....	700 29	30,751 20	28,199 49
" " " "	1900	.....	11,780 41	30,623 27	30,237 09
Total		*4,084,323 37	312,099 33	934,157 20	650,882 45

* Ottawa River Works.

Ste. Anne's Lock, page 16			$ 1,170,215 63
Carillon and Grenville Canals, page 17			4,177,162 31
Culbute Canal, page 18			382,579 46
Rideau Canal as above	$ 4,084,323 37		
Less expenditure by Imperial Government	3,911,701 47		
			172,621 90
Total Ottawa Works (Capital)			$ 5,902,579 30
Add expenditure on slides and booms prior to Confederation	$ 719,247 13		
Since Confederation	7,243 60		
Add expenditure on Chats Canals prior to Confederation	482,950 81		
Add expenditure in 1881, charged to Miscellaneous, *see* page 229, part ii Public Accounts	1,136 84		
Add amount transferred, *see* page xxxvi Public Accounts, Balance Sheet, 1881	233,555 85		
			1,444,134 23
Less expenditure prior to Confederation, transferred to Income Accounts	$ 320,618 28		$ 7,346,713 53
Less expenditure, 1872, on Carillon and Grenville Canal, as shown in Public Accounts Balance Sheet, page xx, under Miscellaneous	165,257 28		
			485,875 56
Agreeing with Balance Sheet, Public Accounts, 1900, page xvi			$ 6,860,837 97

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

S. LEONARD SHANNON,
Accountant.

STATEMENT showing the amounts expended on Construction, Renewals, &c.—*Con.*

ST. OURS LOCK.

	Year ending June 30.	Capital.	Renewals Chargeable to Income.	Staff.	Repairs.
		$ cts.	$ cts.	$ cts.	$ cts.
Government expenditure prior to Confederation		121,537 65			
" since "	1868			1,532 75	753 74
" " "	1869			1,755 15	1,399 18
" " "	1870			1,458 09	1,006 22
" " "	1871			1,414 48	1,210 98
" " "	1872			1,565 80	1,263 19
" " "	1873			2,076 50	1,575 10
" " "	1874			2,219 13	2,363 42
" " "	1875			1,362 22	1,245 69
" " "	1876			1,403 92	1,601 71
" " "	1877			1,533 40	750 80
" " "	1878			1,556 65	283 77
" " "	1879			1,581 55	456 07
" " "	1880			1,614 01	705 54
" " "	1881			1,741 97	1,299 77
" " "	1882			2,002 71	1,902 41
" " "	1883		17,230 32	2,361 65	2,188 08
" " "	1884		5,279 17	2,315 37	1,494 99
" " "	1885		4,700 64	2,271 57	3,652 63
" " "	1886			2,311 70	4,143 47
" " "	1887			2,175 37	5,864 78
" " "	1888			2,216 04	2,801 17
" " "	1889		17,964 45	2,421 14	2,002 63
" " "	1890		24,571 96	2,138 40	1,935 44
" " "	1891		21,696 74	2,011 08	4,460 16
" " "	1892		3,585 34	2,168 44	1,944 33
" " "	1893			2,136 66	1,994 34
" " "	1894			2,216 68	924 55
" " "	1895			2,161 63	915 50
" " "	1896			2,094 91	1,678 49
" " "	1897			2,135 60	707 66
" " "	1898			2,049 67	692 04
" " "	1899			2,244 12	1,494 93
" " "	1900		1,596 88	2,181 13	2,681 10
Total		*121,537 65	96,625 50	64,429 79	59,393 28

* Included in the total cost of Chambly Canal and River Richelieu, *see* page 21.

S. LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

STATEMENT showing the amounts expended on Construction, Renewals, &c.—*Con.*

CHAMBLY CANAL.

	Year ending June 30	Capital.	Renewals Chargeable to Income.	Staff.	Repairs.
		$ cts.	$ cts.	$ cts.	$ cts.
Government expenditure prior to Confederation	..	634,711 76	.....	.....	.....
" since " " ..	1868	.....	.....	8,312 90	9,355 70
" " " " ..	1869	.....	.....	8,437 22	13,120 97
" " " " ..	1870	.....	.....	8,934 41	20,180 73
" " " " ..	1871	.....	2,839 85	10,214 71	22,426 33
" " " " ..	1872	.....	1,906 40	9,628 50	22,327 99
" " " " ..	1873	.....	759 00	10,390 44	11,789 27
" " " " ..	1874	.....	2,810 00	11,675 67	16,427 19
" " " " ..	1875	2,415 00	.....	12,201 99	16,306 91
" " " " ..	1876	.....	.....	10,593 14	13,273 56
" " " " ..	1877	80 60	.....	10,281 78	10,111 32
" " " " ..	1878	.....	.....	10,413 99	6,022 96
" " " " ..	1879	.....	.....	11,301 53	8,809 77
" " " " ..	1880	.....	.....	11,516 22	12,377 74
" " " " ..	1881	.....	.....	13,950 47	20,705 17
" " " " ..	1882	.....	31,796 41	16,686 78	16,843 60
" " " " ..	1883	.....	21,332 36	15,904 38	15,182 24
" " " " ..	1884	.....	41,640 77	18,448 85	12,003 34
" " " " ..	1885	.....	21,049 23	18,378 55	13,046 95
" " " " ..	1886	.....	14,547 27	19,501 28	11,999 77
" " " " ..	1887	.....	17,911 17	19,053 62	20,071 37
" " " " ..	1888	.....	65,530 34	20,073 60	11,823 74
" " " " ..	1889	.....	51,137 87	19,079 22	19,392 18
" " " " ..	1890	.....	23,221 48	19,055 28	14,399 93
" " " " ..	1891	.....	43,344 41	19,204 76	11,399 93
" " " " ..	1892	.....	38,353 99	19,065 22	12,976 48
" " " " ..	1893	.....	21,127 65	19,310 29	12,451 03
" " " " ..	1894	.....	8,767 78	19,040 93	11,929 74
" " " " ..	1895	.....	6,147 63	19,325 49	11,779 12
" " " " ..	1896	.....	3,694 63	19,349 65	11,801 12
" " " " ..	1897	.....	12,665 88	18,754 17	13,128 55
" " " " ..	1898	.....	13,184 68	17,992 90	12,466 51
" " " " ..	1899	.....	15,255 42	18,336 50	11,997 51
" " * " ..	1900	.....	5,448 88	18,397 58	13,995 00
		637,206 76			
Less proceeds of sale of piece of land....	.....	150 00			
Total	....	*637,056 76	464,579 40	504,612 12	461,914 72

* Chambly Canal and River Richelieu.

Chambly Canal as above.....		$ 637,056 76
St. Ours Lock, *see* page 20.....		121,537 65
		$ 758,594 41
Less amount deducted at Confederation, *see* Public Accounts, 1868, part i, page 9.		
Government expenditure prior to Confederation.		
Chambly Canal as above.....	$ 634,711 76	
St. Ours Lock, page 20.	121,537 65	
	$ 756,249 41	
Returned as an asset in Public Accounts, 1868..	433,807 83	
		322,441 58
Agreeing with Public Accounts, 1900, page xvi.....		$ 436,152 83

S. LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

STATEMENT showing the amounts expended on Construction, Renewals, &c.—*Con.*

MURRAY CANAL.

	Year ending June 30.	Capital.	Renewals Chargeable to Income.	Staff.	Repairs.
		$ cts.	$ cts.	$ cts.	$ cts.
Government expenditure prior to Confederation	...	.....	.....	.....	.....
" since " ..	1868	.....	400 00	.....	.....
" " " ..	1869	.....	.....	.....	.....
" " " ..	1870	.....	.....	.....	.....
" " " ..	1871	.....	.....	.....	.....
" " " ..	1872	.....	.....	.....	.....
" " " ..	1873	.....	.....	.....	.....
" " " ..	1874	.....	.....	.....	.....
" " " ..	1875	.....	.....	.....	.....
" " " ..	1876	.....	.....	.....	.....
" " " ..	1877	.....	.....	.....	.....
" " " ..	1878	.....	.....	.....	.....
" " " ..	1879	.....	.....	.....	.....
" " " ..	1880	.....	.....	.....	.....
" " " ..	1881	.....	.....	.....	.....
" " " ..	1882	7,135 63	.....	.....	.....
" " " ..	1883	84,071 68	.....	.....	.....
" " " ..	1884	118,187 43	.....	.....	.....
" " " ..	1885	148,902 66	.....	.....	.....
" " " ..	1886	179,704 52	.....	.....	.....
" " " ..	1887	142,563 66	.....	.....	.....
" " " ..	1888	146,754 37	.....	.....	.....
" " " ..	1889	215,326 46	.....	.....	.....
" " " ..	1890	106,760 35	.....	494 31	.....
" " " ..	1891	61,260 49	.....	5,137 03	173 53
" " " ..	1892	5,964 22	.....	5,803 48	3,505 15
" " " ..	1893	30,838 79	.....	5,499 62	5,341 34
" " " ..	1894	.....	.....	5,667 52	5,295 57
" " " ..	1895	.....	.....	5,354 97	5,063 49
" " " ..	1896	.....	.....	5,409 10	5,410 33
" " " ..	1897	.....	.....	5,526 87	3,966 41
" " " ..	1898	.....	.....	5,799 94	4,710 23
" " " ..	1899	.....	.....	5,073 70	3,533 68
" " " ..	1900	.....	.....	5,613 83	2,777 60
Total	....	*1,247,470 26	400 00	55,380 37	39,777 33

* Agreeing with Public Accounts Balance Sheet, 1900, page xvi.

S. LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

SESSIONAL PAPER No. 20

STATEMENT showing the amounts expended on Construction, Renewals, &c.—*Con.*

TRENT CANAL.

——	Year ending June 30.	Capital.	Renewals Chargeable to Income.	Staff.	Repairs.
		$ cts.	$ cts.	$ cts.	$ cts.
Government expenditure prior to Confederation		309,371 31			
" since " "	1868				
" " " "	1869				
" " " "	1870				
" " " "	1871				
" " " "	1872				
" " " "	1873				
" " " "	1874				
" " " "	1875				
" " " "	1876				
" " " "	1877				
" " " "	1878				
" " " "	1879				
" " " "	1880	561 50		1,188 92	3,568 89
" " " "	1881			2,489 93	2,233 50
" " " "	1882		5,836 51	2,011 92	8,115 50
" " " "	1883	40,767 16	9,303 66	2,235 50	3,047 42
" " " "	1884	120,393 91	6,198 57	2,208 64	5,264 35
" " " "	1885	121,382 84		3,303 87	4,053 50
" " " "	1886	75,103 30		1,639 75	5,917 88
" " " "	1887	179,541 63		1,938 08	6,008 88
" " " "	1888	114,879 35		1,770 29	5,151 42
" " " "	1889	47,592 13	29,677 92	3,242 05	5,935 94
" " " "	1890	58,644 50	11,522 65	3,450 99	730 55
" " " "	1891	9,826 49	3,164 81	3,803 66	4,888 98
" " " "	1892	4,457 28	6,506 97	3,695 85	4,721 85
" " " "	1893	5,962 47	10,838 90	3,739 86	2,087 17
" " " "	1894	3,412 32	20,403 93	3,785 47	4,988 59
" " " "	1895	53,907 70	21,143 41	4,184 18	3,574 49
" " " "	1896	392,976 08	6,185 75	4,349 34	3,329 97
" " " "	1897	486,575 70	13,880 37	4,965 39	3,497 90
" " " "	1898	351,273 31	8,991 54	5,034 60	4,998 80
" " " "	1899	166,611 49	6,179 79	5,048 72	6,454 49
" " " "	1900	334,583 01	8,043 39	5,131 52	9,989 26
Total		2,877,823 48	167,878 17	69,218 53	98,959 33

Total expenditure on Capital account as above ..... $ 2,877,823 48
LESS—Expenditure prior to Confederation ..... $ 309,371 31
" Year 1880 ..... 561 50
309,932 81

Agreeing with Public Accounts Balance Sheet, 1900, page xvi ..... $ 2,567,890 67

S. LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

STATEMENT showing the amounts expended on Construction, Renewals, &c.—*Con.*

TAY CANAL.

——	Year ending June 30.	Capital.	Renewals Chargeable to Income.	Staff.	Repairs.
		$ cts.	$ cts.	$ cts.	$ cts.
Government expenditure since Confederation	1868				
" " "	1869				
" "	1870				
" "	1871				
" " "	1872				
" " "	1873				
" " "	1874				
" " "	1875				
" " "	1876				
" " "	1877				
" " "	1878				
" " "	1879				
" " "	1880				
" " "	1881				
" " "	1882		748 65		
" " "	1883	4,831 80			
" " "	1884	50,878 12			
" " "	1885	92,473 97			
" " "	1886	65,561 51			
" " "	1887	49,617 92			
" " "	1888	54,166 57			
" " "	1889	89,486 18			
" " "	1890	22,226 23		*	*
" " "	1891	17,114 78		*	*
" " "	1892	29,771 65		*	*
" " "	1893			*	*
" " "	1894			*	*
" " "	1895			*	*
" " "	1896			*	*
" " "	1897	10,720 50		*	*
" " "	1898			*	*
" " "	1899			*	*
" " "	1900	2,750 00		*	*
Total		†489,599 23	748 65	*	*

* Included in Rideau Canal.
† Agreeing with Public Accounts, 1900, page xvi.

S. LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

SESSIONAL PAPER No. 20

STATEMENT showing the amounts expended on Construction, Renewals, &c.—*Con.*

SAULT STE. MARIE CANAL.

——	Year ending June 30.	Capital.	Renewals Chargeable to Income.	Staff.	Repairs.
		$ cts.	$ cts.	$ cts.	$ cts.
Government expenditure since Confederation	1868				
" " "	1869				
" " "	1870				
" " "	1871				
" " "	1872		949 35		
" " "	1873				
" " "	1874				
" " "	1875				
" " "	1876				
" " "	1877				
" " "	1878				
" " "	1879				
" " "	1880				
" " "	1881				
" " "	1882				
" " "	1883				
" " "	1884				
" " "	1885				
" " "	1886				
" " "	1887				
" " "	1888	8,145 06			
" " "	1889	34,018 95			
" " "	1890	176,568 55			
" " "	1891	325,336 33			
" " "	1892	341,474 31			
" " "	1893	589,801 25			
" " "	1894	1,316,529 29			
" " "	1895	466,151 50		3,432 73	
" " "	1896	189,986 59		16,074 70	2,650 17
" " "	1897	209,561 82		15,381 59	7,671 79
" " "	1898	21,004 56		14,389 92	8,172 09
" " "	1899	63,955 48		13,840 24	6,564 40
" " "	1900	27,157 98		13,901 40	13,219 87
Total		*3,769,671 67	949 35	77,020 58	38,278 32

* Agreeing with Public Accounts, 1900, page xvi.

S. LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

STATEMENT showing the amounts expended on Construction, Renewals, &c.—*Con.*

SOULANGES CANAL.

——	Year ending June 30.	Capital.	Renewals Chargeable to Income.	Staff.	Repairs.
		$ cts.	$ cts.	$ cts.	$ cts.
Government expenditure prior to Confederation					
" since "	1868				
" " "	1869				
" " "	1870				
" " "	1871				
" " "	1872				
" " "	1873				
" " "	1874				
" " "	1875				
" " "	1876				
" " "	1877				
" " "	1878				
" " "	1879				
" " "	1880				
" " "	1881				
" " "	1882				
" " "	1883				
" " "	1884				
" " "	1885				
" " "	1886				
" " "	1887				
" " "	1888				
" " "	1889				
" " "	1890				
" " "	1891				
" " "	1892	54,235 76			
" " "	1893	210,336 24			
" " "	1894	723,380 95			
" " "	1895	752,016 53			
" " "	1896	535,939 07			
" " "	1897	363,126 06			
" " "	1898	1,016,401 00			
" " "	1899	1,442,824 22			
" " "	1900	693,806 24		6,711 84	5,000 00
* Total		*5,792,066 07		6,711 84	5,000 00

*Included in total cost of St. Lawrence River and Canals, *see* part ii, page 9.

S. LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

SESSIONAL PAPER No. 20

STATEMENT showing amount expended on Construction and Enlargement of Canals, to June 30, 1900.

Canal.	Construction.	Enlargement.	Total.
	$ cts.	$ cts.	$ cts.
St. Peters	248,762 84	399,784 30	648,547 14
Lachine	2,589,532 85	8,322,570 57	10,912,103 42
Beauharnois	1,636,690 26		1,636,690 26
St. Lawrence River and Canals	18,442 85	2,213,835 42	2,232,278 27
Lake St. Louis		261,772 18	261,772 18
Lake St. Francis		41,961 46	41,961 46
Cornwall	1,945,624 73	4,787,272 78	6,732,897 51
Williamsburg: Farran's Point		686,646 38	8,638,224 91
Williamsburg: Galops		4,138,636 65	
Williamsburg: Rapide Plat		1,889,799 71	
Williamsburg: Williamsburg	1,320,655 54	2,486 63	
Welland	7,693,824 03	16,095,979 02	23,789,803 05
St. Anne's	134,456 51	1,035,759 12	1,170,215 63
*Carillon and Grenville	63,053 64	4,114,108 67	4,177,162 31
Culbute	382,579 46		382,579 46
Rideau	4,097,793 87		4,097,793 87
St. Ours	121,537 65		121,537 65
Chambly	637,056 76		637,056 76
Murray	1,247,470 26		1,247,470 26
Trent	2,877,823 48		3,877,823 48
Tay	476,128 73		476,128 73
Sault Ste. Marie	3,769,671 67		3,769,671 67
Soulanges	5,792,066 07		5,792,066 07
	35,053,171 20	43,990,612 89	79,043,784 09

* Construction by Imperial Government not included, records relating to same were kept in Ordnance Office, Montreal, and were destroyed by fire in 1852.

S. LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

* RECAPITULATION—EXPENDITURE on Canals, also showing Revenue received.

	Year ending June 30.	Capital.	Income.	Staff.	Repairs.	Revenue received.
		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Government expenditure prior to Confederation, including Imperial Government		20,593,866 13	98,378 46			
Government expenditure since Confederation	1868	33,781 06	95,347 79	113,084 50	101,646 44	403,879 19
" "	1869	126,898 20	55 00	116,069 76	118,579 31	400,263 32
" "	1870		90,355 96	120,403 02	150,176 70	414,687 02
" "	1871		116,429 54	135,010 81	140,467 52	488,538 76
" "	1872	255,615 75	33,289 27	124,137 09	152,086 25	466,847 52
" "	1873	256,547 27	127,369 55	148,581 18	186,573 13	486,433 26
" "	1874	1,189,591 91	51,037 65	167,194 40	213,613 86	510,755 99
" "	1875	1,714,830 37	479 00	168,401 21	203,226 85	414,979 59
" "	1876	2,388,733 46	810 75	178,411 80	190,578 45	390,337 34
" "	1877	4,131,374 30	22 30	179,661 40	138,448 51	390,857 37
" "	1878	3,843,338 62		187,521 31	122,251 60	373,814 17
" "	1879	3,064,098 61		191,892 44	115,349 99	337,675 13
" "	1880	2,123,366 31		195,039 33	147,167 52	341,598 14
" "	1881	2,075,891 65	7,246 69	197,573 62	154,653 63	361,558 17
" "	1882	1,593,174 09	55,025 03	224,572 61	187,389 02	425,231 54
" "	1883	1,763,001 97	62,503 14	269,415 01	178,617 86	361,604 01
" "	1884	1,577,295 42	60,993 99	280,657 29	192,219 38	372,561 69
" "	1885	1,504,621 47	58,297 59	280,229 20	201,708 47	321,289 47
" "	1886	1,333,324 80	31,984 02	282,323 63	198,251 97	328,977 43
" "	1887	1,783,698 16	65,983 06	285,172 62	198,888 84	321,784 88
" "	1888	1,033,118 34	120,561 59	292,458 76	201,928 93	317,902 04
" "	1889	972,918 43	162,015 49	301,040 23	240,261 36	333,188 90
" "	1890	1,026,364 24	146,853 54	290,516 63	176,089 00	354,816 92
" "	1891	1,318,092 15	165,843 87	294,562 12	204,768 45	349,431 90
" "	1892	1,147,149 30	194,129 61	293,115 58	231,089 54	324,475 24
" "	1893	2,069,573 30	196,185 84	291,588 97	204,759 39	357,089 87
" "	1894	3,027,164 19	109,216 33	294,146 34	179,630 13	387,788 97
" "	1895	2,452,273 65	216,057 58	281,477 04	164,033 71	339,890 49
" "	1896	2,258,778 97	85,820 49	292,121 05	209,321 60	339,538 72
" "	1897	2,341,016 16	101,205 74	287,970 36	178,385 47	384,780 53
" "	1898	3,207,249 79	82,400 55	280,872 44	203,478 86	407,652 81
" "	1899	3,899,877 31	82,205 60	280,628 57	202,312 36	369,044 38
" "	1900	2,639,564 93	120,653 93	292,609 24	227,626 97	322,642 86
Total		79,036,223 34	2,738,758 35	7,618,786 56	5,915,581 07	12,401,917 32

This does not include expenditure which has been charged to Canals,—General—but amounts expended on specified canals.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

S. LEONARD SHANNON,
Accountant.

HYDRAULIC AND OTHER RENTS.

Balances due July 1, 1899.	Accrued during the Year ended June 30, 1900.	Totals.	1899-1900.	Abatement.	Deposited to the Credit of the Receiver General.	Paid into hands of the Collectors.	Balance due June 30, 1900.	Totals.
$ cts.	$ cts.	$ cts.		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
31,263 06	12,041 43	43,304 49	Welland Canal	17 92	2,080 00	9,427 26	31,779 31	43,304 49
1,394 00	708 00	2,102 00	Williamsburg Canal			509 00	1,593 00	2,102 00
3,427 50	5,314 50	8,742 00	Cornwall "			6,164 50	2,577 50	8,742 00
7,668 33	2,692 67	10,361 00	Beauharnois "	240 00		1,957 00	8,164 00	10,361 00
17,147 65	28,250 88	45,398 53	Lachine "	701 58		28,020 64	16,673 31	45,398 53
350 84	123 00	473 84	Chambly "			98 00	375 84	473 84
2,155 04	2,967 65	5,122 69	Rideau "	198 33		1,746 80	3,267 56	5,122 69
72 00	80 50	152 50	Trent Valley "			69 50	83 00	152 50
	50 00	50 00	Sault Ste. Marie "			50 00		50 00
2,110 00	2,136 00	4,246 00	Carillon and Grenville Canal			28 00	4,218 00	4,246 00
8 00		8 00	Sundry Canals				8 00	8 00
65,596 42	54,364 63	119,961 05	Totals	1,070 83	2,080 00	48,070 70	68,739 52	119,961 05

S. LEONARD SHANNON,
Accountant.

Department of Railways and Canals,
Ottawa, October 31, 1900.

REVENUE STATEMENT.

Canal Revenue.				Total Canal Revenue Accrued.	Hydraulic and other Rents.	Total.	Collection Division.	Deposits to the Credit of the Receiver General.		Total.	Cost of Staff, Repairs and Offices of Collection, Chargeable to Revenue.
Tolls.	Wharfage and Storage.	Fines.	Other Receipts.					On account, Canal Revenue.	On account, Hydraulic Rents.		
$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.		$ cts.	$ cts.	$ cts.	$ cts.
							Welland Canal				149,690 85
79,711 62		10 00	51 24	79,772 86	1,084 00	80,856 86	Port Colborne	79,772 86	1,084 00	80,856 86	3,338 12
26,260 94		30 00	29 26	26,320 20	654 00	26,974 20	Port Dalhousie	26,320 20	654 00	26,974 20	2,214 27
375 96				375 96	405 00	780 96	Dunnville	375 96	405 00	780 96	778 22
289 28		15 00	32 08	336 36	7,279 26	7,615 62	St. Catharines	336 36	7,279 26	7,615 62	225 87
28 67				28 67	5 00	33 67	Chippawa	28 67	5 00	33 67	124 96
					2,080 00	2,080 00	Accountant		2,080 00	2,080 00	
106,666 47		55 00	112 58	106,834 05	11,507 26	118,341 31	Totals	106,834 05	11,507 26	118,341 31	156,372 29
							St. Lawrence Canals				197,054 18
2,250 74				2,250 74		2,250 74	Coteau Landing	2,250 74		2,250 74	644 48
7,772 34		49 00		7,821 34	1,957 00	9,778 34	Beauharnois	7,821 34	1,957 00	9,778 34	1,032 80
31,583 47		35 00		31,613 47	6,164 50	37,777 97	Cornwall	31,613 47	6,164 50	37,777 97	1,768 94
392 46				392 46	509 00	901 46	Cardinal	392 46	509 00	901 46	494 80
23,450 82	3 39		1,720 39	5,174 60		5,174 60	Lachine	5,174 60		5,174 60	2,171 96
26,528 98	2,105 97		7,621 35	36,256 30	28,020 64	64,276 94	Montreal	36,256 30	28,020 64	64,276 94	7,377 59
15,079 13				15,079 13		15,079 13	Kingston	15,079 13		15,079 13	693 00
87,056 94	2,109 36	80 00	9,341 74	98,588 04	36,651 14	135,239 18	Totals	98,588 04	36,651 14	135,239 18	211,237 75
							Chambly Canal				37,255 11
11,439 41		10 00		11,449 41		11,449 41	Chambly	11,449 41		11,449 41	1,663 55
13,388 34				13,388 34	98 00	13,486 34	St. Johns	13,388 34	98 00	13,486 34	1,810 31
686 22				686 22		686 22	St. Ours	686 22		686 22	614 80
25,513 97		10 00		25,523 97	98 00	25,621 97	Totals	25,523 97	98 00	25,621 97	41,343 77
							Ottawa Canals				33,005 49
22,257 89				22,257 89		22,257 89	Ottawa	22,257 89		22,257 89	
7,172 94				7,172 94	5 00	7,177 94	Grenville	7,172 94	5 00	7,177 94	471 66
38 53		10 00		48 53	23 00	71 53	Carillon	48 53	23 00	71 53	676 97
1,038 17				1,038 17		1,038 17	St. Anne's Lock	1,038 17		1,038 17	686 98
30,507 53		10 00		30,517 53	28 00	30,545 53	Totals	30,517 53	28 00	30,545 53	34,841 10

							Rideau Canal				60,860 36
4,314 80	26 46		300 00	4,641 26	1,450 25	6,091 51	Ottawa	4,641 26	1,450 25	6,091 51	2,422 04
1,152 53				1,152 53	230 00	1,382 53	Kingston Mills	1,152 53	230 00	1,382 53	447 16
664 93			15 00	679 93	66 55	746 48	Smith's Falls	679 93	66 55	746 48	337 85
6,132 26	26 46		315 00	6,473 72	1,746 80	8,220 52	Totals	6,473 72	1,746 80	8,220 52	64,067 41
3,340 29				3,340 29		3,340 29	*St. Peter's Canal*	3,340 29		3,340 29	4,517 14
							Murray Canal				8,881 03
711 12				711 12		711 12	Brighton	711 12		711 12	399 17
711 12				711 12		711 12	Totals	711 12		711 12	9,280 20
							Trent Valley Canal				15,120 78
76 50			1 20	77 70	1 00	78 70	Burleigh	77 70	1 00	78 70	
536 70			74 00	610 70		610 70	Bobcaygeon	610 70		610 70	
160 65				160 65	51 00	211 65	Fenelon Falls	160 65	51 00	211 65	
43 27				43 27		43 27	Hastings	43 27		43 27	10 00
302 27				302 27	17 50	319 77	Peterborough	302 27	17 50	319 77	25 58
108 44				108 44		108 84	Buckhorn	108 44		108 44	
1,227 83			75 20	1,303 03	69 50	1,372 53	Totals	1,303 03	69 50	1,372 53	15,156 36
					50 00	50 00	*Sault Ste. Marie Canal*		50 00	50 00	28,502 17
							Dredge Vessels				8,998 41
							Inspection				94 04
							Department of Public Printing and Stationery				757 65
							General				3,901 49
							Totals				13,754 59
261,156 41	2,135 82	155 00	9,844 52	273,291 75	50,150 70	323,442 45	Grand Totals	273,291 75	50,150 70	323,442 45	579,072 78
							Less Refunds	757 93	41 66	799 59	
							Net Revenue collected	272,533 82	50,109 04	322,642 86	579,072 78

S. LEONARD SHANNON,
Accountant.

Department of Railways and Canals,
Ottawa, October 31, 1900,

INTERCOLONIAL RAILWAY.

(Including amounts paid to Nova Scotia Railway and European and North American Railway, N.B.)

——	Year.	Construction.	Income.	Working Expenses including Windsor Branch Ry.	Revenue received, including Windsor Branch Ry.
		$ cts.	$ cts.	$ cts.	$ cts.
Expenditure prior to Confederation		10,766,725 54			
" since "	1868	483,357 65		359,961 08	420,752 58
" " "	1869	282,615 18		387,548 47	455,022 76
" " "	1870	1,729,381 49		445,208 75	471,245 09
" " "	1871	2,916,782 13		442,993 31	565,713 52
" " "	1872	5,131,141 51		595,076 22	622,900 56
" " "	1873	5,201,450 37		1,011,892 60	703,458 26
" " "	1874	3,614,898 81		1,847,175 24	893,430 17
" " "	1875	3,426,099 55		1,532,589 62	861,593 43
" " "	1876	1,108,321 59		1,277,197 79	848,861 46
" " "	1877	1,318,352 19		1,661,673 55	1,154,445 35
" " "	1878	408,816 74		1,811,273 56	1,378,946 78
" " "	1879	226,639 19		2,010,183 22	1,294,099 69
" " "	1880	2,048,014 60		1,607,956 70	1,520,310 45
" " "	1881	608,732 80		1,780,353 53	1,777,856 76
" " "	1882	585,568 79		2,080,592 37	2,100,315 85
" " "	1883	1,616,632 96		2,383,477 20	2,395,034 99
" " "	1884	1,405,377 52		2,366,719 95	2,376,666 19
" " "	1885	1,195,363 08		2,460,229 87	2,392,605 00
" " "	1886	544,958 17		2,508,473 10	2,406,858 88
" " "	1887	823,070 86		2,854,158 91	2,621,337 41
" " "	1888	742,203 09		3,300,481 94	2,937,337 40
" " "	1889	675,228 13		3,174,785 19	2,923,736 46
" " "	1890	365,246 48		3,500,455 80	2,958,243 38
" " "	1891	79,929 34		3,691,273 65	3,007,630 51
" " "	1892	168,101 77		3,458,891 39	2,978,950 82
" " "	1893	228,984 79		3,062,207 45	3,099,815 20
" " "	1894	166,362 43		2,999,317 07	3,020,485 74
" " "	1895	327,034 51		2,964,940 98	2,979,795 59
" " "	1896	259,105 23		3,029,304 08	2,994,201 93
" " "	1897	145,142 00		2,936,789 71	2,906,631 25
" " "	1898	252,367 20	70,000 00	3,275,830 14	3,154,896 49
" " "	1899	1,081,929 94	210,000 00	3,478,559 30	3,775,558 08
" " "	1900	1,796,348 29		4,444,296 25	4,599,423 14
Total		*51,710,279 92	280,000 00	74,741,867 99	68,598,161 17

* Including $236,872.90 charged to "Consolidated Fund."

Total cost of construction as above		$ 51,710,279 92
Less amounts transferred from Capital to Consolidated Fund as follows:—		
	Nova Scotia Ry.	European and North American Ry.
1868	$ 16,800 99	$ 11,302 89
1870	24,403 45	1,749 21
1871	50,465 69	
1873	106,899 59	75,311 08
	$ 208,569 72	$ 88,363 18
		208,569 72
		296,872 90
		$ 51,413,407 02
Cape Breton Railway, page 35		3,860,679 14
Oxford and New Glasgow Railway, page 36		1,949,063 21
Eastern Extension Railway, page 33		1,324,042 81
Montreal and European Short Line Railway, page 37		333,942 72
Drummond County Railway, page 41		1,459 000 00
Total Capital cost of Intercolonial Railway system		$ 60,340,134 90
Governor General's car "Victoria"		1,290 31
Agreeing with Public Accounts, 1900, page xvi		$ 60,341,425 21

S. LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

EASTERN EXTENSION RAILWAY.

——	Year.	Capital.	Working Expenses.	Revenue received.
		$ cts.	$ cts.	$ cts.
Government expenditure prior to Confederation				
" since "	1868			
" " "	1869			
" " "	1870			
" " "	1871			
" " "	1872			
" " "	1873			
" " "	1874			
" " "	1875			
" " "	1876			
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" " "	1878			
" " "	1879			
" " "	1880			
" " "	1881			
" " "	1882			
" " "	1883			
" " "	1884	1,284,311 97	10,033 77	30,767 66
" " "	1885	2,055 92	78,273 65	73,050 01
" " "	1886	183 79	94,756 06	66,893 11
" " "	1887		94,254 04	64,107 10
" " "	1888		90,954 73	70,552 20
" " "	1889	34,235 73	90,719 04	72,436 65
" " "	1890		79,102 77	84,658 95
" " "	1891	3,255 40	*	†
" " "	1892		*	†
" " "	1893		*	†
" " "	1894		*	†
" " "	1895		*	†
" " "	1896		*	†
" " "	1897		*	†
" " "	1898		*	†
" " "	1899		*	†
" " "	1900		*	†
Total		‡ 1,334,042 81	538,094 06	462,465 68

* Included in Intercolonial Railway working expenses. † Included in Intercolonial Railway revenue.
‡ Included in total cost of Intercolonial Railway system, page 32.

S. LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

CARLETON BRANCH RAILWAY.

	Year.	Capital.	Working Expenses.	Revenue received.
		$ cts.	$ cts.	$ cts.
Government expenditure prior to Confederation.....				
" since "	1868			
" " "	1869			
" " "	1870			
" " "	1871			
" " "	1872			
" " "	1873			
" " "	1874			
" " "	1875			
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" " "	1884			
" " "	1885			
" " "	1886	85,610 69		
" " "	1887	2,299 62		
" " "	1888	500 17		
" " "	1889			
" " "	1890			
" " "	1891			
" " "	1892			
" " "	1893			
" " "	1894			
" " "	1895			
" " "	1896			
" " "	1897			
" " "	1898			
" " "	1899			
" " "	1900			
Total.....	.....	*88,410 48	.....	.....

*56 Victoria, cap. 6, transferred the Carleton Branch Railway to the city of St. John, N.B., for the sum of $40,000, which sum was paid in March, 1893, to the Receiver General.

S. LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

CAPE BRETON RAILWAY.

	Year.	Capital.	Working Expenses.
		$ cts.	$ cts.
Government expenditure prior to Confederation	1868		
" since "	1869		
" " "	1870		
" " "	1871		
" " "	1872		
" " "	1873		
" " "	1874		
" " "	1875		
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" " "	1885		
" " "	1886		
" " "	1887	76,501 89	
" " "	1888	689,450 50	
" " "	1889	1,083,276 60	
" " "	1890	1,170,523 62	
" " "	1891	521,441 62	
" " "	1892	99,936 96	
" " "	1893	59,982 74	
" " "	1894	158,770 61	
" " "	1895	*	
" " "	1896	*	
" " "	1897	405 00	
" " "	1898	389 60	
" " "	1899		
" " "	1900		
Total		§3,860,679 14	†

* Included in Intercolonial Railway capital. † Included in Intercolonial Railway working expenses.
§ Included in total cost of Intercolonial Railway system, see page 32.

S. LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

OXFORD AND NEW GLASGOW.

—	Year.	Capital.	Working Expenses.
		$ cts.	$ cts.
Government expenditure prior to Confederation	1868		
" since "	1869		
" " "	1870		
" " "	1871		
" " "	1872		
" " "	1873		
" " "	1874		
" " "	1875		
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" " "	1885		
" " "	1886		
" " "	1887		
" " "	1888	280,932 35	
" " "	1889	840,553 57	
" " "	1890	434,074 60	
" " "	1891	220,886 39	
" " "	1892	48,745 23	
" " "	1893	7,922 80	
" " "	1894	112,382 75	
" " "	1895	*	
" " "	1896	*	
" " "	1897	3,565 52	
" " "	1898		
" " "	1899		
" " "	1900		
Total ...		‡ 1,949,063 21	†

* Included in Intercolonial Railway capital. † Included in Intercolonial Railway working expenses.
‡ Included in total cost of Intercolonial Railway system, page 32.

S. LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

SESSIONAL PAPER No. 20

MONTREAL AND EUROPEAN SHORT LINE RAILWAY.

——	Year.	Construction.	Working Expenses.
		$ cts.	$ cts.
Government expenditure prior to Confederation	1868		
" since "	1869		
" " "	1870		
" " "	1871		
" " "	1872		
" " "	1873		
" " "	1874		
" " "	1875		
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" " "	1880		
" " "	1881		
" " "	1882		
" " "	1883		
" " "	1884		
" " "	1885	40,587 45	
" " "	1886	135,214 38	
" " "	1887	24,157 32	
" " "	1888	397 35	
" " "	1889		
" " "	1890		
" " "	1891	124,568 23	
" " "	1892		
" " "	1893		
" " "	1894	17 99	
" " "	1895		
" " "	1896		
" " "	1897		
" " "	1898		
" " "	1899		
" " "	1900		
Total		*333,942 72	

* Included in total cost of Intercolonial Railway system, page 32.

S. LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

PRINCE EDWARD ISLAND RAILWAY.

	Year.	Construction.	Working Expenses.	Revenue received.
		$ cts.	$ cts.	$ cts.
Government expenditure prior to Confederation		3,114,735 11		
" since " "	1874		750 00	
" " " "	1875	46,086 63	49,344 62	24,493 99
" " " "	1876	42,546 10	219,930 43	118,060 96
" " " "	1877	200,000 00	228,595 25	130,664 92
" " " "	1878	6,551 86	221,599 49	135,899 60
" " " "	1879	40,129 05	223,313 12	125,855 91
" " " "	1880	16,539 82	164,640 55	113,851 11
" " " "	1881		203,122 88	131,131 43
" " " "	1882	402 03	228,259 97	137,267 54
" " " "	1883	57,186 02	252,808 41	146,170 42
" " " "	1884	130,663 38	236,428 13	144,504 12
" " " "	1885	76,956 56	211,207 01	158,588 06
" " " "	1886	4,668 33	216,744 34	155,584 36
" " " "	1887	5,800 00	204,237 45	155,303 37
" " " "	1888		229,639 95	158,363 62
" " " "	1889		247,559 44	171,369 56
" " " "	1890		266,485 85	160,971 78
" " " "	1891		257,990 08	174,258 65
" " " "	1892	8,360 49	289,706 38	157,442 69
" " " "	1893		226,422 17	162,690 42
" " " "	1894		226,891 06	158,533 83
" " " "	1895		232,905 19	149,654 78
" " " "	1896		225,138 56	146,476 54
" " " "	1897		240,489 90	153,443 13
" " " "	1898	17,541 88	231,418 74	158,950 61
" " " "	1899	22,000 00	218,053 01	165,012 03
" " " "	1900	53,546 02	220,931 81	174,758 73
Total		*3,843,653 28	5,774,613 79	3,769,281 56

* Agrees with Public Accounts Balance Sheet, 1899-1900, page xvi.

S LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

CANADIAN PACIFIC RAILWAY.

	Year.	Construction, including Subsidy of $25,000,000.	Working Expenses.	Revenue received.
		$ cts.	$ cts	$ cts
Government expenditure prior to Confederation				
" since " "	1868			
" " " "	1869			
" " " "	1870			
" " " "	1871	30,148 32		
" " " "	1872	489,428 16		
" " " "	1873	561,818 44		
" " " "	1874	310,224 88		
" " " "	1875	1,546,241 67		
" " " "	1876	3,346,567 06		
" " " "	1877	1,691,149 97		
" " " "	1878	2,228,373 13		
" " " "	1879	2,240,285 47		
" " " "	1880	4,044,522 72	78,892 01	104,975 69
" " " "	1881	4,968,503 93	236,944 98	291,498 06
" " " "	1882	(1) 4,589,075 79	1,786 20	
" " " "	1883	(2) 10,033,800 04	266 09	
" " " "	1884	(3) 11,192,722 02	327 02	
" " " "	1885	(4) 9,900,281 53		
" " " "	1886	(5) 3,672,584 81		
" " " "	1887	(6) 915,057 49		
" " " "	1888	52,098 65		
" " " "	1889	86,716 07		
" " " "	1890	40,980 54		
" " " "	1891	37,367 00		
" " " "	1892	66,211 39		
" " " "	1893	413,836 49		
" " " "	1894	146,539 87		
" " " "	1895	49,209 77		
" " " "	1896	65,669 49		
" " " "	1897	14,054 50		
" " " "	1898	692 17		
" " " "	1899	8,418 53		
" " " "	1900	236 11		
Total		*62,742,816 01	318,216 30	396,473 75

* Agrees with Public Accounts Balance Sheet, 1899-1900, page xx.

(1) Including $ 2,210,000 00 on account subsidy.
(2) " 5,323,076 60 "
(3) " 7,254,208 27 "
(4) " 6,862,201 00 "
(5) " 2,890,427 00 "
(6) " 460,087 13 "

*$25,000,000 00

* *See* also Statement No. 3, page 47, for this expenditure.

S. LEONARD SHANNON,
Accountant

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

ANNAPOLIS AND DIGBY RAILWAY.

	Year.	Capital.	Working Expenses.
		$ cts.	$ cts.
Government expenditure prior to Confederation			
" since "	1868		
" " "	1869		
" " "	1870		
" " "	1871		
" " "	1872		
" " "	1873		
" " "	1874		
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" " "	1886		
" " "	1887		
" " "	1888		
" " "	1889	9,847 27	
" " "	1890	381,942 75	
" " "	1891	196,869 36	
" " "	1892	26,189 89	
" " "	1893	2,190 62	
" " "	1894	1,675 36	
" " "	1895	570 55	
" " "	1896		
" " "	1897	41,457 29	
" " "	1898		
" " "	1899		
" " "	1900		
Total		*660,683 09	

* Of this amount Parliament voted under 52 Vic., chap. 8, the sum of $500,000 as a subsidy to the Western Counties Railway, which is also shown in the statement of subsidies, page 47.

S. LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

DRUMMOND COUNTY RAILWAY.

	Year.	Construction.	Working Expenses.
		$ cts	$ cts.
Government expenditure prior to Confederation	1868		
" since " "	1869		
" " "	1870		
" " "	1871		
" " "	1872		
" " "	1873		
" " "	1874		
" " "	1875		
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" " "	1897		
" " "	1898		
" " "	1899		
" " "	1900	1,459,000 00	
Total		*1,459,000 00	

* Included in total cost of Intercolonial Railway system, page 2.

S. LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

STATEMENT showing amount expended on Capital Account on Railways.

Railways.	——	——
	$ cts.	$ cts.
Intercolonial	51,413,407 02	
Cape Breton	3,860,679 14	
Oxford and New Glasgow	1,949,063 21	
Eastern Extension	1,324,042 81	
		58,547,192 18
Carleton Branch		48,410 48
Montreal and European Short Line		333,942 72
Prince Edward Island		3,843,653 28
Canadian Pacific		62,742,816 01
Annapolis and Digby		660,683 09
Governor General's car "Victoria"		1,290 31
Drummond County		1,459,000 00
Total		127,636,988 07

Memo. re Recapitulation—Railways.

Total cost as per statement above	127,636,988 07
Add amounts transferred from Capital to Consolidated Fund, Intercolonial Railway, see statement page 32	296,872 90
Agreeing with total cost of construction, as per statement page 43	127,933,860 97

S. LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

RECAPITULATION—RAILWAYS.

	Year.	Construction.	Working Expenses.	Revenue Received.
		$ cts.	$ cts.	$ cts.
Government expenditure prior to Confederation		13,881,460 65		
" since "	1868	483,355 65	359,461 08	420,752 58
" " "	1869	282,615 18	387,548 47	455,022 76
" " "	1870	1,720,381 49	445,208 75	171,245 69
" " "	1871	2,946,930 45	442,993 31	565,713 52
" " "	1872	5,620,569 67	595,076 22	622,900 56
" " "	1873	5,763,268 81	1,011,892 60	703,458 26
" " "	1874	3,925,123 69	1,847,925 24	893,430 17
" " "	1875	5,018,427 85	1,581,934 24	886,087 42
" " "	1876	4,497,434 75	1,497,128 22	966,922 42
" " "	1877	3,209,502 16	1,850,268 80	1,285,110 27
" " "	1878	2,643,741 73	2,032,873 05	1,514,846 38
" " "	1879	2,507,053 71	2,233,496 34	1,419,955 60
" " "	1880	6,109,077 14	1,851,489 26	1,739,137 25
" " "	1881	5,577,236 75	2,220,421 39	2,200,486 25
" " "	1882	5,175,046 61	2,310,638 54	2,237,583 39
" " "	1883	11,707 619 02	2,636,551 70	2,541,205 41
" " "	1884	14,013,074 89	2,613,508 87	2,551,937 97
" " "	1885	11,224,244 54	2,749,710 53	2,624,243 07
" " "	1886	4,443,220 17	2,819,973 50	2,628,336 35
" " "	1887	1,846,887 18	3,152,650 40	2,840,747 88
" " "	1888	1,765,582 11	3,621,076 62	3,166,253 22
" " "	1889	2,760,857 37	3,513,063 67	3,167,542 67
" " "	1890	2,302,767 99	3,846,044 42	3,203,874 11
" " "	1891	1,184,317 34	3,949,263 73	3,181,888 56
" " "	1892	417,425 73	3,748,597 77	3,136,393 51
" " "	1893	711,917 44	3,288,629 62	3,262,505 62
" " "	1894	585,749 01	3,226,208 13	3,179,019 57
" " "	1895	376,814 83	3,197,846 17	3,129,450 37
" " "	1896	324,774 72	3,254,442 64	3,140,678 47
" " "	1897	204,624 31	3,195,959 58	3,060,074 38
" " "	1898	270,990 85	3,507,248 88	3,313,847 10
" " "	1899	1,112,348 47	3 696,612 31	3,940,570 11
" " "	1900	3,303,130 42	4,665,228 06	4,774,161 87
Total		*127,972,570 66	81,391,472 11	73,225,382 16

*Total amount paid on construction $127,972,570 66

Less amount received from the City of St. John, N.B., as purchase of the Carleton Branch Railway 40,000 00

Total cost of construction $127,932,570 66

Add expenditure Governor General's car "Victoria" 1,290 31

Agreeing with amount expended on capital, see page 42 ..... $127,933,860 97

S. LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

RECAPITULATION—RAILWAYS AND CANALS.

EXPENDITURE.

Railways—Capital Account, *see* statement page 42			$ 127,636,988 07
Canals— " " 27			79,043,784 09
Total cost of Government Railways and Canals, Capital Account			$ 206,680,772 16
Railway Subsidies, chargeable to Consolidated Fund as per Statement No. 3, page 47		$ 48,727,562 51	
Less subsidies already included in Railways Capital Account (statement page 42) to Canadian Pacific Railway	$ 25,000,000 00		
Western Counties Railway	500,000 00		
		25,500,000 00	
			23,227,562 51
Total expenditure on Railways and Canals, Capital Account, and Railway Subsidies			$ 229,908,334 67

REVENUE.

Canals, revenue received from July 1, 1867, to June 30, 1900. (For details *see* page 28)		$ 12,401,917 32
Railways, revenue received from July 1, 1867, to June 30, 1900. (For details *see* page 43)		73,225,382 16
Total revenue received to July 1, 1900		$ 85,627,299 48
Memo. of cost of operating and maintaining Railways and Canals to June 30, 1900:—		
Canals chargeable to income, *see* page 28		$ 2,738,758 35
Less prior to Confederation		98,378 46
		$ 2,640,379 89
From Confederation (July 1, 1867) to June 30, 1900:—		
Staff, *see* page 28		7,618,786 56
Repairs "		5,915,581 07
Total Canals		$ 16,174,747 52
Railways, Working expenses, *see* page 43		81,391,472 11
Total		$ 97,566,219 63

*This amount does not include the annual payment of $119,700 to the Provincial Government of Quebec, being interest at the rate of 5 per cent on the sum of $2,394,000 granted by 47 Vic., ch. 8 (1884), for the line between Ottawa and Quebec, which sum has now been transferred to the public debt as a liability. (*See* Public Accounts, 1898-99, p. x.) This item is dealt with by the Finance Department.

S. LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

MISCELLANEOUS expenditure, not included in preceding Statements.

——	Year ending June 30.	Chargeable to Capital.	Chargeable to Income.	Chargeable to Revenue.
		$ cts.	$ cts.	$ cts.
	1868	.....	6,305 66	14,416 66
	1869	.....	8,367 52	13,000 00
	1870	.....	7,853 03	26,378 67
	1871	.....	34,773 72	12,018 98
	1872	.....	20,049 50	12,208 76
	1873	.....	36,891 74	18,988 64
	1874	.....	40,098 84	18,388 23
	1875	.....	35,579 24	17,667 60
	1876	.....	42,920 10	5,776 36
	1877	.....	.....	43,691 84
	1878	.....	1,860 00	34,944 59
	1879	.....	.....	.....
	1880	.....	2,561 55	323 16
	1881	.....	2,338 41	5,535 22
	1882	.....	.....	9,826 23
	1883	.....	11,781 27	6,978 54
	1884	.....	69,743 20	8,305 41
	1885	.....	27,728 85	1,210 61
	1886	.....	30,707 21	776 30
	1887	.....	44,418 55	649 04
	1888	.....	57,431 97	5,799 83
	1889	.....	26,644 51	5,207 64
	1890	.....	68,136 43	49,550 21
	1891	.....	33,239 72	56,922 05
	1892	.....	25,603 00	65,074 07
	1893	.....	41,453 07	63,965 54
	1894	.....	24,780 27	60,265 22
	1895	.....	43,221 62	60,769 56
	1896	1,290 31	41,359 50	70,340 22
	1897	.....	33,199 36	63,374 51
	1898	.....	38,089 75	57,684 42
	1899	.....	90,409 84	66,850 29
	1900	.....	68,173 02	81,638 75
		1,290 31	1,015,720 95	958,527 15

S. LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA October 31, 1900.

A. 1901

No. 3.

STATEMENT showing Subsidies voted for Railways as to which contracts have been entered into and payments made up to June 30, 1900.

Statutes voted: Authority			Amount	Railways	Payments: 1883-84	1884-85	1885-86	1886-87	1887-88	1888-89	1889-90	1890-91	1891-92	1892-93	1893-94	1894-95	1895-96	1896-97	1897-98	1898-99	1899-00	Total June 30, 1900.
			$ cts.		$	$	$	$	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	
46 Vic.	chap.	25	156,800 00	International Railway, Quebec	141,000				8,960 00		3,840 00											156,800 00
63	do	2																				
15	do	14	384,000 00																			
46	do	25	800,000 00																			
48	do	50	96,000 00																			
49	do	10	192,000 00																			
50 1	do	24	288,000 00	Quebec and Lake St. John Railway, Quebec	32,000	37,027	146,745	262,219	232,013 00	19,911 00	38,440 00	70,350 00	26,222 73	76,671 77	81,600 00		3,744 00					1,006,743 50
51	do	3	48,000 00																			
52	do	3	64,000 00																			
53	do	2	30,000 00																			
54 5	do	8	92,240 00																			
57 8	do	4	41,800 00																			
46	do	25	80,000 00																			
49	do	10	70,000 00																			
50 1	do	24	128,000 00	Kingston, Napanee and Western Railway (formerly Napanee, Tamworth and Quebec Railway, Ontario	32,000	37,000					95,741 00	7,000 00		1,856 00	13,932 80							208,732 80
52	do	3	32,000 00																			
55 6	do	5	14,000 00																			
47	do	8	272,000 00																			
51	do	3	41,000 00	Pontiac Pacific Junction Railway, Quebec		49,000	11,000	60,580	24,158 00							18,750 00						163,078 00
53	do	2	24,000 00																			
46	do	25	115,200 00																			
47	do	8	46,800 00	Carleton Railway, N B		32,000	76,800	61,200	40,050 00	13,950 00												224,000 00
50 1	do	24	32,000 00																			
47	do	8	32,000 00																			
49	do	10	5,440 00																			
50	do	3	72,000 00																			
51	do	3	72,000 00	Great Northern Railway, Quebec		27,088					20,000 00	9,500 00	24,100 00			32,000 00	32,000 00			32,000 00		174,688 00
53	do	2	16,000 00																			
56	do	2	16,000 00																			
57 8	do	4	96,000 00																			
47	do	8	48,000 00	Kingston and Pembroke Railway, Ontario		48,000																48,000 00
49	do	14	640,000 00																			
50	do	26	640,000 00	Northern and Pacific Junction Railway, Ont.		134 440	1,064,560	78,370			33,000 00	600 00										1,329,000 00
53	do	2																				
1	do	8	128,000 00																			
48 9	do	51	192,000 00																			
49	do	10	64,000 00																			
48 9	do	50	254,440 84	Canada Eastern Railway (formerly Northern and Western Railway, N B) including the Chatham Branch Railway			128,000	18,200	170,000 00	6,300 00	100 00		21,439 84			30,000 00					8,000 00	374,039 84
51	do	3	120,000 00																			
57 8	do	4	65,800 00																			
62 3	do	2																				
47	do	8	140,342 00																			
51	do	3		Quebec Central Railway, Quebec			140,342										208,000 00					348,342 00
53	do	2	208,000 00																			
48 9	do	50	72,000 00																			
50	do	2	94,000 00	Montreal and Sorel Railway, Quebec			64,972	4,950			6,719 50	17,116 07										93,757 57
48 9	do	50	30,000 00																			
50 1	do	24	64,000 00	Montreal and Champlain Junction Railway, Quebec			30,000		16,400 00	26,700 00	5,400 00			15,100 00								103,600 00
51	do	3	8,000 00																			
46	do	25	88,000 00																			
51	do	3	44,252 82	Elgin, Petitcodiac and Havelock Railway, N			38,400						41,252 82									82,652 82
47	do	8	22,400 00	St. Louis and Richelieu Railway, N			22,400															22,400 00
48 9	do	50	94,000 00																			
49	do	10	38,400 00	Canada Atlantic Railway, Ontario		48,480	41,384			9,491 20	149,812 00	30,188 00										282,355 20
50 1	do	24	192,000 00																			
47	do	16	750,000 00	Esquimalt and Nanaimo Railway, B C			422,520	327,480														750,000 00
47	do	8	96,000 00	Erie and Huron Railway, Ontario				96,000														96,000 00
46	do	25	320,000 00																			
47	do	8		Baie des Chaleurs Railway, Quebec				240,000	50,200 00	73,200 00	148,675 00				95,925 00							620,000 00
52	do	3	300,000 00																			
48 9	do	50	118,000 00	New Brunswick and Prince Edward Railway, N B				97,440	16,000 00													113,440 00
50 1	do	24	217,600 00	St. Lawrence, Lower Laurentian and Saguenay Railway, Quebec now Laurentian Railway				64,420	28,380 00			32,003 00	92,781 00									217,600 00
49	do	10	11,200 00	L'Assomption Railway, Quebec				11,200														11,200 00
49	do	10	32,000 00																			
50 1	do	24	96,000 00																			
56	do	2	64,000 00	Great Eastern Railway, Quebec				19,200				16,300 00	4,845 00									40,345 00
53	do	2	37,500 00																			
47	do	8	160,000 00	Irondale, Bancroft and Ottawa Railway, Ontario				15,000						17,000 00	32,000 00	32,000 00		48,000 00				144,000 00
52	do	3																				
49	do	10	96,000 00	Buctouche and Moncton Railway, N B				40,480	20,573 57		4,366 00	1,600 43			34,580 00							101,600 00
50 1	do	24	16,400 00																			
47	do	8	51,200 00	Albert Southern Railway, N B				1,000	18,428 57	1,367 00		10,084 37	18,960 00									59,460 00
52	do	3																				
50 1	do	24	65,280 00	Lake Temiscamingue Colonization Railway, Quebec				14,000	3,000 00	9,000 00	20,309 00					233,198 95	17,900 75	6,476 25				310,335 95
57 8	do	4	274,940 00																			
49	do	10	38,400 00	Jacques Railway, N S					26,138 78		9,761 22	1,600 00										37,500 00
50 1	do	24	4,000 00																			
45	do	14	240,000 00																			

48-9	do	59	24,439 84	way, N.B., including also Chatham Branch Railway																			
51	do	3	140,801 00																				
52-3	do	1	35,280 00																				
47	do	8	60,342 00	Quebec Central Railway, Quebec			60,342										288,000 00						348,342 00
51	do	3																					
53	do	2	288,000 00																				
48-9	do	59	72,000 00	Montreal and Sorel Railway, Quebec			64,972	4,950			6,719 50	17,116 07											93,757 57
53	do	2	40,000 00																				
48-9	do	59	30,000 00	Montreal and Champlain Junction Railway, Quebec			30,000		16,400 00	36,700 00	5,400 00			15,100 00									103,600 00
50-1	do	24	64,000 00																				
51	do	3	9,000 00																				
46	do	25	38,400 00	Elgin, Petitcodiac and Havelock Railway, N.B.			38,400						44,252 82										82,652 82
51	do	3	44,252 82				22,400																22,400 00
47	do	8	22,400 00	St. Louis and Richibucto Railway, N.B																			
48-9	do	59	96,000 00	Canada Atlantic Railway, Ontario			48,480	44,384		9,491 20	149,812 00	30,188 00											282,355 20
49	do	10	38,400 00																				
50-1	do	24	180,000 00	Esquimalt and Nanaimo Railway, B.C			422,520	327,480															750,000 00
47	do	6	750,000 00	Erie and Huron Railway, Ontario				96,000															96,000 00
47	do	8	96,000 00																				
47	do	25	320,000 00	Baie des Chaleurs Railway, Quebec				250,000	50,300 00	75,200 00	148,675 00				95,825 00								620,000 00
47	do	8	300,000 00																				
52	do	3						97,440	16,000 00														113,440 00
48-9	do	59	178,400 00	New Brunswick and Prince Edward Railway, N.B																			
50-1	do	24	217,600 00	St. Lawrence, Lower Laurentian and Saguenay Railway, Quebec, now Laurentian Railway				64,430	28,383 00			32,003 00	92,784 00										217,600 00
49	do	10	11,200 00	L'Assomption Railway, Quebec				11,200															11,200 00
49	do	10	32,000 00																				
50-1	do	24	96,000 00	Great Eastern Railway, Quebec				19,200				16,300 00	4,845 00										40,345 00
50	do	2	64,000 00																				
53	do	2	37,500 00																				
47	do	8	160,000 00	Irondale, Bancroft and Ottawa Railway, Ontario				15,000						17,000 00	32,000 00	32,000 00			48,000 00				144,000 00
52	do	3																					
49	do	10	96,000 00	Buctouche and Moncton Railway, N.B				40,480	20,573 57		4,366 00	1,600 43			34,580 00								101,600 00
50-1	do	24	6,400 00																				
47	do	8	51,200 00	Albert Southern Railway, N.B				1,000	18,428 57	1,387 06		10,684 37	18,960 00										50,460 00
52	do	3																					
50-1	do	24	465,200 00	Lake Temiscamingue Colonization Railway, Quebec				14,400	3,000 00	9,000 00	26,360 00						233,198 95	17,800 75	6,476 25				310,335 95
57-8	do	4	274,940 00																				
49	do	10	38,400 00	Joggins Railway, N.S					26,138 78		9,761 22	1,600 00											37,500 00
50-1	do	24	4,000 00																				
47	do	14	240,000 00																				
48-9	do	58	258,000 00	Temiscouata Railway, N.B., and Quebec					249,684 00	163,216 00	74,300 00	82,770 00	54,830 00	21,150 00									645,950 00
51	do	3	100,000 00																				
53	do	2	51,200 00																				
48-9	do	59	44,800 00	Leamington and St. Clair Railway, Ontario					32,000 00	19,200 00													51,200 00
50-1	do	24	6,400 00																				
49	do	10	16,000 00	Toronto, Grey and Bruce Railway, Ontario					14,656 00														14,656 00
50-1	do	24	22,400 00	Dominion Line Co., Quebec					11,840 00	3,520 00													15,360 00
49	do	10	256,000 00	West Ontario Pacific Railway and Ontario and Quebec Railway					60,000 00	800 00	189,200 00	6,000 00											256,000 00
53	do	2																					
50-1	do	24	96,000 00																				
52	do	3	14,400 00	Drummond County Railway, Quebec					15,057 00	13,815 00	12,428 00	136,000 00	5,105 00	13,435 00		92,096 00				136,000 00			423,936 00
53	do	2	76,800 00																				
57-8	do	4	96,000 00																				
48-9	do	59	128,000 00																				
53	do	2		Brockville, Westport and Sault Ste. Marie Railway, Ontario						45,000 00		47,400 00	12,800 00										105,200 00
54-5	do	8	64,000 00																				
57-8	do	4																					
49	do	10	32,000 00	Montreal and Lake Maskinonge Railway, Quebec						19,700 00	20,080 00	1,500 00											41,280 00
53	do	2	10,200 00																				
50-1	do	24	54,400 00	South Norfolk Railway, Ontario						54,400 00													54,400 00
50-1	do	24	51,200 00	Guelph Junction Railway, Ontario						46,000 00													46,000 00
48-9	do	59	22,400 00	Belleville and North Hastings Railway, Ontario						21,888 00													21,888 00
49	do	10																					
49	do	10	108,800 00	Hereford Railway, Quebec						63,900 00	91,300 00												155,200 00
52	do	3	48,000 00																				
50-1	do	24	118,400 00	Lake Erie and Detroit River Railway, Ontario						106,500 00	11,900 00				220,331 00								338,731 00
53-6	do	5	224,000 00																				
50-1	do	24																					
56	do	2	62,400 00	Beauharnois Junction Railway, Quebec						54,650 00	4,250 00						3,500 00						62,400 00
50-1	do	24	138,400 00																				
55-6	do	5	168,000 00	St. Catharines and Niagara Central Railway, Ontario						26,640 00		11,760 00											38,400 00
57-8	do	4	168,000 00																				
52	do	3	30,000 00	Fredericton and St. Mary's Railway Bridge Co., N.B						30,000 00													30,000 00
50-1	do	24	9,600 00	Harvey Branch Railway Co., N.B						5,553 57													5,553 57
55-6	do	5	240,000 00	Nova Scotia Central Railway Co., N.S							219,100 00	3,300 00	8,300 00								4,500 00		235,200 00
61	do	1																					
50-1	do	24	44,800 00	Cumberland Railway and Coal Co., N.S							29,400 00	10,450 00											39,850 00
52	do	3	19,200 00	Pontiac and Renfrew Railway Co., Ontario							9,800 00	3,800 00											13,600 00
52	do	3	54,400 00	Thousand Islands Railway Co., Ontario							10,400 00				14,000 00								24,400 00
52	do	3																					
56	do	3	96,000 00	Quebec, Montmorency and Charlevoix Railway Co., Quebec							65,600 00					30,400 00							96,000 00
52	do	3	375,000 00	St. Clair Frontier Tunnel Co., Ontario							173,000 00	143,400 00	58,600 00										375,000 00
50-1	do	24																					
57-8	do	4	57,600 00	Brantford, Waterloo and Lake Erie Railway, Ontario							36,620 00	16,190 00					4,790 00						57,600 00
51	do	3																					
53	do	2	287,200 00	Port Arthur, Duluth and Western Railway, Ontario								87,000 00	70,075 00	114,125 00									271,200 00
50-1	do	24																					
53	do	2																					
54-5	do	8	192,000 00	Montreal and Ottawa Railway, Ontario								49,960 00			23,640 00				32,000 00	40,000 00	46,400 00		192,000 00
57-8	do	4																					
50-1	do	24	44,800 00	Cornwallis Valley Railway, N.S								42,670 00	2,130 00										44,800 00
52	do	3																					
52	do	3	320,000 00	Ottawa and Gatineau Railway, Quebec								87,582 00	38,790 00	104,380 00	53,376 00								284,128 00
57-8	do	6	64,000 00																				
47	do	8																					
51	do	3																					
52	do	3	83,612 54																				
53	do	2	142,400 00	Central Railway, N.B								75,639 00	83,612 54								66,761 00		226,012 54
57-8	do	4	48,000 00																				
61	do	1																					
62-3	do	1																					
53	do	2	361,270 00	Montreal and Western Railway, Quebec								76,143 00	32,253 00	133,388 00	119,486 00								361,270 00
52	do	3	128,000 00	Parry Sound Colonization Railway									30,400 00	28,820 00		68,780 00	24,800 00						152,800 00
57-8	do	4	64,000 00																				
52	do	3	163,200 00	Shuswap and Okanagan Railway, B.C									162,260 00		640 00	300 00							163,200 00
54-5	do	8	80,000 00																				
53	do	2	35,200 00	Tobique Valley Railway, N.B									73,000 00	41,674 46	19,341 54								134,016 00
55-6	do	5	9,600 00																				
53	do	2	112,000 00	Columbia and Kootenay Railway, B.C									88,800 00										88,800 00
53	do	2	35,200 00	Waterloo Junction Railway, Ontario									32,800 00										32,800 00
53	do	2	99,200 00	Orford Mountain Railway, Quebec									84,800 00		59,800 00								84,800 00

48-9	do	59		Belleville and North Hastings Railway, Ontario																			
49	do	10	22,400 00																				
49	do	10	108,800 00	Hereford Railway, Quebec					63,900 00	91,300 00													155,200 00
52	do	3	48,000 00																				
50-1	do	24	118,400 00	Lake Erie and Detroit River Railway, Ontario					106,500 00	11,900 00				220,331 00									338,731 00
55-6	do	5	224,000 00						54,650 00	4,250 00						3,500 00							62,400 00
50-1	do	24	62,400 00	Beauharnois Junction Railway, Quebec																			
56	do	2																					
50-1	do	24	138,400 00						26,640 00		11,760 00												38,400 00
55-6	do	5	108,000 00	St. Catharines and Niagara Central Railway, Ontario																			
57-8	do	4	108,800 00						30,000 00														30,000 00
52	do	3	50,000 00	Fredericton and St. Mary's Railway Bridge Co., N.B					5,553 57														5,553 57
50-1	do	24	9,600 00	Harvey Branch Railway Co., N.B																			
55-6	do	5	240,000 00	Nova Scotia Central Railway Co., N.S						219,100 00	3,300 00	8,300 00								4,500 00			235,200 00
61	do	1								29,400 00	10,450 00												39,850 00
50-1	do	24	44,800 00	Cumberland Railway and Coal Co., N.S						9,800 00	3,800 00												13,600 00
52	do	3	19 200 00	Pontiac and Renfrew Railway Co., Ontario						16,400 00				14,000 00									24,400 00
52	do	3	54,400 00	Thousand Islands Railway Co., Ontario																			
52	do	3	96,000 00	Quebec, Montmorency and Charlevoix Railway Co., Quebec						65,600 00					30,400 00								96,000 00
56	do	3								173,000 00	143,400 00	58,600 00											375,000 00
52	do	3	375,000 00	St. Clair Frontier Tunnel Co., Ontario						36,620 00	16,190 00					4,790 00							57,600 00
50-1	do	24	57,600 00	Brantford, Waterloo and Lake Erie Railway, Ontario																			
57-8	do	4									87,000 00	70,075 00	114,125 00										271,200 00
50	do	3	287,200 00	Port Arthur, Duluth and Western Railway, Ontario																			
53	do	2																					
50-1	do	24																					
53	do	2	192,000 00	Montreal and Ottawa Railway, Ontario							49,960 00			23,640 00			32,000 00	40,000 00	46,400 00				192,000 00
54-5	do	8																					
57-8	do	4																					
50-1	do	24	44,800 00	Cornwallis Valley Railway, N.S							42,670 00	2,130 00											44,800 00
52	do	3																					
52	do	3	339,000 00	Ottawa and Gatineau Railway, Quebec							87,582 00	38,790 00	104,380 00	53,376 00									284,128 00
57-8	do	6	64,000 00																				
47	do	8																					
51	do	3																					
52	do	3	83,612 54																				
53	do	2	142,400 00	Central Railway, N.B							75,639 00	83,612 54							66,761 00				226,012 54
57-8	do	4	48,000 00																				
61	do	1																					
62-3	do	1																					
53	do	2	361,270 00	Montreal and Western Railway, Quebec							76,143 00	32,253 00	133,388 00	119,486 00									361,270 00
53	do	2	128,000 00	Parry Sound Colonization Railway								30,400 00	28,820 00		68,780 00	24,800 00							152,800 00
57-8	do	1	64,000 00	Shuswap and Okanagan Railway, B.C								162,266 00		640 00	300 00								163,206 00
54-5	do	3	163,200 00																				
54-5	do	8	89,600 00																				
53	do	2	35,200 00	Tobique Valley Railway, N.B								73,000 00	41,674 46	19,341 54									134,016 00
55-6	do	5	9,600 00																				
53	do	2	112,000 00	Columbia and Kootenay Railway, B.C								88,800 00											88,800 00
53	do	2	35,200 00	Waterloo Junction Railway, Ontario								32,800 00											32,800 00
53	do	2	16,200 00	Orford Mountain Railway, Quebec								32,000 00		52,800 00									84,800 00
53	do	2	57,600 00																				
55-6	do	5	25,024 00	St. Lawrence and Adirondack Railway, Quebec								40,256 00	24,448 00	297 60				84,480 00					149,481 60
55-6	do	5	*40,000 00	New Glasgow Iron, Coal and Railway Company, N.S									32,945 84	5,454 16		1,440 00							39,840 00
56	do	2	102,400 00	United Counties Railway, Quebec										88,973 00	42,728 15	52,926 85	2,700 00	1,488 00					188,816 00
57-8	do	4	102,400 00																				
55-6	do	5	*21,600 00	Philipsburg Junction Railway Quarry Company, Quebec										18,688 00	2,912 00						2,112 00		23,712 00
55-5	do	5	*430,400 00	Ottawa, Arnprior and Parry Sound Railway, Ontario										101,120 00	249,280 00	80,000 00		327,232 00	22,080 00				779,712 00
56	do	2	67,200 00																				
57-8	do	4	38,400 00	Montfort Colonization Railway, Quebec										32,000 00	35,200 00			35,840 00	64,400 00				167,440 00
60-61	do	1	66,030 00																				
55-6	do	5	48,000 00																				
57-8	do	4	48,000 00	Lotbinière and Megantic Railway, Quebec										35,200 00	38,400 00		22,400 00						96,000 00
56	do	2	48,000 00	Grand Trunk, Georgian Bay and Lake Erie Railway, Ontario											30,744 00								39,744 00
55-6	do	5	80,000 00	Canadian Pacific Railway, Revelstoke to Arrow Lake, B.C											28,000 00		52,000 00						80,000 00
57-8	do	4	121,600 00	Nakusp and Slocan Railway, B.C											117,760 00								117,760 00
55-7	do	5	89,600 00	Dominion Coal Company, N.S											32,000 00	55,808 00							87,808 00
56	do	2	22,400 00	Oshawa Railway and Navigation Company, Ontario												22,400 00							22,400 00
57-8	do	4	*21,200 00	Tilsonburg, Lake Erie and Pacific Railway, Ontario												51,200 00			10,912 00	7,159 48			69,271 48
56	do	2	*11,200 00	St. Stephen's and Milltown Railway, N.B												9,635 89		5,212 11					14,848 00
57-8	do	4	*38,400 00	Gulf Shore Railway Company, N.B													28,635 05	25,064 15					53,699 20
57-8	do	1	9,000 00	Cap-de-la-Madeleine Railway, Quebec													7,424 00						7,424 00
56	do	2	32,000 00	Ontario, Belmont and Northern Railway Company, Ontario													30,720 00						30,720 00
...	...	...	*	Coast Line of Nova Scotia														90,400 00					90,400 00
...	...	...	*	Ottawa and New York Railway Company, Ontario														33,600 00	138,784 00				172,384 00
60-61	do	5	3,630,000 00	Canadian Pacific Railway Co., B.C. (Crow's Nest Pass)														453,750 00	2,322,500 00	340,000 00			3,116,250 00
60-61	do	4	360,000 00	Grand Trunk Railway Co., "Victoria Jubilee Bridge," Quebec														131,268 52	68,331 05	72,428 68			271,428 25
...	...	...	*	Restigouche and Western Railway Co., N.B															32,000 00	14,936 00			46,936 00
...	...	...	*	East Richelieu Railway Co., Quebec															69,952 00				69,952 00
...	...	...	*	South Shore Railway, Quebec																30,890 19			30,890 19
...	...	...	*	Pembroke Southern Railway, Ontario																64,000 00			64,000 00
			186,600 annually for 20 years	Atlantic and North-western Railway	208,000	403,245	2,171,249	1,406,533	1,027,041 92	846,721 83	1,491,595 72	1,079,105 87	1,061,615 93	624,794 07	1,043,285 10	1,123,949 10	648,145 49	230,355 30	1,228,334 78	3,014,620 05	539,120 35	18,147,712 51
											186,600 00	186,600 00	186,600 00	186,600 00	186,600 00	186,600 00	186,600 00	186,600 00	186,600 00	186,600 00	186,600 00	186,600 00	2,054,100 00
37	do	14	1,525,250 00	Canada Central Railway																			
46	do	2																					1,525,250 00
44	do	1	25,000,000 00	Canadian Pacific, main line																			25,000,000 00
47	do	8	1,500,000 00	Canadian Pacific, extension																			1,500,000 00
48-9	do	58																					
52	do	8	500,000 00	Western Counties Railway																			500,000 00
																							48,727,562 51

* 60-61 Victoria, Cap. 4, and 62-63 Victoria, Cap. 7, authorizes $3,200 per mile subsidy if the cost does not average more than $15,000 per mile, if over that amount a further sum of fifty per cent on so much of the average cost of the mileage subsidized as is in excess of $15,000 per mile, such subsidy not exceeding in the whole the sum of $6,400 per mile.

S. LEONARD SHANNON,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 31, 1900.

PART III

RAILWAY SUBSIDIES

No. 1.

RAILWAY SUBSIDIES.

TABLE of per mile Cash Subsidies paid in aid of Railway Construction, showing amount of Subsidy granted for same Railways.

Number.	Name of Railway.	On Following Named Railways. No. of miles built up to June 30, 1900.	No. of miles paid and provided for.	Subsidy paid and available at June 30, 1900.	Subsidy paid to June 30, 1900.	Subsidy paid to Nov. 1, 1900.
				$ c.	$ c.	$ c.
	Albert Southern	16	16	50,460 00	50,460 00	50,460 00
2	Baie des Chaleurs	70	70	620,000 00	620,000 00	620,000 00
3	Beauharnois Junction	19·50	19·50	62,400 00	62,400 00	62,400 00
4	Belleville and North Hastings	6·84	6·84	21,888 00	21,888 00	21,888 00
5	Brantford, Waterloo and Lake Erie	18	18	57,600 00	57,600 00	57,600 00
6	Brockville, Westport and Sault Ste. Marie	44·50	44·50	105,200 00	105,200 00	105,200 00
7	Buctouche and Moncton	31·75	31·75	101,600 00	101,600 00	101,600 00
8	Canada Atlantic	54·05	54·05	282,355 20	282,355 20	282,355 20
9	Canada Central	120	120	1,525,250 00	1,525,250 00	1,525,250 00
10	†Canada Eastern	107	107	350,400 00	350,400 00	350,400 00
11	†Canadian Pacific	1,905	1,905	25,000,000 00	25,000,000 00	25,000,000 00
12	" (extension)*	476·55	476·55	5,370,000 00	4,696,250 00	4,789,050 00
13	Caraquet	67	67	224,000 00	224,000 00	224,000 00
14	Central (of New Brunswick)	44·50	89·50	281,100 00	142,400 00	142,400 00
15	Cornwallis Valley	14	14	44,800 00	44,800 00	44,800 00
16	Columbia and Kootenay	27·75	27·75	88,800 00	88,800 00	88,800 00
17	Cumberland	14	14	39,850 00	39,850 00	39,850 00
18	Dominion Lime Co	4·80	4·80	15,360 00	15,360 00	15,360 00
19	Dominion Coal Co	27·44	27·44	87,808 00	87,808 00	87,808 00
20	†Drummond Counties	133·03	135·60	423,936 00	423,936 00	423,936 00
21	Elgin, Petitcodiac and Havelock	12	12	38,400 00	38,400 00	38,400 00
22	Erie and Huron	30	30	96,000 00	96,000 00	96,000 00
23	Esquimalt and Nanaimo	71	71	750,000 00	750,000 00	750,000 00
24	Fredericton and St. Mary's Bridge Co	1·33	1·33	30,000 00	30,000 00	30,000 00
25	Grand Trunk, Georgian Bay and Lake Erie	12·42	12·42	39,744 00	39,744 00	39,744 00
26	Great Eastern	12·50	12·50	40,345 00	40,345 00	40,345 00
27	†Great Northern	64·59	143·59	750,413 00	174,688 00	440,519 00
28	Guelph Junction	15·25	15·25	46,000 00	46,000 00	46,000 00
29	Harvey Branch	3	3	5,553 57	5,553 57	5,553 57
30	Hereford	48·50	48·50	155,200 00	155,200 00	155,200 00
31	Irondale, Bancroft and Ottawa	45	50	160,000 00	144,000 00	144,000 00
32	International	49	49	156,800 00	156,800 00	156,800 00
33	Joggins	12	12	37,500 00	37,500 00	37,500 00
34	Kingston and Pembroke	15	15	48,000 00	48,000 00	48,000 00
35	Kingston, Napanee and Western	61·35	61·35	208,732 80	208,732 80	208,732 80
36	L'Assomption	3·50	3·50	11,200 00	11,200 00	11,200 00
37	Lake Erie and Detroit River	84·05	84·05	338,731 00	338,731 00	338,731 00
38	Lake Temiscamingue Colonization	45·84	45·84	310,335 95	310,335 95	310,335 95
39	Leamington and Lake St. Clair	16	16	51,200 00	51,200 00	51,200 00
40	Lotbinière and Mégantic	30	30	96,000 00	96,000 00	96,000 00
41	Montreal and Sorel (now South Shore Ry.)	44·67	126·67	441,157 57	124,647 76	163,047 76
42	Montreal and Lake Champlain	83	83	103,600 00	103,600 00	103,600 00
43	Montreal and Western	70	70	361,270 00	361,270 00	361,270 00
44	Montreal and Lake Maskinongé	12·90	12·90	41,280 00	41,280 00	41,280 00
45	Montreal and Ottawa	60	60	192,000 00	192,000 00	192,000 00
46	Montfort Colonization	32·20	33	171,600 00	167,440 00	167,440 00
47	Nakusp and Slocan	36·90	38	117,760 00	117,760 00	117,760 00
48	New Brunswick and P.E.I.	35·45	35·45	113,440 00	113,440 00	113,440 00
	Carried forward	4,209·16	4,424·63	39,665,070 09	38,034,002 85	38,447,178 28

TABLE of per mile Cash Subsidies granted and paid in aid of Railway Construction, &c.—*Concluded.*

Number.	Name of Railway.	On Following Named Railways. No. of miles built up to June 30, 1900.	No. of miles paid and provided for.	Subsidy paid and available at June 30, 1900.	Subsidy paid to June 30, 1900.	Subsidy paid to Nov. 1, 1900.
				$ cts.	$ cts.	$ cts.
	Brought forward. . . .	4,209·16	4,424·63	39,665,070 09	38,034,002 85	38,447,178 28
49	New Glasgow Iron and Coal Co.	12·45	12 45	39,840 00	39,840 00	39,840 00
50	Northern Pacific Junction.	110	110	1,320,000 00	1,320,000 00	1,320,000 00
51	Nova Scotia Central	73·50	73·50	235,200 00	235,200 00	235,200 00
52	Ontario, Belmont and Northern.	9·60	10	30,720 00	30,720 00	30,720 00
53	Ontario and Quebec.	61·25	61·25	196,000 00	196,000 00	196,000 00
54	Oxford Mountain.	26·50	26·50	84,800 00	84,800 00	84,800 00
55	Oshawa Railway and Navigation Co.	7	7	22,400 00	22,400 00	22,400 00
56	Ottawa and Gatineau Valley.	54	86	396,800 00	284,128 00	284,128 00
57	†Ottawa, Arnprior and Parry Sound.	159·58	163	779,712 00	779,712 00	779,712 00
58	Parry Sound Colonization.	47 75	47 75	152,800 00	152,800 00	152,800 00
59	Pontiac and Pacific Junction.	70	70	331,850 00	193,578 00	193,578 00
60	†Phillipsburg Junction.	7·41	7·41	23,712 00	23,712 00	23,712 00
61	Pontiac and Renfrew.	4·25	4 25	13,600 00	13,600 00	13,600 00
62	Port Arthur, Duluth and Renfrew. . .	84·75	84 75	271,200 00	271,200 00	271,200 00
63	Quebec Central.	74·86	74 86	348,342 00	348,342 00	348,342 00
64	Quebec and Lake St. John.	245·85	245 85	1,006,743 50	1,006,743 50	1,006,743 50
65	Quebec, Montmorency and Charlevoix	30	30	96,000 00	96,000 00	96,000 00
66	Shuswap and Okanagan.	51	51	163,200 00	163,200 00	163,200 00
67	South Norfolk.	17	17	54,400 00	54,400 00	54,400 00
68	St. Catharines and Niagara Central.	12	12	38,400 00	38,400 00	38,400 00
69	St. Clair Frontier Tunnel.	2·23	2·23	375,000 00	375,000 00	375,000 00
70	St. Lawrence and Lower Laurentian.	38·85	38 85	217,600 00	217,600 00	217,600 00
71	St. Louis, Richibucto and Buctouche.	7	7	22,400 00	22,400 00	22,400 00
72	†St. Lawrence and Adirondack . . .	33·51	33·51	149,481 60	149,481 60	149,481 60
73	Temiscouata	112 95	112 95	645,950 00	645,950 00	645,950 00
74	Thousand Island.	4·33	4·33	24,400 00	24,400 00	24,400 00
75	†Tilsonburg, Lake Erie and Pacific. .	19·41	19 50	140,800 00	69,271 48	69,271 48
76	Tobique Valley.	27 88	27 88	134,016 00	134,016 00	134,016 00
77	Toronto, Grey and Bruce.	4·58	4·58	14,656 00	14,656 00	14,656 00
78	†United Counties.	59	65	188,816 00	188,816 00	188,816 00
79	Waterloo Junction.	10·25	10 25	32,800 00	32,800 00	32,800 00
80	Western Counties.	20	20	500,000 00	500,000 00	500,000 00
81	West Ontario Pacific.	18·75	18·75	60,000 00	60,000 00	60,000 00
82	Cap de la Madeleine.	2·32	2·32	7,424 00	7,424 00	7,424 00
83	†Gulf Shore.	16·78	17·50	56,000 00	53,699 20	53,699 20
84	†St. Stephen and Milltown.	4·64	4 64	14,848 00	14,848 00	14,848 00
85	†Coast (of Nova Scotia).	28·25	61	195,200 00	90,400 00	90,400 00
86	Grand Trunk	Bridge	Bridge	500,000 00	271,628 25	500,000 00
87	†Ottawa and New York.	53 87	53 87	262,384 00	172,384 00	262,384 00
88	†Restigouche and Western.	10	40	128,000 00	46,930 00	46,930 00
89	†East Richelieu Valley.	21 86	24	76,800 00	69,952 00	69,952 00
90	†Pembroke Southern.	20	20	64,000 00	64,000 00	64,000 00
91	†Massawippi Valley	1 68	2 50	5,376 00	. . . . .	5,376 00
92	†Inverness and Richmond.	. . . . .	53	169,600 00	. . . . .	132,800 00
93	†Canadian Northern	. . . . .	200	1,632,000 00	. . . . .	537,600 00
94	†Central Ontario.	. . . . .	21	67,200 00	. . . . .	32,000 00
95	†Midland (Nova Scotia.	. . . . .	58	185,600 00	. . . . .	170,264 00
	Total.	5,886·05	6,651·86	51,141,741 19	‡46,520,657 31	48,130,264 49

‡ Add subsidy of used rails as per statement, part iii, page 6, $152,305.20, and Atlantic and North-Western, $2,052,600, which will then agree with statement of subsidies in part ii, page 46, viz., $48,725,562.51.

* Includes the mileage of the North Shore Railway, 160 miles.

† By 60-61 Vic., cap. 4, 62-63 Vic., cap. 7, and 63-64 Vic., cap. 8, a subsidy was authorized on certain mileage of this railway, specified in the Act of Parliament, of $3,200 per mile and a further subsidy beyond the sum of $3,200 per mile, of 50 per cent on so much of the *average cost* of the said specified mileage subsidized as in excess of $15,000 per mile, such subsidy not exceeding in the whole the sum of $6,400 per mile.

The amount of certain of the subsidies authorized by Parliament, given in this statement, includes the determined portion of the subsidies under 60-61 Vic., cap. 4, 62-63 Vic., cap. 7, and 63-64 Vic., cap. 8, viz. : The amount produced by the $3,200 per mile, but the other portion is now an undetermined amount, and therefore cannot be shown here.

SESSIONAL PAPER No. 20

The following is the mileage of certain of the Railways shown in this statement and subsidized under 60-61 Vic., cap. 4, 62-63 Vic., cap. 7, and 63-64 Vic., cap. 8 :—

	Miles.
Ottawa, Arnprior and Parry Sound	56
Phillipsburg Junction	0·66
St. Lawrence and Adirondack	13·50
Tilsonburg, Lake Erie and Pacific	3·50
United Counties	1
Great Northern	44
Gulf Shore	5·50
St. Stephen's and Milltown	1·14
Drummond County	42·50
Coast (of Nova Scotia)	61
Ottawa and New York	53·87
Restigouche and Western	40
East Richelieu Valley	24
Ottawa and Gatineau	86
Pembroke Southern	40
Massawippi Valley	2·50
Inverness and Richmond	93
Canadian Northern	490
Central Ontario	41
Midland (Nova Scotia)	58
Pontiac Pacific Junction	9
Canada Eastern	2·25
Canadian Pacific (Extension)	70

STATEMENT showing Railways receiving Cash Subsidies of fixed amounts, payable Annually or Semi-annually for fixed period of years.

No.	Name of Railway.	Miles Subsidized.	Amount of Instalment.	Amount paid up to June 30, 1900.
				$
1	International (Atlantic and North-west) Railway Co	252	$93,300 per ½ year for 20 years	2,052,600
2	Kingston, Smith's Falls and Ottawa Railway Co	56	$3,136 " 21 "	Nil
	Total	308		2,052,600

STATEMENT showing Railways aided by the Grant of Loans.

No.	Name of Railway.	Amount of Loans authorized.	Amount loaned.
		$	$ cts.
1	Albert Railway Co	15,000	14,725 56
2	Fredericton and St. Mary's Bridge Co	300,000	300,000 00
3	St. John Bridge and Railway Extension Co.	500,000	433,900 00
	Total	815,000	748,625 56

STATEMENT showing Railways subsidized by the Grant of used Iron Rails valued at the amount set forth.

No.	Name of Railway.	Tons of used Rails.	Subsidy on value of Rails.	Subsidy inused Rail paid.
			$ cts.	$ cts.
1	Central Railway Co. of New Brunswick	4,052	83,612 54	83,612 54
2	Elgin, Petitcodiac and Havelock Ry. Co	2,201	44,252 82	44,252 82
3	Chatham Branch Railway Co	958	24,439 84	24,439 84
	Total	7,211	152,305 20	152,305 20

STATEMENT showing Railways aided by the Loan of used Iron Rails valued at the amount set forth.

No.	Name of Railway.	Tons of used Rails.	Value of used Rails loaned.	Remarks.
			$ cts.	
1	Kent Northern Railway Co	2,549	58,334 27	By 51 Victoria, chapter 3, these used rails will be granted as a subsidy (the section of road to be first laid with new steel rails weighing not less than 50 lbs. per lin. yard and after an O. C. had been passed authorizing transfer).
2	Halifax Cotton Co	233	4,235 00	
3	Steel Company of Canada	597	11,964 66	
4	Albert Railway Company	726	14,665 45	
	Total	4,105	89,299 38	

STATEMENT showing Railways subsidized by Grants of Lands.

No.	Act authorizing Subsidy.	Name of Railway Company.	Mileage Subsidized.	Acres granted per Mile.	Total Area granted.
1	48-49 Vic., c. 60 50-51 Vic., c. 22 52 Vic., c. 2	Alberta Railway and Coal Co.—Main line, Dunmore to Lethbridge.....	109·50	6,400	700,800
2	52 Vic., c. 4 52 Vic., c. 3	Alberta Railway and Coal Co.–From Lethbridge to the International Boundary..	64·62	6,400	413,568
3	53 Vic., c. 4....	Calgary and Edmonton Railway.....	340·00	6,400	2,176,000
4	44 Vic., c. 1.....	Canadian Pacific Railway—Main line....	.....	.....	18,206,986
5	53 Vic., c. 4....	C. P. R.—Deloraine and Napinka Branch	18·01	6,400	115,264
6	53 Vic., c. 4....	C. P. R.—Glenboro' and Souris Branch..	45·24	6,400	289,536
7	53 Vic., c. 4 54 Vic., c. 10	C. P. R.—Kenmay and Estevan Branch..	156·86	6,400	1,003,904
8	57-58 Vic., c. 6....	C. P. R.—Pipestone Branch.....	31·30	6,400	200,320
9	49 Vic., c. 11.....	Great North-west Central Railway.....	50·00	6,400	320,000
10	48-49 Vic., c. 60..	Manitoba and North-western Railway—Main line.....	430·00	6,400	2,918,400
11	49 Vic., c. 11	Manitoba and North-western Railway—Branch from Biscarth	26·60	6,000	
12	53 Vic., c. 4	Manitoba and South-eastern Railway Co.	98·00	6,400	627,200
13	54-55 Vic., c. 10 48-49 Vic., c. 10	Manitoba South-western Colonization Co.	218·25	6,400	1,396,800
14	48-49 Vic., c. 60 50-51 Vic., c. 23	Qu'Appelle, Long Lake and Saskatchewan Railway and Steamboat Co.....	253·96	6,400	1,625,344
15	52 Vic., c. 4 54 Vic., c. 9	Red Deer Valley Railway and Coal Co...	55·00	6,400	352,000
16	57-58 Vic., c. 6...	Saskatchewan and Western Railway Co..	15·47	6,400	99,008
17	62-63 Vic., c. 57..	Canadian Northern Railway.	1,025·00	Div. A.,6,400 do B.,12,800 do C., 6,400	9,280,000
			2,937·21		39,725,130

NOTE.—By 62-63 Victoria (Session of 1899), chapter 57, the Lake Manitoba Railway and Colonization Company and the Winnipeg Great Northern Railway were amalgamated under the title of the Canadian Northern Railway, all the rights of the two companies being vested in the new company.

No. 2

LIST OF RAILWAY SUBSIDY ACTS PASSED IN EACH YEAR.

NOTE.—The margina number opposite each subsidy has reference to the alphabetical list in the Deputy Minister's report showing the action taken in cases where a contract for work has been made with any company.

By the Acts of Parliament below specified, authority has been placed in the hands of the Governor in Council to grant, upon certain conditions, aid towards the construction of various lines of railway throughout the Dominion, as follows, namely :—

By the Acts of 45 Vic., cap. 14, 1882 *(Assented to 17th May, 1882)* :—

1. For a railway from Gravenhurst to Callander, both in the province of Ontario, a subsidy not exceeding $6,000 per mile, nor exceeding in the whole $660,000

2. For a railway from St. Raymond to Lake St. John, both in the province of Quebec, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 384,000

3. For a railway from a point on the Intercolonial Railway at Rivière du Loup or Rivière Ouelle, in the province of Quebec, or between them, to Edmundston, in the province of New Brunswick, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 240,000

4. For a railway from Oxford to New Glasgow, both in the province of Nova Scotia, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 224,000

"The said subsidies to be granted to such companies as shall be approved by the Governor in Council as having established, to his satisfaction, their ability to complete the said railways respectively, within a reasonable time, to be fixed by Order in Council, and according to descriptions and specifications to be approved by the Governor in Council on the report of the Minister of Railways and Canals, and specified in an agreement to be made by the company with the Government, and which the Government is empowered to make, and to be payable out of the Consolidated Revenue Fund of Canada, by instalments on the completion of each ten miles of railway, proportionate to the value of the portion so completed in comparison with the whole work undertaken, such proportion to be established by the report of the said Minister; provided always, that the granting of such bonuses or subsidies shall be subject to such conditions for securing such running powers or traffic arrangements and other rights as will afford all reasonable facilities and equal mileage rates to all railways connecting therewith, as the Governor in Council may determine."

By the special Act 45 Vic., cap. 55, 1882 *(Assented to 17th May, 1882* :—

5. A subsidy authorized in favour of "The Chignecto Marine Transport Railway Company," provided that they construct and thereafter maintain and operate a ship railway, to be approved by the Government, across the Isthmus of Chignecto, from the Gulf of St. Lawrence to the Bay of Fundy, per year, for twenty-five years..... $150,000

By the Act 46 Vic., cap. 25, 1883 *(Assented to 25th May, 1883)* :—

6. To the Baie des Chaleurs Railway Company, for 100 miles of their railway, from Métapediac, on the Intercolonial Railway, to Paspebiac, in the province of Quebec, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 320,000

7. To the Caraquet Railway Company, for 36 miles of their railway, from a point near Bathurst to Caraquet, in the province of New Brunswick, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole $115,200

8. To the Gatineau Valley Railway Company, for the first 50-mile section of their railway, from Hull station, in the province of Quebec, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole.. 160,000

9. To the Great American and European Short Line Railway Company, for 80 miles of their railway, from Canso to Louisburg or Sydney, in the province of Nova Scotia, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 256,000

10. To the International Railway Company, for 49 miles of their railway, from Sherbrooke, in the province of Quebec, to the international boundary line, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 156,800

11. To the Northern and Western Railway Company, for 32 miles of their railway, from the Intercolonial Railway, near the Miramichi, to Moran's, near Demphy village, in the province of New Brunswick, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole.. 102,400

12. To the Montreal and Western Railway Company, for the first 50-mile section of their railway, out of St. Jérôme, in the province of Quebec, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole. 160,000

13. To the Napanee, Tamworth and Quebec Railway Company, for 28 miles of their railway, from Napanee to Tamworth, in the province of Ontario, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 89,600

14. To the Quebec and Lake St. John Railway Company, for 25 miles of their railway, from St. Raymond to Lake St. John, in the province of Quebec, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 80,000

In addition to the subsidy granted by the Act forty-fifth Victoria, chapter fourteen.

15. For a railway from the International Railway at Petitcodiac to Havelock Corner, in the province of New Brunswick, 12 miles, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 38,400

16. For a railway from Gravenhurst to Callander, 110 miles, a subsidy not exceeding $6,000 per mile, nor exceeding in the whole 660,000

In addition to the subsidy granted by the Act forty-fifth Victoria, chapter fourteen.

"The nine subsidies first mentioned to be granted to the companies hereinbefore named respectively; and the two subsidies last mentioned to be granted to such companies as shall be approved by the Governor in Council as having established to his satisfaction their ability to complete the said railways, respectively; and all the eleven lines above mentioned, and also the lines of railway in respect of which it is provided by the Act of forty-fifth Victoria, chapter fourteen, that subsidies may be granted, shall be commenced within two years from the first day of July next, and completed within a reasonable time, not to exceed four years from and after the passing of this Act, to be fixed by Order in Council, and according to descriptions and specifications to be approved by the Governor in Council, on the report of the Minister of Railways and Canals, and specified in an agreement to be made by each company with the Government, and which the Government is empowered to make; and all the said subsidies authorized by this Act, respectively, to be paid out of the Consolidated Revenue Fund of Canada by instalments, on the completion of each section of not less than ten miles of railway, proportionate to the value of the portion so completed in comparison with the whole work undertaken, to be established by the report of the said Minister; Provided always, that the granting of such subsidies shall be subject to such conditions for securing such running powers

or traffic arrangements and other rights as will afford all reasonable facilities and equal mileage rates to all railways connecting with those so subsidized as the Governor in Council may determine."

By the special Act 46 Vic., cap. 26, 1883 *(Assented to 25th May, 1883)*:—

17. An advance authorized in favour of the "St. John Bridge and Railway Extension Company," to enable them to build a railway bridge across the River St. John, N.B., with railway connection with the Intercolonial, such advance to be secured by a mortgage on their entire property, not to exceed 80 per cent of the expenditure on the work, nor a total sum of.....$ 500,000

By the Act 47 Vic., cap. 8, 1884 *(Assented to 19th April, 1884)*:—

18. To the Government of the province of Quebec, in consideration of their having constructed the railway from Quebec to Ottawa, forming a connecting line between the Atlantic and Pacific coasts via the Intercolonial and Canadian Pacific Railways, and being as such a work of national and not merely provincial utility, a subsidy not exceeding $6,000 per mile for the portion between Quebec and Montreal, 159 miles, nor exceeding in the whole..... 954,000

19. And for the portion between Montreal and Ottawa, 120 miles, $12,000 per mile, nor exceeding in the whole.....1,440,000

20. For the construction of a line of railway connecting Montreal with the harbours of St. John and Halifax by the shortest and best practicable route, after the report of competent engineers, a subsidy not exceeding $170,000 per annum, for fifteen years, or a guarantee of a like sum for a like period as interest on bonds of the company undertaking the work.

21. For the construction of a line of railway from Oxford station, on the Intercolonial Railway, to Sydney or Louisburg, a subsidy not exceeding $30,000 per annum for fifteen years or a guarantee of a like sum for a like period as interest on the bonds of the company undertaking the work, in addition to the subsidies previously granted, and also a lease or transfer to such company of the Eastern Extension Railway, from New Glasgow to Canso, with its present equipment.

22. To the Quebec Central Railway Company, for a line of railway from Beauce Junction to the international boundary line, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 211,200

23. For the extension of the Canadian Pacific Railway, from its terminus at St. Martin's Junction, near Montreal, or some other point on the Canadian Pacific Railway, to the harbour of Quebec, in such manner as may be approved by the Governor in Council, a subsidy not exceeding $6,000 per mile, nor exceeding in the whole..... 960,000

24. To the Irondale, Bancroft and Ottawa Railway Company, for a line of railway from the Victoria branch of the Midland Railway to the village of Bancroft, in the township of Dungannon, county of Hastings, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 160,000

25. To the Pontiac Pacific Junction Railway, for a line of railway from Hull or Aylmer to Pembroke, provided the Ottawa River is crossed at some point not east of Lapasse, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 272,000

26. To the Gatineau Railway Company, for a line of railway from Kazubazua to Le Désert, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 160,000

27. To the Napanee, Tamworth and Quebec Railway Company, for a line of railway from Tamworth to Bogart and Bridgewater, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 70,400

28. To the Montreal and Western Railway Company, for a line of railway from the end of the line subsidized in the now last session of Parliament, towards Le Désert, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole $160,000

29. To the Northern and Western Railway Company, for a line of railway from Fredericton to the Miramichi River, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole (instead of the subsidy proposed in 1883) 128,000

30. To the Erie and Huron Railway Company, for a line of railway from Wallaceburg to Sarnia, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 96,000

31. To the Ontario and Pacific Railway Company, for a line of railway from Cornwall to Perth, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 262,400

32. To the Kingston and Pembroke Railway Company, for a line of railway from Mississippi to Renfrew, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 48,000

33. To the Great Northern Railway Company, for that portion of their railway between St. Jérôme and New Glasgow, in the county of Terrebonne, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 32,000

34. For a line of railway and bridge between the Jacques Cartier Union Railway Junction with the Canadian Pacific Railway and St. Martin's Junction connecting the Jacques Cartier Union Railway with the North Shore Railway proper, a subsidy not exceeding in the whole 200,000

35. For a line of railway from Richibucto to St. Louis, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 22,400

36. For a line of railway from Hopewell to Alma, in the province of New Brunswick, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 51,200

37. For a line of railway from St. Andrew's to Lachute, in the county of Argenteuil, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 22,400

38. For a line of railway from the Grand Piles, on the River St. Maurice, to Lake Edward, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 217,600

39. For a line of railway from Annapolis to Digby, in the province of Nova Scotia, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 64,000

40. For a line of the Central Railway, from the head of Grand Lake to the Intercolonial Railway between Sussex and St. John, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 128,000

41. To the Caraquet Railway Company, for the extension of their line of railway from Caraquet to Shippegan Harbour, in the province of New Brunswick, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 76,800

42. For a branch of the Intercolonial Railway, from Metapediac eastward towards Paspebiac, twenty miles, in the province of Quebec, a sum not exceeding in the whole 300,000

43. For a branch of the Intercolonial Railway, from Derby Station to Indiantown, fourteen miles, a sum not exceeding in the whole 140,000

"The subsidies hereinbefore mentioned as to be granted to companies named for that purpose shall be granted to such companies, respectively; the other subsidies shall be granted to such companies as shall be approved by the Governor in Council as having established, to his satisfaction, their ability to construct and complete the said railways respectively. All the lines for the construction of which subsidies are

granted shall be commenced within two years from the first day of July next and completed within a reasonable time, not to exceed four years, to be fixed by Order in Council, except the line mentioned in the fourth section of this Act,* which shall be commenced within one year, and shall also be constructed according to descriptions and specifications and upon conditions to be approved by the Governor in Council, on the report of the Minister of Railways and Canals and specified in an agreement to be made in each case by the company with the Government, and which the Government is hereby empowered to make; the location also of every such line of railway shall be subject to the approval of the Governor in Council; and all the said subsidies, respectively, shall be payable out of the Consolidated Revenue Fund of Canada, by instalments, on the completion of each section of the railway of not less than ten miles, proportionate to the value of the portion so completed in comparison with that of the whole work undertaken, to be established by the report of the said Minister. The subsidies to the province of Quebec shall be capitalized, and the interest shall be payable at such time and in such manner as the Government of Canada shall agree upon with the Government of the said province. The two subsidies last mentioned in the list are for works to be constructed by the Government of Canada.

"Provided, always, that the granting of such subsidies to the companies mentioned, respectively, shall be subject to such conditions for securing such running powers or traffic arrangements and other rights as will afford all reasonable facilities and equal mileage rates to all railways connecting with those so subsidized, as the Governor in Council may determine."

By the special Act 47 Vic., cap. 6, 1884 *(Assented to 19th April, 1884)*:

44. Relating to an agreement with the province of British Columbia, authority was given, *inter alia*, for the grant of a subsidy to the "Esquimalt and Nanaimo Railway Company" in aid of the construction of a line of railway and telegraph between the points named; such subsidy to be in lands *en bloc* on Vancouver Island, the boundaries being fixed by the Act, and in money $750,000

By the Act 48-49 Vic., cap. 59, 1885 *(Assented to 20th July, 1885)*:

45. To the Ottawa, Waddington and New York Railway and Bridge Company, for a line of railway from Ottawa to Waddington, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 166,400

46. To the New Brunswick and Prince Edward Island Railway Company, for a line of railway from Sackville to the Straits of Northumberland, at or near Cape Tormentine, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 118,400

47. To the Montreal and Sorel Railway Company, for a line of railway from St. Lambert to Sorel, a subsidy not exceeding $1,600 per mile, nor exceeding in the whole 72,000

48. To the Brockville, Westport and Sault Ste. Marie Railway Company, for a line of railway from Brockville to Westport, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 128,000

49. To the Quebec and Lake St. John Railway Company, for a line of railway from its junction on the North Shore Railway to St. Raymond, upon condition of the company extending their road to a point 50 miles north of St. Raymond, a subsidy not exceeding $3,200 per mile nor exceeding in the whole 96,000

50. To the Northern and Western Railway Company, for a line of railway from the northern end of the 40 miles subsidized between Fredericton and the Miramichi River by 47 Victoria, chapter 8, to Boiestown, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 19,200

* The extension of the Canadian Pacific Railway from its terminus at St. Martin's Junction, or some other point on the said railway to the harbour of Quebec.

51. To the Montreal and Champlain Junction Railway Company, for a line of railway from Brosseau's to Dundee, a subsidy not exceeding $500 per mile, nor exceeding in the whole $30,000

52. To the Thunder Bay Colonization Railway Company, for a line of railway from the Murillo station of the Canadian Pacific Railway to the east end of Whitefish Lake, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 92,000

53. To the Central Ontario Railway Company, for a line of railway from Coe Hill or Rathbun, to Bancroft, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 64,000

54. To the Belleville and North Hastings Railway Company, for a line of railway from the village of Madoc to the junction with the Central Ontario Railway at Eldorado, a subsidy not exceeding $1,500 per mile, nor exceeding in the whole 10,500

55. For a line of railway from Long Sault to the foot of Lake Temiscamingue, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 25,600

56. For a line of railway from a point on the Canada Southern Railway near Comber, to Lake Erie, at or near the village of Leamington, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole.... 44,800

57. To the Napanee, Tamworth and Quebec Railway Company, for a line of railway from Tamworth towards Bogart and Bridgewater, 16 miles, in lieu of the subsidy granted by 47 Vic., chap. 8, a subsidy of..... 70,000

58. To the Gatineau Railway Company, for a line of railway from Hull station towards Le Désert, a distance of 62 miles, in lieu of the subsidies granted by 46 Vic., chap. 25, and 47 Vic., chap. 8, a subsidy of.... 320,000

59. For a line of railway from the Grand Piles, on the River St. Maurice, to its junction with Lake St. John Railway, a distance of about 50 miles, in lieu of the subsidy granted by 47 Vic., chap. 8, for a line of railway from the Grand Piles, on the River St. Maurice, to Lake Edward, a subsidy of..... 217,600

60. To the Canada Atlantic Railway Company, for a line of railway from Valleyfield to a point one and a half miles west of Johnston's, a subsidy not exceeding $1,600 per mile, and from one and a half miles west of Johnston's to Lacolle; also from the present terminus at Ottawa, to the Chaudiere Falls, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 96,000

61. For a line of railway from Indiantown via the Miramichi Valley, to its junction with the Northern and Western Railway at or near Boiestown, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole. 140,800

"The subsidies hereinbefore mentioned as to be granted to companies named for that purpose shall be granted to such companies, respectively; the other subsidies shall be granted to such companies as shall be approved by the Governor in Council as having established to his satisfaction their ability to construct and complete the said railways, respectively. All the lines for the construction of which subsidies are granted shall be commenced within two years from the first day of August next, and completed within a reasonable time, not to exceed four years, to be fixed by Order in Council; and shall also be constructed according to descriptions, specifications and upon conditions to be approved by the Governor in Council, on the report of the Minister of Railways and Canals, and specified in an agreement to be made in each case by the company with the Government, and which the Government is hereby empowered to make; the location, also, of every line of railway shall be subject to the approval of the Governor in Council; and all the said subsidies, respectively, shall be payable out of the Consolidated Revenue Fund of Canada, by instalments, on the completion of each section of the railway of not less than ten miles, proportionate to the value of the portion so completed in comparison with that of the whole work undertaken, to be established by the report of the said Minister.

"Provided always, that the granting of such subsidies to the companies mentioned, respectively, shall be subject to such conditions for securing such running powers or traffic arrangements and other rights as will afford all reasonable facilities and equal mileage rates to all railways connected with those so subsidized, as the Governor in Council may determine."

By the Act 48-49 Vic., cap. 58, 1885 *(Assented to 20th July, 1885)*:—

62. For a railway from a point on the Intercolonial Railway at Rivière du Loup or Rivière Ouelle, in the province of Quebec, to Edmundston, in the province of New Brunswick, a subsidy not exceeding two thousand eight hundred dollars per mile for seventy-five miles, and six thousand dollars per mile for eight miles, nor exceeding in the whole two hundred and fifty-eight thousand dollars; the said subsidy to be in addition to the subsidy authorized to be granted in aid of the construction of the said railway by the Act forty-fifth Victoria, chapter fourteen, and constituting with the subsidy so authorized, a subsidy not exceeding in the whole four hundred and ninety-eight thousand dollars, and to be granted for the said railway upon the terms and conditions specified in the said Act, and payable out of the Consolidated Revenue Fund of Canada; and for the purpose of incorporating the persons undertaking the construction of the said railway and those who shall be associated with them in the undertaking, the Governor may grant to them, under such corporate name as he shall deem expedient, a charter conferring upon them the franchises, privileges and powers requisite for the said purposes, which shall be similar to such of the franchises, privileges and powers granted to railway companies during the present session as the Governor shall deem most useful or appropriate to the said undertaking; and such charter being published in the *Canada Gazette*, with any Order or Orders in Council relating to it, shall have force and effect as if it were an Act of the Parliament of Canada.

63. For a line of railway from the south bank of the St. Lawrence river, opposite or near Montreal, to the harbours of St. Andrew's, St. John and Halifax, via Sherbrooke, Moosehead Lake, Mattawamkeag, Harvey, Fredericton and Salisbury, a subsidy not exceeding eighty thousand dollars per annum for twenty years, forming in the whole, together with the subsidy authorized by the Act forty-seventh Victoria, chapter eight, for a line of railway connecting Montreal with the said harbours of St. John and Halifax by the shortest and best practicable route, which the line above described is found to be, a subsidy not exceeding two hundred and fifty thousand dollars per annum, the whole of which shall be paid in aid of the construction of such a line of railway for a period of twenty years, or a guarantee bond of a like sum for a like period as interest on the bonds of the company undertaking the work; the said subsidy to be so granted upon the terms and conditions of and payable out of the Consolidated Revenue Fund in the manner specified in the said last mentioned Act in respect of the subsidy thereby authorized in aid of the said line of railway.

64. The Governor in Council may grant a further subsidy as an aid towards procuring free access as hereinafter described for the trains and traffic of the Canadian Pacific Railway Company from St. Martin's Junction, near Montreal, or from some other point on their railway to be selected by the said company, to the harbour of Quebec, in such a manner as shall be approved by the Governor in Council, that is to say: an additional subsidy not exceeding three hundred and forty thousand dollars, constituting, together with the subsidy authorized by the said last mentioned Act, to aid in procuring the extension of

the Canadian Pacific Railway to Quebec, and the subsidy also thereby authorized to aid in constructing a line connecting the Canadian Pacific Railway at the Jacques Cartier Union Junction with the North Shore Railway proper (which subsidies shall be applicable to the said first mentioned purpose) a sum not exceeding in the whole the sum of one million five hundred thousand dollars, payable out of the Consolidated Revenue Fund of Canada.

The said Act further provided as follows in relation to this matter:—

"If it should be expedient so to do in order to facilitate such access, the Governor in Council may acquire the North Shore Railway, and may apply the said sum of one million five hundred thousand dollars, or any part thereof, in aid of such acquisition and upon such acquisition may transfer and convey or lease the said railway to the Canadian Pacific Railway Company, subject to such obligation as the Government shall have assumed in acquiring it."

By the Act 49 Vic., cap. 10, 1886 (*Assented to 2nd June, 1886*):—

65. For a railway from a point at or near Moncton, to Buctouche, in the province of New Brunswick, thirty miles, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole ..... $ 96,000

66. For a railway from Ingersoll via London to Chatham, in the province of Ontario, eighty miles, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 256,000

67. To the Northern and Western Railway Company, for ten miles of their railway, intervening between the termini of the portions of their railway for which subsidies are already granted, the one from Fredericton and the other from Indiantown, and an extension of two miles down to deep water at Chatham, in the province of New Brunswick, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole. 32,000

68. To the Caraquet Railway Company, for ten miles of their railway, from the end of the present subsidized portion at Lower Caraquet to Shippegan, in the province of New Brunswick, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 32,000

69. To the Lake Erie, Essex and Detroit River Railway Company, for thirty-seven miles of their railway, from Windsor to Leamington, in the province of Ontario, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 118,400

70. To the Thunder Bay Colonization Railway Company, for fifty-six miles of their railway, from the end of the present subsidized section to a point near Crooked Lake, in the province of Ontario, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 179,200

71. To the Parry Sound Colonization Railway Company, for forty miles of their railway, from the village of Parry Sound to the village of Sundridge, on the line of the Northern Pacific Junction Railway, in the province of Ontario, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 128,000

72. For a railway from a point at or near New Glasgow or St. Lin, to ornear to Montcalm, in the province of Quebec, eighteen miles, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 57,600

73. For a railway from Hereford to the International Railway, in the township of Eaton, in the province of Quebec, thirty-four miles, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole .. 108,800

74. For a railway from St. Félix to Lake Maskinongé, parish of St. Gabriel in the province of Quebec, ten miles, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 32,000

75. For a railway from Glenannan to Wingham, in the province of Ontario, five miles, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 16,000

76. For a railway from a point at or near the McCann Station, on the Intercolonial Railway, to the Joggins, on Cumberland Basin, in the province of Nova Scotia, twelve miles, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole ..... $ 38,400

77. For a railway from L'Assomption to L'Epiphanie, in the province of Quebec, three miles and a half, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 11,200

78. To the Montreal and Western Railway Company, for seventy miles of their railway from St. Jérôme, north-westerly towards Désert, in the province of Quebec, a subsidy of $5,161 per mile, in lieu of the subsidies granted by 46 Vic., chap. 25, and 47 Vic., chap. 8, not exceeding in the whole 361,270

79. For a railway from St. Andrew's to the Canadian Pacific Railway at or at any point east of the town of Lachute, in the county of Argenteuil, in the province of Quebec, seven miles, in lieu of the subsidy granted by 47 Vic., chap. 8, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 22,400

80. To the Canada Atlantic Railway Company, for twelve miles of their railway from Clark's Island to Valleyfield, and from Lacolle, in the province of Quebec, to the international boundary, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 38,400

81. For a railway from Truro to Newport, in the province of Nova Scotia, forty-nine miles, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 156,800

82. To the Quebec and Lake St. John Railway Company, for ninety-five miles of their railway, from a point fifty miles north of St. Raymond to Lake St. John, in the province of Quebec, a subsidy not exceeding $1,961 per mile, nor exceeding in the whole (in addition to the subsidy granted by 45 Victoria, chapter 14, and 46 Victoria, chapter 25, of $3,200 per mile) 186,295

83. To the Cap Rouge and St. Lawrence Railway Company, for twelve miles of their railway from Lorette via Cap Rouge to Quebec, in the province of Quebec, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 38,400

84. For the construction of wharfs and landing stages on the line of the railway from Long Sault to the foot of Lake Temiscamingue, a subsidy of 6,000

85. To the Gananoque, Perth and James Bay Railway Company, seventeen miles, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 54,400

86. For a railway from St. Eustache to St. Placide, county of Two Mountains, eighteen miles, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 57,600

87. For a railway from a point on the Intercolonial Railway through the Stewiacke Valley, on the line which will afford facilities of communication with the Iron Mines, Spring Side, Upper Stewiacke and Musquodoboit settlements, twenty-five miles, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 80,000

88. For a railway from Yamaska to the River St. Francis, in the province of Quebec, ten miles, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 32,000

89. For a railway from Perth Centre station, on the New Brunswick Railway, to a point near Plaister Rock Island, in the province of New Brunswick, twenty-eight miles, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 89,600

90. For a railway from Fredericton to the village of Prince William, in the province of New Brunswick, twenty-two miles, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 70,400

91. For a railway from a point on the Intercolonial Railway near Newcastle or via Douglastown to a point on the River Miramichi, opposite the town of Chatham, in the province of New Brunswick, six miles, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole. $19,200

92. For a railway from a point on the Canadian Pacific Railway to Eganville, in the province of Ontario, twenty-two miles, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 70,400

93. To the Belleville and North Hastings Railway Company, for seven miles of their railway, from the village of Madoc to the junction with the Central Ontario Railway at Eldorado, in the province of Ontario, a subsidy (in addition to the subsidy of $1,500 per mile granted by 48-49 Victoria, chapter 59), not exceeding $1,700 per mile, nor exceeding in the whole..... 11,900

94. To the Napanee, Tamworth and Quebec Railway Company, for eighteen miles of their railway from Tamworth to Tweed, in lieu of the subsidy granted by 48-49 Victoria, chapter 59, a subsidy of..... 70,000

95. To the Albert Railway Company, for their railway from Salisbury to Hopewell, in the province of New Brunswick, which is a feeder to the Intercolonial Railway, in the form of a loan, repayable at such time and secured in such manner as the Governor in Council determines, a subsidy of..... 15,000

"The subsidies hereinbefore mentioned as to be granted to the companies named for that purpose shall be granted to such companies respectively; the other subsidies shall be granted to such companies as shall be approved by the Governor in Council as having established, to his satisfaction, their ability to construct and complete the said railways respectively. All the lines for the construction of which subsidies have been granted shall be commenced within two years from the first day of August next, and completed within a reasonable time, not to exceed four years, to be fixed by Order in Council, and shall be so constructed according to descriptions and specifications and upon conditions to be approved by the Governor in Council, on the report of the Minister of Railways and Canals, and specified in the agreement to be made in each case by the company to the Government, and which the Government is hereby empowered to make; the location, also, of every such line of railway shall be subject to the approval of the Governor in Council, and all the said subsidies, respectively, shall be payable out of the Consolidated Revenue Fund of Canada, by instalments on the completion of each section of the railway of not less than ten miles, proportionate to the value of the portion so completed in comparison with that of the whole work undertaken, to be established by the report of the said Minister: Provided always, that the granting of such subsidies to the companies mentioned, respectively, shall be subject to such conditions for securing such running powers or traffic arrangements, and other rights, as will afford all reasonable facilities and equal mileage rates to all railways connecting with those so subsidized, as the Governor in Council may determine."

By section 2 of this Act authority was given for the grant of a charter by the Governor in Council for the purpose of constructing a railway from Long Sault to the foot of Lake Temiscamingue.

By the Act 50-51 Vic., cap. 24, 1887 *(Assented to 23rd June, 1887)*.

96. To the St. Catharines and Niagara Railway Company, for twelve miles of their railway from the city of St. Catharines to the bridge over the Niagara River, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... $ 38,400

97. To the Vaudreuil and Prescott Railway Company, for thirty miles of their railway from Vaudreuil towards Hawkesbury, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 96,000

98. To the Richmond Hill Junction Railway Company, for five miles of their railway from Richmond Hill Junction, on the Northern Railway of Canada, to Richmond Hill village, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 16,000

99. To the Drummond County Railway Company, for thirty miles of their railway from Drummondville towards Nicolet, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 96 000

100. To the Joggins Railway Company, for one and a quarter miles of their railway extending from the southern end of the portion subsidized by the Act 49 Victoria, chapter 10, to the wharfs, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole.. 4,000

101. To the Moncton and Buctouche Railway Company, for two miles of their railway from the west end of the portion subsidized by the Act 49 Victoria, chapter 10, to Moncton, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 6,400

102. To the Beauharnois Junction Railway Company, for thirty miles of their railway from St. Martin's towards St. Anicet, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 96,000

103. To the Harvey Branch Railway Company, for three miles of their railway from the southern terminus of the Albert Railway to Harvey Bank, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 9,600

104. To the Brantford, Waterloo and Lake Erie Railway Company, for eighteen miles of their railway from the town of Brantford to the village of Hagarsville or the village of Waterford, or some intermediate point on the Canada Southern Railway, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 57,600

105. To the Guelph Junction Railway Company, for sixteen miles of their railway from its junction with the Canadian Pacific Railway to the town of Guelph, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 51,200

106. To the Massawippi Railway Company, for ten miles of their railway from a point on the Atlantic and North-western Railway near the village of Magog, to Ayer's Flat station, on the Massawippi Valley Railway, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 32,000

107. To the Napanee, Tamworth and Quebec Railway Company, for four miles of their railway from the north end of the section subsidized by the Act passed in the session held in the forty-eighth and forty-ninth years of Her Majesty's reign, chapter 59, to Tweed, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 12,800

108. To the Dominion Lime Company, for seven miles of their railway from a point on the Quebec Central Railway, in the township of Dudswell, to the Dudswell Lime Company's quarries, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 22,400

109. To the South Norfolk Railway Company, for seventeen miles of their railway from Port Rowan to the town of Simcoe, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 54,400

110. To the Jacques Cartier Union Railway Company, extending and completing their railway, a subsidy of..... 20,000

111. For a line of railway from Mount Forest to Walkerton, twenty-four miles in length, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 76,800

112. To the Oshawa Railway and Navigation Company, for seven miles of their railway from Port Oshawa towards Raglan, a subsidy not exceeding $3,200 per mile. nor exceeding in the whole..... 22,400

113. To the Saguenay and Lake St. John Railway Company, for thirty miles of their railway from Lake St. John towards Chicoutimi, or from Chicoutimi towards Lake St. John, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 96,000

114. To the Great Eastern Railway Company, for thirty miles of their railway from the River St. Francis to the Arthabaska Railway, at St. Grégoire station, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... $96,000

115. To the Ontario and Pacific Railway Company, for six miles of their railway from the northern end of the portion subsidized by the Act 47 Victoria, chapter 8, to the town of Perth, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 19,200

116. To the Caraquet Railway Company, for seven miles of their railway from Lower Caraquet to Shippegan, in lieu of the subsidy granted by the Act 49 Victoria, chapter 10, a subsidy not exceeding in the whole.. 32,000

117. To the St. Lawrence and Lower Laurentian and Saguenay Railway Company, for the section of this railway from Grand Piles, on the St. Maurice River, to its junction with the Quebec and Lake St. John Railway, in lieu of the subsidy granted by the Act passed in the session held in the forty-eighth and forty-ninth years of Her Majesty's reign, chapter 59, for a line of railway from Grand Piles, on the St. Maurice River, to its junction with the Lake St. John Railway, a distance of about fifty miles, a subsidy of..... 217,600

118. To the St. John Valley and River du Loup Railway Company, for twenty-two miles of their railway from the village of Prince William towards the town of Woodstock, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 70,400

119. To the Lake Temiscamingue Railway Company, for four short sections of railway, in all about two miles in length, to overcome the rapids of the Ottawa River, known as "La Mi-Charge," "La Cave," "Les "Erables," and "La Montagne," and for the construction of wharfs and landing stages at these rapids, to connect the Canadian Pacific Railway at Mattawa with Lake Temiscamingue by steamboats, railways and other works (in lieu of a portion two miles in length, out of the eight miles of railway subsidized by the Act passed in the session held in the forty-eighth and forty-ninth years of Her Majesty's reign, chapter 59, under which about six miles of railway have already been built from the foot of Long Sault proper to the foot of Lake Temiscamingue, and in lieu also of the subsidy granted by the Act 49 Victoria, chapter 10), a subsidy of..... 12,400

120. To the Carillon and Grenville Railway Company, for twelve miles of their railway from St. Eustache to Sault au Récollet, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 38,400

121. To the Minudie Branch Railway Company, for five and a half miles of their railway from its junction with the Joggins Railway, near the River Hébert railway bridge, to the village of Minudie, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 17,600

122. To the Lake Temiscamingue Colonization and Railway Company, for ten and a half miles of their railway from the Long Sault to Lake Kippewa, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 33,600

123. To the Leamington and St. Clair Railway Company, for two miles of their railway from the north end of the section subsidized by the Act passed in the session held in the forty-eighth and forty-ninth years of Her Majesty's reign, chapter 59, to the village of Comber, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole. 6,400

124. To the Cumberland Railway and Coal Company for fourteen miles of their railway from a point on the Spring Hill and Parrsboro' Railway, near Spring Hill, to a point on the railway between Oxford and New Glasgow, near Oxford village, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 44,800

125. To the Montreal and Champlain Junction Railway Company, a subsidy of..... $ 64,000

126. To the Quebec and Lake St. John Railway Company, for nine miles of their railway, the distance which the previous subsidies granted are short of covering from the city of Quebec to Lake St. John, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 28,800

127. To the Temiscouata Railway Company, for thirty miles of a branch of their railway from Edmundston towards the St. Francis River, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole.. 96,000

128. To the Cornwallis Valley Railway Company, for thirteen miles of their railway from Kentville to Kingsport, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 41,600

129. To the Nova Scotia Central Railway Company, for thirty-four miles of their railway, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 108,800

130. To the Tobique Valley Railway Company, for fourteen miles of their railway from Perth Centre station towards Plaister Rock Island, in lieu of the subsidy granted by the Act 49 Victoria, chapter 10, for a railway from Perth Centre station, on the New Brunswick Railway, to a point near Plaister Rock Island, a subsidy of..... 89,600

131. For a railway from Woodstock towards Centreville, twenty miles, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole.. 64,000

132. For a railway bridge over the St. Lawrence River, at Coteau Landing on the line of the Canada Atlantic Railway, a subsidy of fifteen per cent on the value of the structure, not to exceed..... 180,000

133. To the Lake Erie, Essex and Detroit River Railway Company, for twenty-seven miles of their railway, in lieu of the subsidy granted by the Act 49 Victoria, chapter 10, a subsidy not exceeding..... 118,400

"For the purpose of granting corporate powers to persons or companies undertaking the construction of railways or parts of railways, mentioned in the next preceding section, for the construction of which no corporate powers exist at the time of the passing of this Act, the Governor in Council may grant to them, under such corporate name as he shall deem expedient, a charter conferring upon them the franchises, privileges and powers requisite for the said purposes, as the Governor in Council shall deem most useful or appropriate to the said undertaking; and such charter being published in the *Canada Gazette*, with any Order or Orders in Council relating to it, shall have force and effect as if it were an Act of the Parliament of Canada.

"The subsidies hereinbefore mentioned as to be granted to companies named for that purpose shall be granted to such companies respectively; the other subsidies, including subsidies granted for railways over a line extending beyond a point to which any company hereinbefore mentioned by name is authorized to construct their railway, shall be granted to such companies as shall be approved by the Governor in Council, as having established, to his satisfaction, their ability to construct and complete the said railways respectively; all the lines for the construction of which subsidies are granted shall be commenced within two years from the first day of August next, and completed within a reasonable time, not to exceed four years, to be fixed by Order in Council; and shall also be constructed according to descriptions and specifications and upon conditions to be approved by the Governor in Council, on the report of the Minister of Railways and Canals, and specified in an agreement to be be made in each case by the company with the Government, and which the Government is hereby empowered to make; the location, also, of every such line of railway shall be subject to the approval of the Governor in Council; and all the said subsidies respectively shall be payable out of the Consolidated Revenue Fund of Canada, by instalments, on the completion of each section of the railway of not less than ten miles, proportionate to the value of the portion so completed in comparison with that of the whole work undertaken, to be established by the report of the said Minister, or upon completion of the work subsidized, except as regards the subsidy for the bridge over the

St Lawrence River, upon which shall be paid fifteen per cent of the value of work done on monthly progress estimates, certified by the Chief Engineer, and upon the approval of the Minister of Railways and Canals.

"The granting of such subsidies to the companies mentioned, respectively, shall be subject to such conditions for securing such running powers or traffic arrangements and other rights as will afford all reasonable facilities and equal mileage rates to all railways connecting with those so subsidized, as the Governor in Council determines.

"Notwithstanding anything contained in the Act forty-fifth Victoria, chapter fourteen, or in the Act forty-sixth Victoria, chapter twenty-five, the balances of the sums granted for a railway from St. Raymond to Lake St. John and to the Quebec and Lake St. John Railway Company by the said Acts respectively, which have not yet been paid by the Government, may be paid at any time within one year from the passing of this Act, subject to the conditions in the said Act contained."

By the Act 51 Vic., cap. 3, 1888 (*Assented to 22nd May, 1888*):—

134. To the Ottawa and Parry Sound Railway Company, for 22 miles of their railway from a point on the Canadian Pacific Railway to Eganville, in lieu of the subsidy granted by 49 Victoria, chapter 10, for a railway from a point on the Canadian Pacific Railway to Eganville, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole ..... $ 70,400 00

135. To the Nova Scotia Central Railway Company, for 46 miles of their railway, in the province of Nova Scotia, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 147,200 00

136. To the Montreal and Champlain Junction Railway Company, for 3 miles of their railway from the end of the present subsidized section, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 9,600 00

137. To the Massawippi Junction Railway Company, for their railway from a point on the Atlantic and North-west Railway, near the village of Magog, to Ayer's Flat station, on the Massawippi Valley Railway, in lieu of the subsidy granted by 50-51 Victoria, chapter 24, a subsidy of 32,000 00

138. To the Pontiac Pacific Junction Railway Company, for bridging the several channels of the Ottawa River at Culbute and west thereof, a subsidy of $31,500, to be paid out monthly as the work progresses, upon the certificate of the Chief Engineer of Government railways, in the proportion which the value of the work executed bears to the value of the whole work undertaken, and for three miles of their railway extending from a point three miles east of Pembroke to Pembroke, in the province of Ontario, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole $9,600, provided that the entire work subsidized upon this railway shall be completed within four years from the passing of this Act, the subsidy granted by this Act not to exceed in the whole 41,100 00

139. To the Port Arthur, Duluth and Western Railway Company, for 84¾ miles of their railway from Port Arthur towards Gun Flint Lake, in lieu of the subsidies granted by 48-49 Victoria, chapter 59, and 49 Victoria, chapter 10, for the construction of a railway from Murillo Station to Crooked Lake, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 271,200 00

140. To the Quebec and Lake St. John Railway Company, for 30 miles of their railway from Lake St. John towards Chicoutimi, or from Chicoutimi towards Lake St. John, being a transfer made at the request of the Saguenay and Lake St. John Railway Company of the subsidy granted to them by 50-51 Victoria, chapter 24, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 96,000 00

141. To the Temiscouata Railway Company, for 20 miles of their branch railway from Edmundston towards the St. Francis River, in the province of Quebec, in lieu of the subsidy granted by 50-51 Victoria, chapter 24, a subsidy of $100,000 00

142. To the Quebec Central Railway Company, for the construction and completion of a line of railway from St. Francis Station to a point on the Atlantic and North-west Railway near Moose River, 90 miles, in lieu of the balance of the subsidy, unearned, granted by 47 Victoria, chapter 8, a subsidy not exceeding $21,191.54 per annum for twenty years, or a guarantee of a like sum for a like period as interest on the bonds of the company, such annual subsidy for twenty years representing a grant in cash of 288,000 00

143. To the Central Railway Company of New Brunswick, a grant as subsidy (the road to be first laid with new steel rails weighing not less than 56 pounds per lineal yard, and after an Order in Council has been passed authorizing their transfer to the company) of 4,052 tons of used iron rails and fastenings, loaned to the St. Martin's and Upham Railway Company, now forming part of the Central Railway, which rails and fastenings stand in the Public Accounts as an asset for..... 83,612 54

144. To the Elgin, Petitcodiac and Havelock Railway Company of New Brunswick, a grant as subsidy (the road to be first laid with new steel rails weighing not less than 56 pounds per lineal yard, and after an Order in Council has been passed authorizing their transfer to the company) of 2,201 tons of used iron rails and fastenings loaned to the Elgin Branch Railway, now forming part of the Elgin, Petitcodiac and Havelock Railway, which rails and fastenings stand in the Public Accounts as an asset for 44,252 82

145. To the Kent Northern Railway Company of New Brunswick, a grant as subsidy (the road to be first laid with new steel rails weighing not less than 56 pounds per lineal yard, and after an Order in Council has been passed authorizing their transfer to the company) of 2,549 tons of used iron rails and fastenings loaned to the company, which rails and fastenings stand in the Public Accounts as an asset for..... 58,334 27

146. To the Halifax Cotton Company of Nova Scotia, a grant as subsidy (the road to be first laid with new steel rails weighing not less than 56 pounds per lineal yard, and after an Order in Council has been passed authorizing their transfer to the company) of 233 tons of used iron rails and fastenings loaned to the company, which rails and fastenings stand in the Public Accounts as an asset for..... 4,335 00

147. To the Steel Company of Canada, in Nova Scotia, a grant as subsidy (the road to be first laid with new steel rails weighing not less than 56 pounds per lineal yard, and after an Order in Council has been passed authorizing their transfer to the company of 597 tons of used iron rails and fastenings loaned to the company, which rails and fastenings stand in the Public Accounts as an asset for..... 11,964 66

148. To the Albert Railway Company of New Brunswick, a grant as a subsidy (the section of road to be first laid with new steel rails weighing not less than 56 pounds per lineal yard, and after an Order in Council has been passed authorizing their transfer to the company) of 726 tons of used iron rails and fastenings loaned to the company, which rails and fastenings stand in the Public Accounts as an asset for..... 14,665 45

149. To the Chatham Branch Railway of New Brunswick, a grant as subsidy (the road to be first laid with new steel rails weighing not less than 56 pounds per lineal yard, and after an Order in Council has been passed authorizing their transfer to the company) of 958 tons of used iron rails and fastenings loaned to the company, which rails and fastenings stand in the Public Accounts as an asset for..... $24,439 84

" All the lines, for the construction of which subsidies are granted, shall be commenced within two years from the first day of August next, and completed within a reasonable time, not to exceed four years, to be fixed by Order in Council, and shall also be constructed according to descriptions and specifications, and upon conditions to be approved by the Governor in Council, on the report of the Minister of Railways and Canals, and specified in an agreement to be made in each case by the company with the Government, and which the Government is hereby empowered to make ; the location also of every such line of railway shall be subject to the approval of the Governor in Council ; and also the said subsidies respectively, payable in cash, shall be payable out of the Consolidated Revenue Fund of Canada by instalments, on the completion to the satisfaction of the Minister of Railways and Canals of each section of the railway of not less than 10 miles, proportionate to the value of the portion so completed in comparison with that of the whole work undertaken, to be established by the report of the said Minister, or upon completion of the work subsidized."

By the Act 52 Vic., chap. 3, 1889. *(Assented to 2nd May, 1889)* :—

150. To the Ontario and Pacific Railway Company, for a line of railway from Cornwall to Ottawa, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... $172,400 00

151. To the Ottawa and Gatineau Railway Company, for a line of railway from Hull station towards Le Désert, a distance of sixty-two miles, a subsidy not exceeding in the whole..... 320,000 00

152. To the Cap Rouge and St. Lawrence Railway Company, for twelve miles of their railway, from Lorette via Cap Rouge to Quebec, in the province of Quebec, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 38,400 00

153. To the Parry Sound Colonization Railway Company, for forty miles of their railway, from the village of Parry Sound to the village of Sundridge, or some other point on the line of the Northern and Pacific Junction Railway, in the province of Ontario, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 128,000 00

154. For a railway from St. Andrew's to the Canadian Pacific Railway, at or at any point east of the town of Lachute, in the county of Argenteuil, in the province of Quebec, seven miles, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 22,400 00

155. For a railway from Truro, or a point between Truro and Stewiacke, to Newport or to Windsor, in the province of Nova Scotia, forty-nine miles, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 156,800 00

156. For a line of the Central Railway from the head of Grand Lake to the Intercolonial Railway, in the province of New Brunswick, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 128,000 00

157. To the Albert Southern Railway Company, the balance remaining unpaid of the subsidy granted by the Act 47th Victoria, chapter 8, not exceeding in the whole 31,771 43

158. To the Baie des Chaleurs Railway Company, the balance remaining unpaid of the subsidy mentioned in the Act 49th Victoria, chapter 17, not exceeding in the whole 244,500 00

159. To the Irondale, Bancroft and Ottawa Railway Company, for a line of railway from the Victoria Branch of the Midland Railway to the village of Bancroft, in the county of Hastings, the balance remaining unpaid of the subsidy granted by the Act 47th Victoria, chapter 8, not exceeding in the whole..... $145,000 00

160. To the Northern and Pacific Junction Railway Company, for a railway from Gravenhurst to Callander, the balance remaining unpaid of the subsidies granted by the Act 45th Victoria, chapter 14, and 46th Victoria, chapter 25, not exceeding in the whole.. 35,000 00

161. For a railway from some point on the Joggins Railway, near the Hébert River, to Young's Mills, in the province of Nova Scotia, a distance of five miles, a subsidy not exceeding $3,200 per mile, and not exceeding in the whole..... 16,000 00

162. To the St. Clair Frontier Tunnel Company, for the construction of a tunnel under the St. Clair River, from a point at or near Sarnia, to a point at or near Port Huron, a subsidy not exceeding in the whole..... 375,000 00

163. To the Pontiac and Renfrew Railway Company, for six miles of their railway from the north bank of the Ottawa River, opposite Braeside, or from Bristol Iron Mines, to the Pontiac Pacific Junction Railway, near the Quyon River, in the province of Quebec, a subsidy not exceeding $3,200 per mile, and not exceeding in the whole..... 19,200 00

164. To the Quebec, Montmorency and Charlevoix Railway Company, for thirty miles of their railway, from the east bank of the St. Charles River, to or near to Cap Tourmente, in the province of Quebec, a subsidy not exceeding $3,200 per mile, and not exceeding in the whole..... 96,000 00

165. To the Fredericton and St. Mary's Bridge Company, for a bridge over the St. John River, at Fredericton, in the province of New Brunswick, a subsidy not exceeding in the whole..... 30,000 00

166. To the Napanee, Tamworth and Quebec Railway Company, for seven miles of their railway, from a point at or near Yarker to a point at or near Harrowsmith, and to a company for three miles of railway from a point at or near Harrowsmith to a point at or near Sydenham, a subsidy not exceeding $3,200 per mile, and not exceeding in the whole..... 32,000 00

167. For a railway from a point near Sicamous, on the Canadian Pacific Railway, to a point on Lake Okanagan for fifty-one miles of such railway, a subsidy not exceeding $3,200 per mile, and not exceeding in the whole..... 163,200 00

168. To the Cornwallis Valley Railway Company, for one mile of their railway, from the end of the line subsidized by the Act 50-51 Victoria, chapter 24, to Kingsport, in the province of Nova Scotia, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 3,200 00

169. To the Lake Témiscamingue Colonization and Railway Company, for fifteen miles of their railway, from Mattawa station on the Canadian Pacific Railway, towards the Long Sault, or from the Long Sault towards the said Mattawa station, in the province of Quebec, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 48,000 00

170. To the Maskinongé and Nipissing Railway Company, for fifteen miles of their railway, from a point on the Canadian Pacific Railway at or near Maskinongé or Louiseville, towards the parish of Saint-Michel des Saints, on the River Mattawin, in the province of Quebec, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 48,000 00

171. To the Kingston, Smith's Falls and Ottawa Railway Company, for twenty miles of their railway, from the city of Kingston towards Smith's Falls, in the province of Ontario, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... $ 64,000 00

172. To the South Ontario Pacific Railway Company, for forty-nine and one-half miles of their railway, from Woodstock to Hamilton, in the province of Ontario, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 158,400 00

173. For a railway from St. Césaire to St. Paul d'Abbotsford, in the province of Quebec, five miles, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 16,000 00

174. To the Great Eastern Railway Company, for twenty miles of their railway, from the east end of the line subsidized by the Act 50-51 Victoria, chapter 24, at St. Grégoire, towards the Chaudière Junction station on the Intercolonial Railway, in the province of Quebec, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 64,000 00

175. To the Drummond County Railway Company, for four and one-half miles of their railway, from the end of the line subsidized by the Act 50-51 Victoria, chapter 24, to Ball's Wharf, on the St. Lawrence River, in the province of Quebec, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 14,400 00

176. To the St. Catharines and Niagara Central Railway Company, for twenty miles of their railway, from the end of the line subsidized by the Act 50-51 Victoria, chapter 24, at St. Catharines, towards the city of Hamilton, in the province of Ontario, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 64,000 00

177. To the Quebec and Lake St. John Railway Company, for twenty miles of their railway, from the end of the section of thirty miles from Lake St. John towards Chicoutimi, subsidized by the Act 51 Victoria, chapter 3, towards Chicoutimi, in the province of Quebec, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 64,000 00

178. To the Grand Trunk, Georgian Bay and Lake Erie Railway Company, for fifteen miles of their railway, from the village of Tara or some point between Tara and Hepworth, to the town of Owen Sound, in the province of Ontario, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 48,000 00

179. To the Hereford Railway Company, for fifteen miles of their railway, from Cookshire to a junction with the Quebec Central Railway at Dudswell, in the province of Quebec, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 48,000 00

180. To the Massawippi Junction Railway Company, for fifteen miles of their railway, from Ayer's Flat to Coaticook, in the province of Quebec, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 48,000 00

181. To the Brockville, Westport and Sault Ste. Marie Railway Company, for twenty miles of their railway, from a point at or near Newboro', towards Palmer's Rapids, in the province of Ontario, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole. 64,000 00

182. To the Thousand Islands Railway Company, for four miles of their railway, from a point near the St. Lawrence River, in Gananoque village, to Gananoque Junction of the Grand Trunk Railway, and for thirteen miles of their railway, from Gananoque Junction of the Grand Trunk Railway to a junction with the Brockville, Westport and Sault Ste. Marie Railway, in the province of Ontario, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 54,400 00

183. For a railway from Cape Tourmente towards Murray Bay, twenty miles, in the province of Quebec, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole $64,000 00

184. To the Amherstburg, Lake Shore and Blenheim Railway Company, for twenty miles of their railway, in the province of Ontario, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 64,000 00

"So much of the subsidy of three thousand two hundred dollars per mile, which under the provisions of the Act forty-ninth Victoria, chapter seventeen, and of this Act, may be paid to the Baie des Chaleurs Railway Company in respect of the thirty miles of their railway, from the seventieth to the hundredth mile, eastward from Metapediac, shall be applicable to the section of the said railway, comprised between the fortieth and the seventieth mile thereof, eastward from Metapediac, instead of to the said first mentioned section of thirty miles, making six thousand four hundred dollars per mile applicable to the secondly mentioned section of thirty miles; but the foregoing provision shall be subject to the condition that the said company undertake to complete the thirty miles of their railway from the seventieth to the hundredth mile eastward from Metapediac within a reasonable time, not to exceed four years, to be fixed by Order in Council, and without any further subsidy from the Government of Canada, and that they deposit with the Minister of Railways and Canals, as security to the Crown that they will well and truly carry out their undertaking, their bonds to the amount of two hundred thousand dollars.

"The subsidies hereinbefore mentioned as to be granted to companies named for that purpose, shall be granted to such companies respectively; all the lines for the construction of which subsidies are granted, unless they are already commenced, shall be commenced within two years from the first day of August next, and completed within a reasonable time, not to exceed four years, to be fixed by Order in Council, and shall also be constructed according to descriptions and specifications and upon conditions to be approved by the Governor in Council, on the report of the Minister of Railways and Canals, and specified in an agreement to be made in each case by the company with the Government, and which the Government is hereby empowered to make; the location, also, of every such line of railway shall be subject to the approval of the Governor in Council; and all the said subsidies, respectively, shall be payable out of the Consolidated Revenue Fund of Canada, by instalments, on the completion of each section of the railway of not less than ten miles, proportionate to the value of the portion so completed in comparison with that of the whole work undertaken, to be established by the report of the said Minister, or upon the completion of the work subsidized, except as respects the tunnel under the St. Clair River, in which case there shall be paid fifteen per cent of the value of work done on monthly progress estimates, certified by the Chief Engineer, and upon the approval of the Minister of Railways and Canals.

"The granting of such subsidies, respectively, shall be subject to such conditions for securing such running powers or traffic arrangements and other rights, as will afford all reasonable facilities and equal mileage rates to all railways connecting with those so subsidized, as the Governor in Council determines.

"And for the removal of doubts it is hereby declared and enacted that the provision in the Act passed in the fifty-first year of Her Majesty's reign, and chaptered three, relating to the Pontiac Pacific Junction Railway Company, extended and extends the several subsidies in aid of the said company for four years from the passing of the said Act, that is to say, from the twenty-second day of May, one thousand eight hundred and eighty-eight."

By the Special Act, 52 Vic., cap. 5, 1889 *(Assented to 2nd May, 1889)*:—

185. In order to enable the Qu'Appelle, Long Lake and Saskatchewan Railroad and Steamboat Company to complete their railway from Regina to some point on the South Saskatchewan River at or near Saskatoon, and thence northward to Prince Albert, the Governor in Council may enter into a contract with such company for the transport of men, supplies, materials and mails,

for twenty years, and may pay for such services during the said term, eighty thousand dollars per annum in manner following, that is to say:—the sum of fifty thousand dollars to be paid annually on the construction of the railway to a point at or near Saskatoon, such payment to be computed from the date of the completion of the railway to such point; and the remaining thirty thousand dollars annually on the extension of the railway to Prince Albert, such payment to be computed from the date of such last mentioned completion: Provided that if the second portion of the said railway is not built and operated to Prince Albert within two years after the completion of the railway to the South Saskatchewan as aforesaid, the payment of fifty thousand dollars shall cease until the whole railway is finished to Prince Albert.

By the Act 53 Vic., cap. 2, 1890 *(Assented to 16th May, 1890)*:—

186. To the Montreal and Ottawa Railway Company, for thirty miles of their railway, from the western end of the thirty-six miles subsidized by the Act 50-51 Victoria, chapter 24, towards Ottawa, a subsidy not exceeding $3,200 per mile, and not exceeding in the whole ..... $ 96,000

187. To the Waterloo Junction Railway Company, for eleven miles of their railway, from Waterloo to Elmira, a subsidy not exceeding $3,200 per mile, and not exceeding in the whole 35,200

188. To the Northern and Pacific Junction Railway Company, for a railway from Gravenhurst to Callander, the balance remaining unpaid of the subsidies granted by the Acts 45 Victoria, chapter 14, and 46 Victoria, chapter 25, not exceeding in the whole ... 600

189. For a railway from Woodstock via London to Chatham, in the province of Ontario, thirty miles in lieu of the subsidy granted by the Act 49 Victoria, chapter 10, for a railway from Ingersoll via London to Chatham, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 256,000

190. To the St. Catharines and Niagara Railway Company, for fourteen miles of their railway, from the end of the twenty miles subsidized by the Act 52 Victoria, chapter 3, to Hamilton, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole. 44,800

191. To a railway from Ottawa to Morrisburg, fifty-two miles, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 166,400

192. To the Erie and Huron Railway Company, for twenty-two miles of their railway from Petrolea via Oil Springs to Dresden, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole. 70,400

193. To the Brockville, Westport and Sault Ste. Marie Railway Company, for a railway from Brockville to Westport, the balance remaining unpaid of the subsidy granted by the Act 48-49 Victoria, chapter 59, not exceeding in the whole 83,000

194. To the Manitoulin and North Shore Railway Company, for thirty miles of their railway from Little Current to the Algoma Branch of the Canadian Pacific Railway, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 96,000

195. To the Port Arthur, Duluth and Western Railway Company, for five miles of their railway, being a branch of the main line of railway to the Kakabeka Falls, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 16,000

196. To the Lake Erie and Detroit River Railway Company, for fifty miles of their railway, on a line to be fixed by the Governor in Council, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 160,000

197. To the Lindsay, Bobcaygeon and Pontypool Railway Company, for sixteen miles of their railway, from Bobcaygeon to the Midland Railway, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... $ 51,200

198. To the Kingston, Smith's Falls and Ottawa Railway Company, for thirty-six miles of their Railway, from the north-east end of the twenty miles subsidized by the Act 52 Victoria, chapter 3, to Smith's Falls, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 115,200

199. To the Ottawa and Parry Sound Railway Company, for thirty miles of their railway, from Eganville to Barry's Bay, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 96,000

200. To the Belleville and Lake Nipissing Railway Company, for thirty miles of their railway, from Belleville to Tweed and thence to Bridgewater, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 96,000

201. To the Cobourg, Northumberland and Pacific Railway Company, for thirty miles of their railway from Cobourg to the Ontario and Quebec Railway, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 96,000

202. To the St. Stephen and Milltown Railway Company, for three and a half miles of their railway, from the town of St. Stephen to the town of Milltown, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 11,200

203. To the Woodstock and Centreville Railway Company, for six miles of their railway, from the western end of the twenty miles subsidized by the Act 50-51 Vic., chap. 24, to the International boundary between the province of New Brunswick and the state of Maine, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 19,200

204. For a railway from a point at or near Fredericton, via Oromocto and Gagetown, to a point on the New Brunswick Railway west of Westfield station, for thirty miles thereof, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 96,000

205. To the Central Railway Company of New Brunswick, for four and a half miles of their railway, the distance which the previous subsidy granted is short of covering, from the head of Grand Lake to the Intercolonial Railway, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 14,400

206. To the Montreal and Western Railway Company, for seventy miles of their railway, from St. Jérôme, north-westerly towards Désert, in the province of Quebec, in lieu of the subsidy granted by the Act 49 Vic., chap. 10, a subsidy not exceeding $5,161 per mile, nor exceeding in the whole..... 361,270

"Provided, that the subsidy hereby granted to the Montreal and Western Company may be paid by instalments on the completion of each section of the railway as follows, that is to say:—

SECTIONS.	Approximate length in miles.
St. Jérôme to Shawbridge	8
Shawbridge to St. Sauveur	4
St. Sauveur to Ste. Adèle	6
Ste. Adèle to Lac à la Fourche	6
Lac à la Fourche to Ste. Agathe	6½
Ste. Agathe to St. Faustin	14
St. Faustin to St. Jovite	7½
St. Jovite to Summit Lake	8
Summit Lake to La Chute aux Iroquois	7
La Chute aux Iroquois towards Désert	3

"Such instalments to be proportionate to the value of the portions so completed in comparison with that of the whole work undertaken, to be established as aforesaid."

207. For seventy-five miles of the railway from Shelburne, in the county of Shelburne, and from Liverpool, in the county of Queen's towards Annapolis, in the province of Nova Scotia, to be so contracted for as to secure the construction to both Shelburne and Liverpool, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole ..... $ 240,000

208. To the Inverness and Richmond Railway Company, for fifty miles of their railway from Port Hawkesbury to Broadcove, a subsidy not exceeding $1,000 per mile, nor exceeding in the whole..... 50,000

209. To the International Railway Company, for a railway from Sherbrooke to the international boundary, the balance remaining unpaid of the subsidy granted by the Act 46 Vic., chapter 25, not exceeding in the whole 3,840

210. For completing the Montreal and Sorel Railway from St. Lambert to Sorel 40,000

211. To the Pontiac Pacific Junction Railway Company, for seven and a half miles of their railway, from Hull to Aylmer, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 24,000

212. To the Montreal and Lake Maskinongé Railway Company, for three and a half miles of their railway, the distance which the subsidy granted by the Act 49 Vic., chapter 10, is short of covering from St. Félix to Lake Maskinongé, in the parish of St. Gabriel, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 10,200

213. To the Great Eastern Railway Company, for a bridge over the Nicolet River, and also a bridge on the St. Francis River, a subsidy of 15 per cent on the value of the structure, not to exceed 37,500

214. To the Drummond County Railway Company, for twenty-four miles of their railway, from Drummondville to Ste. Rosalie, in the province of Quebec, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 76,800

215. To the Great Northern Railway Company, for fifteen miles of their railway, from, at or near Montcalm to the Canadian Pacific Railway, between Joliette and St. Félix de Valois, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 48,000

216. To the Lake Temiscamingue Colonization Railway Company, for twenty miles of their railway, from the northern end of the fifteen miles subsidized by the Act 52 Vic., chapter 3, to the Long Sault, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 64,000

217. To the Maskinongé and Nipissing Railway Company, for fifteen miles of their railway, from the northern end of the 15 miles subsidized by the Act 52 Victoria, chapter 3, towards the parish of St. Michel des Saints, on the River Mattawa, in the province of Quebec, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 48,000

218. To the St. Lawrence and Adirondack Railway Company, for eighteen miles of their railway, from Valleyfield to Huntingdon, on the Montreal and Champlain Junction Railway, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 57,600

219. To the Quebec Central Railway Company, for ninety miles of their railway, from St. Francis Station, on the Quebec Central Railway, to a point on the Atlantic and North-western Railway,

near Moose River, or from a point on the Quebec Central Railway between the Chaudière River and Tring Station, to a point on the International Railway at or near Lake Megantic, in lieu of the subsidy granted by the Act 51 Victoria, chapter 3, a subsidy not exceeding $21,191.54 per annum for twenty years, or a guarantee of a like sum for a like period, as interest on the bonds of the company, such annual subsidy for twenty years representing a grant in cash of..... $288,000

220. To the Quebec and Lake St. John Railway Company, for a railway bridge over the St. Charles River, to give access to the city of Quebec, a subsidy not to exceed in the whole $30,000; also for twelve miles of their railway from Lorette via Charlesbourg to Quebec, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole $38,400..... 68,400

221. For a railway from Summerside to Richmond Bay, in the province of Prince Edward Island, three miles, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 9,600

222. To the Columbia and Kootenay Railway Company, for thirty-five miles of their railway, from the outlet of Kootenay Lake to a point on the Columbia River as near as practicable to the junction of the Kootenay and Columbia Rivers, a subsidy not exceeding $3,200 per mile, nor to exceed in the whole..... 112,000

223. For a railway from a point on the Intercolonial Railway through the Stewiacke Valley on a line which will afford facilities of communication with the Iron Mines, Springside, Upper Stewiacke and Musquodoboit settlements, twenty-five miles, in lieu of the subsidy granted by the Act 49 Victoria, chapter 10, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 80,000

224. For a railway from Fredericton to the village of Prince William in the province of New Brunswick, twenty-two miles, in lieu of the subsidy granted by the Act 49 Victoria, chapter 10, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 70,400

225. To the St. John Valley and Rivière du Loup Railway Company, for twenty-two miles of their railway from the village of Prince William towards the town of Woodstock, in lieu of the subsidy granted by the Act 50-51 Victoria, chapter 24, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 70,400

226. To the Témiscouata Railway Company, for sixteen miles of their railway, from the west end of the twenty miles of their branch railway from Edmundston, subsidized by the Act 51 Victoria, chapter 3, towards the St. Francis River, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 51,200

227. For a railway from the north end of the fourteen miles for which a subsidy was granted by the Act 50 and 51 Victoria, chapter 24, to the Tobique Valley Railway Company, from Perth Centre towards Plaister Rock Island, eleven miles, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 35,200

228. To the Orford Mountain Railway Company, for thirty-one miles of their railway, between Eastman and Kingsbury, a subsidy not exceeding $3,200 per mile, nor exceedingin the whole 99,200

229. For a railway from Lachine Bank, on a line of the Grand Trunk Railway, to a point at or near Rivière des Prairies, a distance of fifteen miles, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 48,000

"The subsidies hereinbefore mentioned as to be granted to companies named for that purpose, shall be granted to such companies respectively; the other subsidies,

including subsidies granted for railways over a line extending beyond a point to which any company hereinbefore mentioned by name is authorized to construct its railway, shall be granted to such companies as shall be approved by the Governor in Council as having established to his satisfaction their ability to construct and complete the said railways respectively. All the lines for the construction of which subsidies are granted shall be commenced within two years from the first day of July next, and completed within a reasonable time, not to exceed four years, to be fixed by Order in Council,—except the Erie and Huron Railway, which shall be completed within two years from the first day of July next. And they shall also be constructed according to descriptions and specifications, and upon conditions to be approved by the Governor in Council, on the report of the Minister of Railways and Canals, and specifying an agreement to be made in each case by the company with the Government, and which the Government is hereby empowered to make. The location, also, of every such line of railway shall be subject to the approval of the Governor in Council. And all the said subsidies respectively shall be payable out of the Consolidated Revenue Fund of Canada, by instalments, on the completion of each section of the railway of not less than ten miles, proportionate to the value of the portion so completed in comparison with that of the whole work undertaken, to be established by the report of the said Minister, or upon the completion of the work subsidized—except as regards the Erie and Huron Railway Company, upon which payment shall be made only upon the completion of the work—except, also as regards the subsidies to the Inverness and Richmond Railway, which shall be paid on the completion of each ten mile section, in accordance, as nearly as practicable, with the agreement between the company and the municipality of Inverness, and with section four of the Act of the Legislature of Nova Scotia, 1890, intituled: An Act to enable the county of Inverness to borrow money—except, also, as regards the subsidies to the Great Eastern Railway Company for bridges over the Nicolet and St. Francis Rivers, and to the Quebec and Lake St. John Railway for the bridge over the St. Charles River, upon which shall be paid fifteen per cent of the value of work done, on monthly progress estimates certified by the Chief Engineer and upon the approval of the Minister of Railways and Canals—and except also the subsidy granted to the Quebec Central Railway Company, the first annual payment upon which shall be made at the end of twelve months from the date of the Chief Engineer's certificate of the completion of the work, and each subsequent payment at the end of each twelve months thereafter, for the term of twenty years.

"The granting of such subsidies to the companies mentioned, respectively, shall be subject to such conditions for securing running powers or traffic arrangements or other rights as will afford all reasonable facilities and equal mileage rates to all railways connecting with those subsidized, as the Governor in Council determines."

By the special Act 53 Vic., ch. 5, 1890 *(Assented to 16th May, 1890)*:—

230. In order to enable the Calgary and Edmonton Railway Company to construct so much of their railway as reaches from a point on the line of the Canadian Pacific Railway Company within the town of Calgary to a point on the North Saskatchewan River near Edmonton, the Governor in Council may enter into a contract with such company for the transport of men, supplies, materials and mails for twenty years, and may pay for such services during the said term, eighty thousand dollars per annum, in manner following, that is to say: the sum of eighty thousand dollars to be paid annually on the construction of the railway from Calgary to a point on the North Saskatchewan River near Edmonton,—such payment to be computed from the date of the completion of the railway between such points: Provided that the Governor General in Council may order such sums to be paid in semi-annual instalments, and may permit the company to assign the same by way of security for any bonds or securities which may be issued by the company in respect of the company's undertaking.

By 54-55 Victoria, ch. 8, 1891 *(Assented to 30th Sept., 1891)*:—

231. To the Great Northern Railway Company, for a railway from a point at or near New Glasgow or St. Lin to or near to Montcalm, in the province of Quebec, eighteen miles, the balance

remaining unpaid of the subsidy, not exceeding $3,200 per mile, granted by the Act forty-ninth Victoria, chapter ten, nor exceeding in the whole..... $ 28,100 00

232. To the Quebec and Lake St. John Railway Company, for the railway bridge over the St. Charles River to give access to the city of Quebec, the difference between the amount already paid to the company and the sum of $30,000 mentioned as not to be exceeded by the Act fifty-third Victoria, chapter two, a subsidy not exceeding..... 5,250 00

233. To the Oshawa Railway Company, for seven miles of their railway from Port Oshawa towards Raglan, in lieu of the subsidy for a like amount granted by the Act passed in the session held in the fiftieth and fifty-first years of Her Majesty's reign, chapter twenty-four, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 22,400 00

234. To the St. Lawrence, Lower Laurentian and Saguenay Railway Company, for the section of their railway from Grand Piles, on the St. Maurice River to its junction with the Quebec and Lake St. John Railway, the balance remaining unpaid of the subsidy granted by the Act passed in the session held in the fiftieth and fifty-first years of Her Majesty's reign, chapter twenty-four, not exceeding in the whole..... 92,784 00

235. To the Great Eastern Railway Company, for thirty-miles of their railway, from the River St. Francis to the Arthabaska Railway at St. Grégoire station, the balance remaining unpaid of the subsidy, not exceeding $3,200 per mile, granted by the Act passed in the session held in the fiftieth and fifty-first years of Her Majesty's reign, chapter twenty-four, not exceeding in the whole..... 79,700 00

236. To the South Ontario Pacific Railway Company, for forty-nine and one-half miles of their railway from Woodstock to Hamilton, in the province of Ontario, in lieu of the subsidy for a like amount granted by the Act fifty-second Victoria, chapter three, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 158,400 00

237. To the Montreal and Ottawa Railway Company (formerly the Vaudreuil and Prescott Railway Company), for thirty miles of their railway from Vaudreuil towards Hawkesbury, the balance remaining unpaid of the subsidy granted by the Act passed in the session held in the fiftieth and fifty-first years of Her Majesty's reign, chapter twenty-four, not exceeding in the whole..... 46,040 00

238. To the Tobique Valley Railway Company, for fourteen miles of their railway from Perth Centre station towards Plaister Rock Island, in lieu of the subsidy for a like amount granted by the Act passed in the session held in the fiftieth and fifty-first years of Her Majesty's reign, chapter twenty-four, a subsidy not exceeding $6,400 per mile, nor exceeding in the whole.... 89,600 00

239. To the Kingston, Smith's Falls and Ottawa Railway Company for fifty-six miles of their railway from the city of Kingston to Smith's Falls, in lieu of the subsidies, not to exceed $179,200, granted by the Acts fifty-second Victoria, chapter three, and fifty-third Victoria, chapter two, a subsidy not exceeding $12,534 per annum, to be paid in semi-annual instalments of $6,267 each, for twenty years, which represents a grant in cash of..... 179,200 00

"Provided, that upon the completion of twenty-eight miles of the said railway a semi-annual subsidy may be paid proportionate to the value of the portion so completed in comparison with that of the whole fifty-six miles; Provided also, that the company may deposit with the Minister of Finance and Receiver General a sum not exceeding $1,170,000, in consideration whereof there shall be paid to the company, for twenty years, a semi-annual annuity calculated on a basis of three and one-half per cent on the amount so deposited; Provided further, that the Governor in Council may permit the company to assign the said subsidy and annuity to trustees by way of security for any bonds or securities which may be issued by the company in respect of their undertaking."

240. To the Brockville, Westport and Sault Ste. Marie Railway Company, for twenty miles of their railway, from a point at or near Newboro' towards Palmer's Rapids, in the province of Ontario, in lieu of a subsidy for a like amount granted by the Act fifty-second Victoria, chapter three, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... $64,000 00

"Provided that the subsidy hereby granted to the Brockville, Westport and Sault Ste. Marie Railway Company may be paid by instalments, on the completion of each section of the railway as follows, that is to say:—

Sections.	Length in miles.
From, at or near Newboro' to Westport.....	4
From Westport towards Palmers Rapids.....	16

"The subsidies hereinbefore mentioned as to be granted to companies named for that purpose shall be granted to such companies respectively; all the lines for the construction of which subsidies are granted, unless they are already commenced, shall be commenced within two years from the first day of August next, and completed within a reasonable time, not to exceed four years, to be fixed by Order in Council; and shall also be constructed according to descriptions and specifications and upon conditions to be approved by the Governor in Council, on the report of the Minister of Railways and Canals and specified in an agreement to be made in each case by the company with the Government, and which the Government is hereby empowered to make; the location, also of every such line of railway, shall be subject to the approval of the Governor in Council; and all the said subsidies respectively shall be payable out of the Consolidated Revenue Fund of Canada, by instalments, on the completion of each section of the railway of not less than ten miles, proportionate to the value of the portion so completed in comparison with that of the whole work undertaken, to be established by the report of the said Minister, or upon the completion of the work subsidized—except as to the subsidy granted to the Kingston, Smith's Falls and Ottawa Railway Company, the first semi-annual payment upon which shall be made at the end of six months from the date of the Chief Engineer's certificate of the completion of twenty-eight miles of the railway, and each subsequent payment at the end of each six months thereafter, for the term of twenty years,—except also as to the Quebec and Lake St. John Railway Company, the subsidy to which shall be paid upon the completion of the work,—except also as to the Brockville, Westport and Sault Ste. Marie Railway Company, the subsidy to which shall be paid as follows: on the completion of that portion of the said road from, at or near Newboro' to Westport, a distance of four miles, the sum of twelve thousand eight hundred dollars, and on the completion of the remaining sixteen miles from Westport towards Palmer's Rapids, the sum of fifty-one thousand two hundred dollars.

"Within one month after the commencement of each session of Parliament, whilst any of the said moneys are being paid out, there shall be laid before Parliament a statement showing all payments of such moneys during the then next preceding year, the names of the respective persons to whom such payments have been made, and the amounts paid them respectively, together with the engineer's report upon which pay-

ments have been recommended, and copies of all contracts between the Government and the company under which the said subsidies are authorized to be paid.

"The granting of such subsidies respectively shall be subject to such conditions for securing such running power or traffic arrangements and other rights as will afford all reasonable facilities and equal mileage rates to all railways connecting with those so subsidized, as the Governor in Council determines.

By the Act 55-56 Victoria, chap. 5, 1892 *(Assented to 9th July, 1892)* :—

241. To the Lake Erie and Detroit River Railway Company, for fifty-eight miles of their railway from a point at or near Cedar Creek to the town of Ridgetown, in lieu of the subsidies granted to the Lake Erie and Detroit River Railway Company by the Act 53 Victoria, chapter 2, and to the Amherstburg, Lake Shore and Blenheim Railway Company by the Act 52 Victoria, ch. 3. $224,000 00

242. To the Ottawa, Arnprior and Parry Sound Railway Company, for fifty-five miles of their railway from Barry's Bay towards the Northern Pacific Junction Railway, a subsidy not exceeding $6,400 per mile on the first twenty-seven and a half miles out from Barry's Bay, and not exceeding $3,200 per mile on the second twenty-seven and a half miles, nor exceeding in the whole..... 264,000 00

243. To the Canadian Pacific Railway Company or to the Columbia and Kootenay Railway and Navigation Company, for a railway from a point on the Canadian Pacific Railway at or near Revelstoke to the head of Arrow Lake, for twenty-five miles of such railway, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 80,000 00

244. To the Tobique Valley Railway Company, for a railway from the north end of the eleven miles for which a subsidy was granted by the Act 53 Victoria, chapter 2, to Plaister Rock Island, for 3 miles of such railway, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 9,600 00

245. To the Monfort Colonization Railway Company, for twenty-one miles of their railway from Lachute, St. Jérôme or a point at or near St. Sauveur, on the line of the Montreal and Western Railway, to Monfort and westward, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 67,200 00

246. To the Ontario, Belmont and Northern Railway Company, for ten miles of their railway from the Belmont iron mines to the Canadian Pacific Railway and the Central Ontario Railway, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 32,000 00

247. To the Montreal and Champlain Junction Railway Company, the balance remaining unpaid of the subsidies granted by the Acts 50-51 Victoria, chapter 24, and 51 Victoria, chapter 3, a subsidy of..... 15,100 00

248. To the Buctouche and Moncton Railway Company, for thirty-two miles of their railway from Moncton to Buctouche, the balance remaining unpaid of the subsidy, not exceeding $3,200 per mile, granted by the Acts 49 Victoria, chapter 10, and 50-51 Victoria, chapter 24, not exceeding in the whole..... 35,480 00

249. To the Cobourg, Northumberland and Pacific Railway Company, for nineteen miles of their railway from Cobourg to the Ontario and Quebec Railway (in addition to the subsidy granted by the Act 53 Victoria, chapter 2), a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 60,800 00

250. For a railway from the parish of St. Rémi, in the county of Napierville, to St. Cyprien in the said county, for twelve miles of such railway, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole ..... $ 38,400 00

251. To the Inverness and Richmond Railway Company (or any other company undertaking the work), for twenty-five miles of their railway from a point on the Cape Breton Railway, at or near Orangedale, to Broadcove, a subsidy not exceeding $3,200 per mile, in lieu of the subsidy of $50,000 granted to the said railway company by 53 Victoria, chapter 2, and on the same conditions, not exceeding in the whole 80,000 00

252. To the Nicola Valley Railway Company, for twenty-five miles of their railway from a point on the Canadian Pacific Railway at or near Spence's Bridge towards Nicola Lake 80,000 00

253. To the Lotbinière and Megantic Railway Company, for fifteen miles of their railway from a point at or near St. Jean Deschaillons towards Glen Lloyd, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 48,000 00

254. To the Stewiacke and Lansdowne Railway Company, for a railway from a point on the Intercolonial Railway, through the Stewiacke Valley, on a line which will afford facilities of communication with the iron mines at Springside, Upper Stewiacke and Musquodoboit settlements, twenty-five miles, in lieu of the subsidy granted by the Act 53 Victoria, chapter 2, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 80,000 00

255. To the Philipsburg Junction Railway and Quarry Company, for six and seven-hundredths miles of their railway from Stanbridge Station to Philipsburg, in the county of Missisquoi, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 21,600 00

256. To the Kingston, Napanee and Western Railway Company, for three miles of their railway from a point at or near Harrowsmith to a point at or near Sydenham, in lieu of the subsidy granted for this section of road by the Act 52 Victoria, chapter 3, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 9,600 00

257. For a railway from Cape Tourmente towards Murray Bay, in the province of Quebec, twenty miles, in lieu of the subsidy granted by the Act 52 Victoria, chapter 3, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 64,000 00

258. To the Stewiacke and Lansdowne Railway Company, for a railway from Truro, or a point between Truro and Stewiacke, to Newport or to Windsor, in the province of Nova Scotia, for forty-nine miles of such railway, in lieu of the subsidy granted by the Act 52 Victoria, chapter 3, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 156,800 00

259. To the Restigouche and Victoria Railway Company, for fifteen miles of their railway from Campbellton towards Grand Falls, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 48,000 00

260. For a railway from St. Johns to Ste. Rosalie, thirty-two miles, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 102,400 00

261. For a railway from St. Placide to St. Andrew's, eight miles, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole.. 25,600 00

262. For a railway to complete the connection between Sydney and Louisburg, in the county of Cape Breton, for twenty-eight miles of such railway, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 89,600 00

263. To the Belleville and Lake Nipissing Railway Company, for thirty miles of their railway from Belleville to Tweed and thence to Bridgewater, in lieu of the subsidy granted by the Act 53 Victoria, chapter 2, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... $ 96,000 00

264. To the Kingston, Smith's Falls and Ottawa Railway Company, for fifty-six miles of their railway from the city of Kingston to Smith's Falls, in lieu of the subsidies, not to exceed $179,200, granted by the Acts 52 Victoria, chapter 3, and 53 Victoria, chapter 2, a subsidy calculated on a basis of three and a half per cent on the amount of such subsidies so granted, to be paid in semi-annual instalments for such period not exceeding twenty-one years, as the company may elect, which represents a grant in cash of..... 179,200 00

"Provided, that upon the completion of twenty-eight miles of the said railway a semi-annual subsidy may be paid proportionate to the value of the portion so completed in comparison with that of the whole fifty-six miles: Provided also, that the company may deposit with the Minister of Finance and Receiver General, a sum not exceeding $1,170,000, in consideration whereof there shall be paid to the company for such period not exceeding twenty years as the company may elect, a semi-annual annuity calculated on a basis of three and a half per cent on the amount so deposited. Provided further, that the Governor in Council may permit the company to assign the said subsidy and annuity to trustees by way of security for any bonds or securities which may be issued by the company in respect of their undertaking."

265. To the St. Catharines and Niagara Central Railway Company, for thirty-four miles of their railway from the city of St. Catharines to the city of Hamilton, in lieu of the subsidies, not to exceed $108,000, granted by the Acts 52 Victoria, chapter 3, and 53 Victoria, chapter 2, a subsidy calculated on a basis of three and a half per cent on the amount of the said subsidies, to be paid in semi-annual instalments for such period, not exceeding twenty years, as the company may elect, representing a grant in cash of $108,000: Provided that, upon the completion of ten miles of said railway, a semi-annual subsidy may be paid proportionate to the value of the portion so completed in comparison with that of the whole thirty-four miles. Provided also, that the company may deposit with the Minister of Finance and Receiver General a sum not exceeding $400,000, in consideration whereof there shall be paid by the Government to the company, for such period not exceeding twenty years, as the company may elect, a semi-annual annuity, calculated on a basis of three and a half per cent on the amount so deposited, or a guarantee of a like sum, as interest on the bonds of the company: Provided further, that the company, with the approval of the Governor in Council, may assign the said subsidy and annuity to trustees by way of security for principal, or interest of any bonds or securities which may be issued by the company in respect of their undertaking, and the subsidy last above mentioned to the St. Catharines and Niagara Central Railway Company shall be paid in instalments, the first semi-annual payment upon which shall be made at the end of the six months from the date of the Chief Engineer's certificate of the completion of the first ten miles of railway, and each subsequent payment at the end of six months thereafter, for the term of twenty years or less. It is a condition of this subsidy that the sum not exceeding $400,000 above mentioned shall be deposited with the Finance Minister before January 1st, 1893.

266. To the Woodstock and Centreville Railway Company, for a railway from Woodstock towards Centreville, twenty miles, in lieu of the subsidy granted by 50-51 Victoria, chapter 24, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... $64,000 00

267. To the Brockville, Westport and Sault Ste. Marie Railway Company, for the balance remaining unpaid of the subsidy granted by the Act 52 Victoria, chapter 3, not exceeding $3,200 per mile, and also for the balance remaining unpaid of the subsidy granted by the Act 53 Victoria, chapter 2, nor exceeding in the whole..... 96,800 00

268. To the New Glasgow Iron, Coal and Railway Company, for a railway from Eureka Junction on the Intercolonial Railway to a point at or near Sunnybrae, including a branch line to the charcoal iron furnace at Bridgeville, for twelve and a half miles of such railway, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 40,000 00

269. To the Thousand Island Railway Company, for an extension of their railway to connect with the Brockville, Westport and Sault Ste. Marie Railway, the Kingston, Napanee and Western Railway, the Kingston, Smith's Falls and Ottawa Railway, or the waters of the Rideau Canal, and an extension across the mouth of the Gananoque River, the balance remaining unpaid of the subsidy granted by the Act 52 Victoria, chapter 3, not exceeding in the whole..... 44,000 00

Payable, $14,000 on the completion of the last named or southern extension, and the balance of said subsidy, being $30,000, on the completion of the first named or northern extension of their railway.

270. To the Manitoulin and North Shore Railway Company, for thirty miles of their railway from Little Current to the Algoma Branch of the Canadian Pacific Railway, in lieu of the subsidy granted by the Act 53 Victoria, chapter 2, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... $96,000 00

271. To the Lindsay, Bobcaygeon and Pontypool Railway Company, for sixteen miles of their railway from the end of the line subsidized by the Act 53 Victoria, chapter 2, at the junction with the Midland Railway, to Pontypool, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 51,200 00

272. For seventy-five miles of the railway from Sand Point, Shelburne Harbour, in Nova Scotia, to Annapolis Royal, in the county of Annapolis and to a junction at or near New Germany on the Nova Scotia Central Railway, with a view to future construction to Liverpool, in lieu of the subsidy of a like amount granted by the Act 53 Victoria, chapter 2, for the same length of railway from Shelburne and from Liverpool, towards Annapolis, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 240,000 00

273. To the Kingston, Napanee and Western Railway Company, for twenty miles of their railway, being extensions or branches in the counties of Peterborough, Hastings, Addington, Frontenac or Leeds, towards iron deposits, a subsidy not exceeding $3,200 per mile, payable in instalments regulated by the length of each of the said extensions, additions or branches, the subsidy not exceeding in the whole..... 64,000 00

274. To the St. John Valley and Rivière du Loup Railway Company, for ten miles of their railway from the north end of the line subsidized by the Act 53 Victoria, chapter 2, towards the town of Woodstock, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 48,000 00

275. To the Cobourg, Northumberland and Pacific Railway Company, for thirty miles of their railway from Cobourg to the Ontario and Quebec Railway, in lieu of the subsidy granted by the Act 53 Victoria, chapter 2, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole ..... $ 96,000 00

276. To the Ottawa, Arnprior and Parry Sound Railway Company, for thirty miles of their railway, from Eganville to Barry's Bay, in lieu of the subsidy granted by the Act 53 Victoria, chapter 2, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 96,000 00

277. To the Ottawa, Arnprior and Parry Sound Railway Company, for twenty-two miles of their railway from a point on the Canadian Pacific Railway to Eganville, in lieu of the subsidy granted by the Act 51 Victoria, chapter 3, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 70,400 00

278. To the Lake Témiscamingue Colonization Railway Company, for thirty-five miles of their railway from Mattawa to the Long Sault, in lieu of the subsidies granted by the Acts 52 Victoria, chapter 3, and 53 Victoria, chapter 2, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 112,000 00

279. To the Témiscouata Railway Company, for twelve miles of their railway from the north end of the section of the St. François Branch subsidized by the Act 51 Victoria, chapter 3, being the first twelve miles on the section subsidized by the Act 53 Victoria, chapter 2, a subsidy not exceeding $1,800 per mile, in addition to the subsidy already granted, and not exceeding in the whole 21,600 00

280. To the Tilsonburg, Lake Erie and Pacific Railway Company, for sixteen miles of their railway from Port Burwell to Tilsonburg, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 51,200 00

281. To the Woodstock and Centreville Railway Company, for six miles of their railway from the west end of their twenty miles subsidized by the Act 50-51 Victoria, chapter 24, to the international boundary between the province of New Brunswick and the state of Maine, in lieu of the subsidy granted by the Act 53 Victoria, chapter 2, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 19,200 00

282. To the Lake Témiscamingue Colonization Railway Company, for 15 miles of their railway from the Long Sault to the crossing of the Kippewa River, a subsidy not exceeding $3,200 per mile—and a subsidy of fifteen per cent on the value of a wooden truss bridge over the Ottawa River near Mattawa, not exceeding $15,000,—nor exceeding in the whole 63,000 00

283. To the Goderich and Wingham Railway Company, for thirty-one miles of their railway from Goderich to Wingham, via Port Albert, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 99,200 00

284. To the Joliette and St. Jean de Matha Railway Company, for eight miles of their railway from St. Félix de Valois to St. Jean de Matha, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 25,600 00

285. To the Bracebridge and Baysville Railway Company, for fifteen miles of their railway from Bracebridge towards Baysville, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole. 48,000 00

286. To the Nipissing and James Bay Railway Company, for twenty-five miles of their railway from, at or near North Bay station on

	the Canadian Pacific Railway towards James Bay, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole.....	$ 80,000 00
287.	For a railway from a point on the Intercolonial Railway between Ste. Flavie and Little Métis station to Matane, for fifty miles of such railway, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole.....	160,000 00
288.	To the Ontario and Pacific Railway Company, for fifty-three and eighty-seven hundredths miles of their railway from Cornwall to Ottawa, in lieu of the subsidy granted by the Act 52 Victoria, chapter 3, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole.....	172,400 00
289.	For a railway from a point on the line of the Canadian Pacific Railway on the Isle Jésus, in the county of Laval, towards St. Eustache, for twelve miles of such railway, in lieu of the subsidy granted by the Act 50-51 Victoria, chapter 24, to the Carillon and Grenville Railway Company, for twelve miles of their railway, from St. Eustache to Sault au Récollet, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole.....	38,400 00
290.	For a railway from St. Eustache to St. Placide, in the county of Two Mountains, for eighteen miles of such railway, in lieu of the subsidy granted by the Act 49 Victoria, chapter 10, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole.....	57,600 00
291.	To the Port Arthur, Duluth and Western Railway Company, the balance remaining unpaid of the subsidy granted by the Act 51 Victoria, chapter 3, not exceeding, with the amount already paid, $3,200 per mile, nor exceeding in the whole.....	114,125 00
292.	To the Drummond County Railway Company for four and six-tenths miles of their railway from Bull's Wharf, on the St. Lawrence River, near Nicolet, to Ste. Rosalie Junction, an excess of distance by the constructed line over the subsidies heretofore voted for a railway between the said points, $3,200 per mile, not exceeding in the whole.....	14,720 00
293.	To the St. Lawrence and Adirondack Railway Company, for five and forty-two hundredths miles of their railway, from Huntingdon towards the international boundary, which, with the distance between Valleyfield and Huntingdon, twelve and fifty-eight hundredths miles, makes up the distance of eighteen miles named in the 53 Vic., chap. 2, granting a subsidy to this company, and for five and forty-hundredths miles from the east end of the eighteen miles referred to to the international boundary, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole.....	25,024 00

"The subsidies hereinbefore mentioned as to be granted to companies named for that purpose shall, if granted by the Governor in Council, be granted to such companies respectively; the other subsidies may be granted to such companies as shall be approved by the Governor in Council as having established to his satisfaction their ability to construct and complete the said railways respectively; all the lines for the construction of which subsidies are granted, unless they are already commenced, shall be commenced within two years from the first day of August next, and completed within a reasonable time, not to exceed four years, to be fixed by Order in Council, and shall also be constructed according to descriptions and specifications, and upon conditions to be approved by the Governor in Council, on the report of the Minister of Railways and Canals, and specified in an agreement to be made in each case by the company with the Government, which agreement the Government is hereby empowered to make; the location also of every such line of railway shall be subject to the approval of the Governor in Council; and all the said subsidies respectively shall be payable out of the Consolidated

Revenue Fund of Canada, by instalments, on the completion of each section of the railway of not less than ten miles, proportionate to the value of the portion so completed in comparison with that of the whole work undertaken, to be established by the report of the said Minister, or upon the completion of the work subsidized,—except as to subsidies with respect to which it is hereinbefore otherwise provided, and except also as to the subsidy granted to the Kingston, Smith's Falls and Ottawa Railway Company, and the subsidy granted to the St. Catharines and Niagara Central Railway Company, the first semi-annual payments upon both of which shall be made at the end of six months from the date of the Chief Engineer's certificate of the completion of their railways respectively, and each subsequent payment at the end of each six months thereafter, for the term of twenty years or less.

"The granting of such subsidies respectively shall be subject to such conditions for securing such running powers or traffic arrangements and other rights as will afford all reasonable facilities and equal mileage rates to all railways connecting with those so subsidized, as the Governor in Council determines."

294. Notwithstanding the expiration of the time limited by the Act 47 Victoria, chapter 8, and by the contract entered into with the Pontiac Pacific Junction Railway Company, the Governor in council may pay the balance remaining unpaid of the subsidy granted by the said Act to the said company, according as it becomes due and payable in accordance with the said contract, and subject to the terms and conditions applicable to the said subsidy under the terms of the said Act.

295. Notwithstanding the expiration of the time limited by the Act 52 Victoria, chapter 3, and by the contract entered into with the Quebec and Lake St. John Railway Company, the Governor in Council may pay the balance remaining unpaid of the subsidy granted by the said Act to the said company, according as it becomes due and payable in accordance with the said contract, and subject to the terms and conditions applicable to the said subsidy under the terms of the said Act; and notwithstanding anything contained in the Act 50-51 Victoria, chapter 24, the Governor in Council may also pay to the said company the balance remaining unpaid of the subsidy granted to the company by the said Act, amounting to $12,800, on the four miles of their road from the north end of the main line subsidized towards Roberval.

By the Act 56 Vic., chap. 2, 1893 (*Assented to 1st April, 1893*):—

296. To the Great Eastern Railway Company, for twenty miles of their railway, from the east end of the line subsidized by the Act 50-51 Victoria, chapter 24, at St. Grégoire, towards the Chaudière Junction station on the Intercolonial Railway, in the province of Quebec, in lieu of the subsidy granted by the Act 52 Victoria, chapter 3, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... $ 64,000 00

297. To the United Counties Railway Company, for thirty-two miles of their railway, from a point at or near the town of Iberville to St. Hyacinthe, and thence towards Sorel, in lieu of the subsidy granted by the Act 55-56 Victoria, chapter 5, for a railway from St. Johns to Ste. Rosalie, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 102,400 00

298. To the Ontario, Belmont and Northern Railway Company, for ten miles of their railway, divided into two sections: first, from the Belmont Iron Mines to Marmora village; second, from Marmora village to the junction with the Ontario Central Railway, in lieu of the subsidy granted by the Act 55-56 Victoria, chapter 5, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 32,000 00

299. To the Central Ontario Railway Company, for twenty miles of their railway, from Coe Hill or Gilmore, or some point between

Coe Hill and Gilmore, to Bancroft, via L'Amable, or as near thereto as practicable, in lieu of the subsidy granted by the Act 48-49 Victoria, chapter 59, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole ..... $ 64,000 00

300. To the Quebec and Lake St. John Railway Company, for thirty miles of their railway, from Lake St. John towards Chicoutimi, the balance remaining unpaid of the subsidy granted by the Act 51 Victoria, chapter 3, not exceeding in the whole.. ..... 81,040 00

301. To the Irondale, Bancroft and Ottawa Railway Company, for fifty miles of their railway, from the Victoria branch of the Midland Railway to the village of Bancroft, in the county of Hastings, the balance remaining unpaid of the subsidy granted by the Act 47 Victoria, chapter 8, and again granted by the Act 52 Victoria, chapter 3, not exceeding in the whole 145,000 00

302. To the Beauharnois Junction Railway Company, for thirty miles of their railway, from Ste. Martine towards St. Anicet, the balance remaining unpaid of the subsidy granted by the Act 50-51 Victoria, chapter 24, not exceeding in the whole..... 3,500 00

303. To the St. Stephen and Milltown Railway Company, for three and a half miles of their railway, from the town of St. Stephen to the town of Milltown, in lieu of the subsidy granted by the Act 53 Victoria, chapter 2, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 11,200 00

304. To the Quebec, Montmorency and Charlevoix Railway Company, for thirty miles of their railway, from the east bank of the River St. Charles, to or near to Cape Tourmente, in the province of Quebec, the balance remaining unpaid of the subsidy granted by the Act 52 Victoria, chapter 3, not exceeding in the whole.. 30,400 00

305. To the Ottawa and Gatineau Valley Railway Company, for sixty-two miles of their railway, from Hull station towards Le Désert, the balance remaining unpaid of the subsidy granted by the Act 52 Victoria, chapter 3, not exceeding in the whole..... 89,248 00

306. To the Grand Trunk, Georgian Bay and Lake Erie Railway Company, for fifteen miles of their railway, from the village of Tara, or some point between Tara and Hepworth, to the town of Owen Sound, in the province of Ontario, in lieu of the subsidy granted by the Act 52 Victoria, chapter 3, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 48,000 00

307. To the Nova Scotia Central Railway Company (or to such person or persons or company as in the opinion of the Minister or acting Minister of Justice are entitled to the same) for eighty miles of their railway, from Lunenburg, on the east coast of Nova Scotia, westward to a point in the district of New Germany, together with a spur about three-fourths mile long to Bridgewater railway wharf, and from a point thirty-three and a half miles from Lunenburg and running to Middleton on the Windsor and Annapolis Railway, of unpaid subsidies granted by the Acts 50-51 Victoria, chapter 24, and 51 Victoria, chapter 3, an amount not exceeding in the whole..... 4,500 00

308. To the Great Northern Railway Company, for eighteen miles of their railway, from a point at or near New Glasgow or St. Lin, to or near to Montcalm, in the province of Quebec, the balance remaining unpaid of the subsidy granted by the Act 54-55 Victoria, chapter 8, not exceeding in the whole..... 25,600 00

309. To the Great Northern Railway Company, for fifteen miles of their railway, from, at or near Montcalm to the Canadian Pacific

Railway between Joliette and St. Félix de Valois, in lieu of the subsidy granted by the Act 53 Victoria, chap. 2, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... $ 48,000 00

310. To the Montfort Colonization Railway Company, for twenty-one miles of their three-feet gauge railway from Lachute, St. Jérôme, or a point at or near St. Sauveur, on the line of the Montreal and Western Railway, to Montfort and westward, in lieu of the subsidy granted by the Act 55-56 Victoria, chapter 5, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 67,200 00

311. To the Maskinongé and Nipissing Railway Company, for fifteen miles of their railway, from a point on the Canadian Pacific Railway at or near Maskinongé or Louiseville, towards the parish of St. Michel des Saints, on the river Mattawa, in the province of Quebec, and for fifteen miles of their railway from the north end of the fifteen miles above referred to, towards the parish of St. Michel des Saints on the river Mattawa, in the province of Quebec, in lieu of the subsidies granted by the Acts 52 Victoria, chap. 3, and 53 Victoria, chap. 2, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 96,000 00

312. To the Parry Sound Colonization Railway Company, for forty miles of their railway, from the village of Parry Sound to the village of Sundridge, or some other point on the Northern Pacific Junction Railway, in the province of Ontario, the balance remaining unpaid of the subsidy granted by the Act 52 Victoria, chapter 3, not exceeding in the whole..... 97,600 00

313. To the Jacques Cartier Union Railway Company, for extending and completing their railway, in lieu of the subsidy granted by the Act 50-51 Victoria, chapter 24, a subsidy of..... 20,000 00

314 To the Oshawa Railway Company, for seven miles of their railway and branches as follows: from Port Oshawa to a point at or near Edmondson's Falls mill site, near Mill Street, in the town of Oshawa (this portion being known as the "Lake" section of the said railway); thence to a point at or near the town hall in the town of Oshawa, and thence to the Oshawa station of the Grand Trunk Railway Company of Canada (this portion being known as the "Town" or "Northern" section of the said railway)—in lieu of the subsidy granted by the Act 54-55 Victoria, chapter 8, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 22,400 00

"All the lines for the construction of which subsidies are granted, unless they are already commenced, shall be commenced within two years from the first day of August next, and completed within a reasonable time, not to exceed four years, to be fixed by Order in Council, and shall also be constructed according to descriptions and specifications and upon conditions to be approved by the Governor in Council, on the report of the Minister of Railways and Canals, and specified in an agreement to be made in each case by the company with the Government, which agreement the Government is hereby empowered to make; the location, also, of every such line of railway shall be subject to the approval of the Governor in Council.

"The granting of such subsidies respectively shall be subject to such conditions for securing such running powers or traffic arrangements and other rights as will afford all reasonable facilities and equal mileage rates to all railways connecting with those so subsidized, as the Governor in Council determines.

"All the said subsidies respectively shall be payable out of the Consolidated Revenue Fund of Canada, by instalments on the completion of each section of the railway of not less than ten miles, proportionate to the value of the portion so completed

in comparison with that of the whole work undertaken, to be established by the report of the said Minister, or upon the completion of the work subsidized,—except as follows :—

"(*a.*) The subsidy to the Ontario, Belmont and Ottawa Railway Company, which shall be paid as follows : on the completion of the first section, an instalment proportionate to the value of the said section in comparison with that of the ten miles hereby subsidized, to be established as aforesaid, and the balance of the said subsidy on the completion of the second section ;

"(*b.*) The subsidy to the Oshawa Railway Company, which shall be paid as follows : on the completion of the "Town" or "Northern" section, an instalment proportionate to the value of the said section in comparison with that of the seven miles hereby subsidized, to be established as aforesaid, and the balance of the said subsidy, on the completion of the "Lake" section of the said railway."

By the Act 57-58 Vic., cap. 4, 1894. *(Assented to, 23rd July, 1894)* :—

315. To the Bracebridge and Baysville Railway Company, for fifteen miles of their railway from Bracebridge towards Baysville, in lieu of the subsidy granted by chapter 5 of 1892, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... $ 48,000

316. To the Brockville, Westport and Sault Ste. Marie Railway, the balance remaining unpaid of the subsidy granted by chapter 3 of 1889, not exceeding $3,200 per mile, and also the balance remaining unpaid of the subsidy granted by chapter 2 of 1890, which was re-granted by chapter 5 of 1892 ; the whole not exceeding 86,800

317. To the Tilsonburg, Lake Erie and Pacific Railway Company, for sixteen miles of their railway, from Port Burwell to Tilsonburg, in lieu of the subsidy granted by chapter 5 of 1892, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 51,200

318. To the Brantford, Waterloo and Lake Erie Railway Company, for eighteen miles of their railway, from the town of Brantford to the village of Hagarsville or the village of Waterford, or some intermediate point on the Canada Southern Railway, the balance remaining unpaid of the subsidy granted by chapter 24 of 1887, not exceeding $3,200 per mile, nor exceeding in the whole 4,790

319. To the St. Catharines and Niagara Central Railway Company, for 34 miles of their railway from the city of St. Catharines to the city of Hamilton, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 108,800

320. To the Montreal and Ottawa Railway Company (formerly the Vaudreuil and Prescott Railway Company), for thirty miles of their railway from Vaudreuil towards Hawkesbury, the balance remaining unpaid of the subsidy granted by chapter 24 of 1887 ; and for 30 miles of their railway from the western end of the 30 miles first mentioned towards Ottawa, the balance remaining unpaid of the subsidy granted by chapter 2 of 1890, not exceeding $3,200 per mile ; the whole not exceeding..... 118,400

321 Notwithstanding the expiration of the time limited by chapter 2 of 1890, and by the contract entered into with the Quebec Central Railway Company, and notwithstanding anything otherwise in the said chapter 2 contained, the Governor in Council may pay the subsidy granted by the said chapter to the said company at the present worth of the twenty annual payments mentioned in the said chapter (interest computed at four per cent), for and upon the completion of its railway extending from a point between the Chaudière River and Tring Station to a point on the International Railway at or near Lake Megantic, and upon the inspection and acceptance of the same by the Chief Engineer of Railways and Canals, the sum in all of..... 288,000

322. To the Philipsburg Junction Railway and Quarry Company, for $\frac{67}{100}$ mile of their railway from Stanbridge Station to Philipsburg, in the county of Missisquoi and a branch to Missisquoi Bay, the balance remaining unpaid of the subsidy granted by chapter 5 of 1892, not exceeding $3,200 per mile, nor exceeding in the whole ..... $ 2,912

323. To the Joliette and St Jean de Matha Railway Company, for 8 miles of their railway from St. Félix de Valois to St. Jean de Matha, in lieu of the subsidy granted by chapter 5 of 1892, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 23,600

324. To the Lake Temiscamingue Colonization Railway Company, for their railway from Mattawa to the foot of the Kippewa Lake, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole $160,000,—also 15 per cent on the value of a wooden truss bridge over the Ottawa River near Mattawa, not to exceed $15,000 in all, in lieu of the subsidies granted by chapter 5 of 1892,—also the balance remaining unpaid of the subsidy granted by chapter 24 of 1887, for their railway from Long Sault to Lake Kippewa, a subsidy not exceeding $3,200 per mile of railway and 15 per cent on the value of the bridges,—also, a sum of $1,750 additional per mile on their said railway from Mattawa to the foot of the Kippewa Lake; the whole not exceeding 274,940

325. For a railway from St. Placide to St. Andrews, 8 miles, in lieu of the subsidy granted by chapter 5 of 1892, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 25,600

326. For a railway from St. Eustache to St. Placide, in the county of Two Mountains, for 18 miles of such railway, in lieu of the subsidy granted by chapter 5 of 1892, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 57,600

327. For a railway from a point on the line of the Canadian Pacific Railway on Isle Jésus, in the county of Laval, towards St. Eustache, for 12 miles of such railway, in lieu of the subsidy granted by chapter 5 of 1892, to the Carillon and Grenville Railway Company, for 12 miles of their railway, from St. Eustache to Sault au Récollet, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 38,400

328. For a railway from the parish of St. Rémi, in the county of Napierville, to St. Cyprien, in the said county, for 12 miles of such railway, in lieu of the subsidy granted by chapter 5 of 1892, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 38,400

329. To the Pontiac Pacific Junction Railway Company, for bridging the several channels of the Ottawa River at Culbute and west thereof, a subsidy of $31,500, to be paid out monthly as the work progresses, upon the certificate of the chief engineer of government railways, in the proportion which the value of the work executed bears to the value of the whole work undertaken; and for 3 miles of their railway extending from a point 3 miles east of Pembroke to Pembroke, in the province of Ontario, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole $9,600, in lieu of the subsidy granted by chapter 3 of 1888; provided that the entire work subsidized upon this railway shall be completed within 4 years from the passing of this Act; the subsidy granted by this Act not to exceed in the whole 41,100

330. To the Pontiac Pacific Junction Railway Company, for the construction or acquisition of 7½ miles of railway, from Hull to Aylmer, in lieu of the subsidy granted by chapter 2 of 1890, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole. $ 24,000

331. To the Pontiac Pacific Junction Railway Company, for 85 miles of their railway from Aylmer to Pembroke, the balance remaining unpaid of the subsidy granted by chapter 8 of 1884, less the subsidy granted for the line from Hull to Aylmer, provided the Ottawa River is crossed at some point not east of Lapasse, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 73,172

332. To the Harvey Branch Railway Company, for 3 miles of their railway from the southern terminus of the Albert Railway to Harvey Bank, the balance remaining unpaid of the subsidy granted by chapter 24 of 1887, not exceeding $3,200 per mile, nor exceeding in the whole..... 4,046

333. For a railway from a point on the Intercolonial Railway near Newcastle via Douglastown, to a point on the River Miramichi opposite the town of Chatham, in the province of New Brunswick, 6 miles, in lieu of the subsidy granted by chapter 10 of 1886, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 19,200

334. For a railway from some point on the Joggins Railway, near the Hebert River, to Young's Mills, in the province of Nova Scotia, a distance of 5 miles, in lieu of the subsidy granted by chapter 3 of 1889, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 16,000

335. To the Woodstock and Centreville Railway Company, for a railway from Woodstock to the international boundary between the province of New Brunswick and the state of Maine, 26 miles, in lieu of the subsidies granted by chap er 24 of 1887 and chapter 2 of 1890 a subsidy not exceeding $3,200 per mile nor exceeding in the whole..... 83,200

336. For 90 miles of the railway from Newport or Windsor to Truro, or to a point between Truro and Stewiacke, and from a point on the said railway to a point at or near Eastville, and from Eastville through the valley of the Musquodoboit River towards a point on the proposed Dartmouth branch of the Intercolonial, in lieu of the subsidy granted by chapter 5 of 1892, a subsidy not exceeding $3,200 per mile; and also for a railway bridge over the Shubenacadie River on the line of the said railway, a subsidy of 15 per cent on the value of the structure; the whole not exceeding..... 300,000

337. To the Nipissing and James Bay Railway Company, for 25 miles of their railway from, at or near North Bay Station on the Canadian Pacific Railway towards James Bay, in lieu of the subsidy granted by chapter 5 of 1892, a subsidy not exceeding $3,200 per mile; also for 43 miles of their railway from North Bay towards Lake Tamagaming, a subsidy not exceeding $3,200 per mile; the whole not exceeding..... 217,000

338. To the Lotbinière and Mégantic Railway Company, for 15 miles of their railway, in addition to the 15 miles already subsidized and built, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 48,000

339. To the Drummond County Railway Company, for 30 miles of their railway from St. Leonard northerly towards a junction with the Intercolonial Railway at Chaudière Junction, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 96,000

340. For a railway from Lime Ridge, in the county of Wolfe, in the province of Quebec, northerly through the county of Wolfe and into the county of Megantic, a distance not exceeding 50 miles from Lime Ridge, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... $ 160,000

341. To the Strathroy and Western Counties Railway Company, for 25 miles of their railway from St. Thomas through the counties of Elgin and Middlesex, towards Forest Station or Park Hill, on the Grand Trunk Railway, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 80,000

342. To the Parry Sound Colonization Railway Company, for 20 miles of their railway east from Parry Sound, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 64,000

343. To the Manitoulin and North Shore Railway Company, for 10 miles of their railway from Little Current to Nelson, on the Algoma Branch of the Canadian Pacific Railway, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 32,000

344. To the United Counties Railway Company for 32 miles of their railway from Iberville to Sorel, in addition to the 32 miles already subsidized, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 102,400

345. To the Joliette and St. Jean de Matha Railway Company, for 12 miles of their railway from St. Jean de Matha to Ste. Emelie de L'Energie, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 38,400

346. To the Great Northern Railway Company, for 22 miles of their railway, from the eastern end of the 15 miles subsidized by chapter 2 of 1893 to a point between Joliette and St. Félix de Valois, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 70,400

347. To the Quebec and Lake St. John Railway Company, for 2 miles of the Chicoutimi branch of their railway, from the east end of the 50 miles already subsidized and built eastward to deep water at Chicoutimi, a subsidy not exceeding $3,200 per mile; also for 12 miles from the 52nd mile on the Chicoutimi branch to Ha Ha Bay, a subsidy not exceeding $3,200 per mile; the whole not exceeding..... 44,800

348. To the Pontiac and Ottawa Railway Company, for 23 miles of their railway from the point of divergence from the Pontiac Railway to Ferguson's Point, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 73,600

349. To the Ottawa and Gatineau Valley Railway Company, for 20 miles of their railway from the eastern end of the 62 miles already subsidized towards Désert, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 64,000

350. To the Canada Eastern Railway Company for 6 miles of their railway from the town of Chatham to Black Brook, a subsidy not exceeding $3,200 per mile; also for 4 miles of their railway for a branch to the village of Nelson, a subsidy not exceeding $3,200 per mile; the whole not exceeding..... 32,000

351. For a railway from Cross Creek Station, on the Canada Eastern Railway to Stanley village, in the county of York, in the province of New Brunswick, 6 miles, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 19,200

352. To the Restigouche and Victoria Railway Company, for 20 miles of their railway from the western end of the 15 miles subsidized by chapter 5 of 1892, towards Grand Falls, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 64,000

353. To the Central Railway Company of New Brunswick, for 15 miles of their railway from Chipman station to the Newcastle coal fields, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... $ 48,000

354. To the Tobique Valley Railway Company, for 15 miles of their railway from the present terminus at Plaister Rock easterly, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 48,000

355. Towards the restoration or renewal of the railway bridge on the South-eastern Railway over the Yamaska River at Yamaska, a subsidy equal to one-third of the actual cost of the renewal of the bridge, but the grant not to exceed in the whole..... 50,000

356. To the Boston and Nova Scotia Coal and Railway Company, for 10½ miles of their railway from the north end of the section already subsidized to Broad Cove, a subsidy not exceeding $3,200 per mile; also for 25 miles of their railway from a point on the Cape Breton Railway at or near Orangedale towards Broad Cove, in lieu of the subsidy granted by chapter 5 of 1892, a subsidy not exceeding $3 200 per mile; the whole not exceeding 113,600

357. For a railway from Port Hawkesbury towards Cheticamp, 25 miles, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 80,000

358. To the Manitoba North-western Railway Company, for 100 miles of the extension of their main line from its present western terminus towards Prince Albert,—the company relinquishing 3,200 acres of the land grant per mile, and the whole road to be operated as a continuous line of railway under one management, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 320,000

359. For a line of railway from the junction of the Elk and Kootenay Rivers to Coal Creek, a distance of 34 miles, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 108,800

360. For a railway from Abbotsford Station on the Mission Branch of the Canadian Pacific Railway to the town of Chilliwack, 21 miles, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 67,200

361. To the Nicola Valley Railway Company, for 28 miles of their railway from the western end of the section of their road subsidized by chapter 5, of 1892, towards Nicola Lake, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 89,600

362. To the Nakusp and Slocan Railway Company, for 38 miles of their railway from the town of Nakusp to a point at or near the Forks of Carpenter Creek, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 121,600

363. To the Pontiac and Kingston Railway Company, for 22 miles of a railway from Portage du Fort to Upper Thorne Centre, via Shawville, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 70,400

364. To the New Glasgow Iron, Coal and Railway Company, for 5 miles of their railway, from Sunnybrae to Kerrogare, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole.... 16,000 00

365. To the South Shore Railway Company, for 35 miles of their railway from Yarmouth towards Shelburne and Lockport, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole. 112,000 00

366. To the Cape Breton Railway Extension Company, for 30 miles of railway from Port Hawkesbury to St. Peter's, on their line of railway from Port Hawkesbury to Louisbourg, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 96,000 00

367. For a railway from a point on the Intercolonial Railway between Norton and Sussex Stations towards Havelock, 20 miles, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole. $ 64,000 00

368. For a railway from St. John to Barneville, for a distance of 10 miles, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 32,000 00

369. For a line of railway from Cap de la Magdeleine to connect with the Piles Branch of the Canadian Pacific Railway, 3 miles, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole 9,600 00

370. To the Canada Eastern Railway Company, for an extension of one mile from the western end of their railway, to connect with the Canadian Pacific Railway, a subsidy not exceeding..... ..... 3,200 00

371. To the Great Northern Railway Company, for 30 miles of their railway from its junction with the Lower Laurentian Railway near St. Tite, in the vicinity of the River St. Maurice, westward, in lieu of the subsidy granted to the Maskinongé and Nipissing Railway Company by chapter 2 of 1893, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 96,000 00

372. To the Lindsay, Bobcaygeon and Pontypool Railway Company, for 16 miles of their railway from Bobcaygeon to the Midland Railway, and for another 16 miles from the end of the first mentioned 16 miles to Pontypool, in lieu of the subsidies granted by chapter 2 of 1890, and chapter 5 of 1892, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 102,400 00

373. To the Montfort Colonization Railway Company, for 12 miles of their railway from the end of the 21 miles already subsidized westward to a point on the Rouge River, in the county of Argenteuil, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 38,400 00

374. For a railway from a point on the Caraquet Railway, at or near Pokemouche siding, towards Tracadie village, 12 miles, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole..... 38,400 00

The subsidies hereinbefore mentioned as to be granted to companies named for that purpose shall, if granted by the Governor in Council, be granted to such companies respectively; the other subsidies may be granted to such companies as shall be approved by the Governor in Council as having established to his satisfaction their ability to construct and complete the said railways respectively; all the lines for the construction of which subsidies are granted, unless they are already commenced, shall be commenced within two years from the first day of August next, and completed within a reasonable time, not to exceed four years, to be fixed by Order in Council, and shall also be constructed according to descriptions and specifications and upon conditions to be approved by the Governor in Council, on the report of the Minister of Railway and Canals, and specified in an agreement to be made in each case by the company with the Government, which agreement the Government is hereby empowered to make; the location also of every such line of railway shall be subject to the approval of the Governor in Council.

The granting of such subsidies respectively shall be subject to such conditions for securing such running powers or traffic arrangements and other rights as will afford all reasonable facilities and equal mileage rates to all railways connecting with those so subsidized, as the Governor in Council determines.

The said subsidies respectively shall be payable out of the Consolidated Revenue Fund of Canada, by instalments, on the completion of each section of the railway of not less than ten miles, proportionate to the value of the portion so completed in comparison with that of the whole work undertaken, to be established by the report of the said Minister, or upon the completion of the work subsidized,—except as to subsidies with respect to which it is hereinbefore otherwise provided, and except also as to the

subsidy granted to the Great Northern Railway Company by chapter two of 1893, for fifteen miles from Montcalm to the Canadian Pacific Railway, which shall be paid as follows: on the completion of the eighteen miles from New Glasgow to Montcalm and of two miles out of the fifteen miles from Montcalm to the Canadian Pacific Railway, an instalment proportionate to the value of the ten miles out of the total mileage subsidized by chapter two of 1893, to be established as aforesaid, and the balance of the said subsidy on the completion of the remaining thirteen miles of the said railway.

No subsidies were authorized by 58-59 Vict. (1895), nor by 59 Vict. (1896).

By the Act 60-61, chapter 4, 1897 *(Assented to 29th June, 1897).*

1. In this Act, unless the context otherwise requires, the expression "cost" means the actual, necessary and reasonable cost, and includes the amount expended upon any bridge up to and not exceeding twenty-five thousand dollars, forming part of the line of railway subsidized not otherwise receiving any bonus, but shall not include the cost of equipping the railway, nor the cost of terminals and right of way of the railway in any city or incorporated town; and such actual, necessary and reasonable cost shall be determined by the Governor in Council, upon the recommendation of the Minister of Railways and Canals and upon the report of the Chief Engineer of Government Railways, certifying that he has made or caused to be made an inspection of the line of railway for which payment of subsidy is asked, and careful inquiry into the cost thereof, and that in his opinion the amount upon which the subsidy is claimed is reasonable, and does not exceed the true, actual and proper cost of the construction of such railway.

2. The Governor in Council may grant a subsidy of $3,200 per mile towards the construction of each of the undermentioned lines of railway (not exceeding in any case the number of miles hereinafter respectively stated), which shall not cost more on the average than $15,000 per mile for the mileage subsidized, and towards the construction of each of the said lines of railway not exceeding the mileage hereinafter stated, which shall cost more on the average than $15,000 per mile for the mileage subsidized, a further subsidy beyond the sum of $3,200 per mile of fifty per cent on so much of the average cost of the mileage subsidized as is in excess of $15,000 per mile, such subsidy not exceeding in the whole the sum of $6,400 per mile:—

375. To the Ottawa and New York Railway Company, for $53\frac{87}{100}$ miles of their railway from Cornwall to Ottawa, in lieu of the subsidy granted by chapter 5 of the statutes of 1892,

376. To the Kingston, Smith's Falls and Ottawa Railway Company, for 101 miles of their railway from Kingston, or a junction with the Grand Trunk Railway at Rideau or some other point near Kingston, to Ottawa, in lieu of the subsidy granted by chapter 5 of 1892;

377. For a railway from a point on the Canadian Pacific Railway, at or near either Welsford or Westfield, or between the said two points, to Gagetown, in the county of Queen's, New Brunswick, not exceeding 30 miles, in lieu of the subsidy granted by chapter 2 of 1890;

378. To the Cobourg, Northumberland and Pacific Railway Company, for 50 miles of their railway from Cobourg to the Ontario and Quebec Railway, in lieu of the subsidies granted by chapter 5 of 1892;

379. To the Ottawa and Gatineau Railway Company, for 20 miles of their railway from the end of the 62nd mile subsidized towards Désert, in lieu of the subsidies granted by chapter 4 of 1894;

380. To the Great Northern Railway Company, for 9 miles of their railway, being shortage in distance between Montcalm and St. Tite;

381. To the St. Gabriel de Brandon and Ste. Emélie de l'Energie Railway Company, for 15 miles of their railway from St. Gabriel to Ste. Emélie de l'Energie, and 5 miles from a point on the main line to St. Jean de Matha, making in all 20 miles, in lieu of the subsidy granted by chapter 4 of 1894;

382. To the Central Railway Company of New Brunswick, for 15 miles of their railway from Chipman Station to Newcastle Coal Fields, county of Queen's, in lieu of the subsidy granted by chapter 4 of 1894;

383. To the Gulf Shore Railway Company, for 5½ miles of their railway from the end of the section subsidized to Tracadie and thence to Big Tracadie, New Brunswick;

384. For a railway from Campbellton, on the Intercolonial Railway, towards Grand Falls, New Brunswick, a distance of 20 miles, commencing at Campbellton, in lieu of the subsidy granted by chapter 4 of 1894;

385. To the Pontiac Pacific Junction Railway Company, for 7½ miles of their railway from Hull to Aylmer, in lieu of the subsidy granted by chapter 2 of 1890;

386. To the Schomberg and Aurora Railway Company, for 15 miles of their railway from a point on the Grand Trunk Railway between King and Newmarket to Schomberg, in the province of Ontario;

387. To the Tilsonburg, Lake Erie and Pacific Railway Company, for $3\frac{50}{100}$ miles of their railway from the present terminus, through Tilsonburg to the Michigan Central Railway, in the province of Ontario.

388. To the Ottawa, Arnprior and Parry Sound Railway Company, for 52 miles of their railway, from the crossing of the Northern Pacific Junction Railway to 55 miles west of Barry's Bay, and also for 4 miles of their railway across Parry Island;

389. To the Pembroke Southern Railway Company, for 20 miles of their railway from Pembroke to Golden Lake, in the province of Ontario;

390. To the Ontario and Rainy River Railway Company, for 80 miles of their railway from the Port Arthur, Duluth and Western Railway to Rainy Lake, in the province of Ontario;

391. To the Strathroy and Western Counties Railway Company, for 7 miles of their railway, commencing at a point at or near Caradoc Station on the Canadian Pacific Railway and extending to the town of Strathroy;

392. To the Phillipsburg Railway and Quarry Company, for $\frac{66}{100}$ mile of their railway from the end of the subsidized section to the government wharf at Phillipsburg;

393. To the United Counties Railway Company, for 1 mile of their railway from Johnson to St. Grégoire Station, in the province of Quebec;

394. To the St. Lawrence and Adirondack Railway Company, for 13½ miles of their railway from Beauharnois to Caughnawaga, in the province of Quebec;

395. To the East Richelieu Valley Railway Company, for 24 miles of their railway from Iberville to St. Thomas, boundary of Missisquoi County, in the province of Quebec;

396. To the Portage du Fort and Bristol Branch Railway Company, for 15 miles of their railway to a point at or near Shawville, in the county of Pontiac;

397. For a railway from a point at or near Windsor Junction, on the Intercolonial Railway, to Upper Musquodoboit, for a distance of 40 miles;

398. To the St. Stephens and Milltown Railway Company, for $1\frac{14}{100}$ mile of their railway from Milltown to St. Stephen, in the province of New Brunswick;

399. For a railway from Sunny Brae to Country Harbour, and from a point at or near Country Harbour Cross Roads to Guysboro', in the province of Nova Scotia, a distance of 65 miles;

400. For a railway from Port Hawkesbury, Nova Scotia, to Port Hood and Broad Cove, 53 miles, in lieu of the subsidy granted by chapter 4 of 1894;

401. For a railway from a point on the Central Railway in the county of Lunenburg, Nova Scotia, to the town of Liverpool, via the village of Caledonia, or to the village of Caledonia via Liverpool, or for any part thereof, the whole distance not exceeding 62 miles;

402. For a railway from Indian Garden on the line of the Central Railway, to Shelburne, in the province of Nova Scotia, a distance of 35 miles;

403. To the Coast Railway Company of Nova Scotia, for 61 miles of their railway from Yarmouth to Port Clyde, in the province of Nova Scotia;

404. For a railway from Brookfield Station on the Intercolonial Railway to Eastville, 30 miles;

405. To the Great Northern Railway Company, for 35 miles of their railway from St. Jérôme, in the province of Quebec, to Hawkesbury, in the province of Ontario;

406. To the Drummond County Railway Company, for 42½ miles of their railway from Moose Park to Chaudière River, provided that the amount of the said subsidy shall be refunded to the Government of Canada in the event of the company's railway from Ste. Rosalie to Chaudière River being purchased or leased for a term of years by the government.

3. The Governor in Council may grant the subsidies hereinafter mentioned to the railway companies and towards the construction of the railways also hereinafter mentioned, that is to say:—

407. To the Great Northern Railway Company, for 67 miles of their railway between Montcalm and its junction with the Lower Laurentian Railway near St. Tite, in the vicinity of the St. Maurice River, the balance remaining unpaid of the subsidies granted by chapter 2 of 1893, and by chapter 4 of 1894, between these points, a subsidy not exceeding $3,200 per mile, nor exceeding in the whole	$ 182,400 00
408. To the Pontiac Pacific Junction Railway Company, for 85 miles of their railway from Aylmer to Pembroke, also for bridging the Ottawa River, the balance remaining unpaid of the subsidy granted by chapter 8 of 1884, and by chapter 4 of 1894, not exceeding	114,272 00
409. To the Ottawa and Gatineau Railway Company, for 62 miles of their railway from Hull towards Désert, in the province of Quebec, the balance remaining unpaid of the subsidy granted by chapter 2 of 1893, not exceeding in the whole	35,872 00
410. To the Grand Trunk Railway Company of Canada, for a subsidy towards the rebuilding and enlargement of the Victoria Bridge at Montreal over the St. Lawrence River, 15 per cent upon the amount expended thereon, not exceeding	300,000 00
411. To the Montfort Colonization Railway Company, for 33 miles of their railway from Montfort Junction to Arundel, in the province of Quebec, a subsidy not exceeding $2,000 per mile, nor exceeding in the whole	66,000 00
412. To the Irondale, Bancroft and Ottawa Railway Company, the balance remaining unpaid of the subsidy for the last five miles of the company's railway; the eastern terminus to be either at the village of Bancroft or at some point near the Hastings Road, in the township of Herschell, in lieu of the subsidy granted by chapter 2 of 1893, not exceeding in the whole	16,000 00
413. To the Great Northern Railway Company, towards the construction of a railway bridge over the Ottawa River at Hawkesbury, 15 per cent upon the amount expended thereon, not exceeding	52,500 00
414. For a railway and traffic bridge over the Ottawa River at Nepean Point, between the city of Ottawa and the city of Hull, 15 per cent upon the amount expended thereon, not exceeding	112,500 00

4. The subsidies hereinbefore mentioned as to be granted to companies named for that purpose shall, if granted by the Governor in Council, be granted to such companies respectively; the other subsidies may be granted to such companies as are approved by the Governor in Council as having established to his satisfaction their ability to construct and complete the said railways respectively; all the lines for the construction of which subsidies are granted, unless they are already commenced, shall be commenced within two years from the first day of August next, and completed within a reasonable time, not to exceed four years from the said first day of August, to be fixed by Order in Council, and shall also be constructed according to descriptions and specifications and

upon conditions to be approved by the Governor in Council, on the report of the Minister of Railways and Canals, and specified in an agreement to be made in each case by the company with the Government, which agreement the Government is hereby empowered to make; the location also of every such line of railway shall be subject to the approval of the Governor in Council.

5. The granting of such subsidies respectively shall be subject to such conditions for securing such running powers or traffic arrangements and other rights as will afford all reasonable facilities and equal mileage rates to all railways connecting with those so subsidized, as the Governor in Council determines.

6. The said subsidies respectively shall be payable out of the Consolidated Revenue Fund of Canada, by instalments, on the completion of each section of the railway of not less than ten miles, proportionate to the value of the portion so completed in comparison with that of the whole work undertaken, to be established by the report of the said Minister, or upon the completion of the work subsidized—except as to subsidies with respect of which it is hereinbefore otherwise provided.

7. Any company receiving a subsidy as aforesaid, in excess of $3,200 per mile, shall be bound to carry Her Majesty's mails for a term of ten years free of charge over the portion of railway subsidized.

By the Special Act 60-61 Victoria, Chapter 5, 1897. *(Assented to 29th June, 1897.)*

1. Subject to the conditions hereinafter mentioned, the Governor in Council may grant to the Canadian Pacific Railway Company a subsidy towards the construction of a railway from Lethbridge, in the district of Alberta, through the Crow's Nest Pass to Nelson, in the province of British Columbia (which railway is hereinafter called "the Crow's Nest Line,") to the extent of eleven thousand dollars per mile thereof, and not exceeding in the whole the sum of three million six hundred and thirty thousand dollars, payable by instalments on the completion of each of the several sections of the said railway of the length respectively of not less than ten miles, and the remainder on the completion of the whole of the said railway; provided that an agreement between the Government and the company is first entered into in such form as the Governor in Council thinks fit, containing covenants to the following effect, that is to say:—

On the part of the company:

(*a.*) That the company will construct or cause to be constructed, the said railway upon such route and according to such descriptions and specifications and within such time or times as are provided for in the said agreement, and, when completed, will operate the said railway for ever;

(*b.*) That the said line of railway shall be constructed through the town of Macleod, and a station shall be established therein, unless the Governor in Council is satisfied by the company that there is good cause for constructing the railway outside the limits of the said town, in which case the said line of railway shall be located and a station established at a distance not greater than five hundred yards from the limits of the said town;

(*c.*) That so soon as the said railway is opened for traffic to Kootenay Lake, the local rates and tolls on the railway and on any other railway used in connection therewith and now or hereafter owned or leased by or operated on account of the company south of the company's main line in British Columbia, as well as the rates and tolls between any point on any such line or lines of railway and any point on the main line of the company throughout Canada, or any other railway owned or leased by or operated on account of the company, including its lines of steamers in British Columbia, shall be first approved by the Governor in Council or by a railway commission, if and when such commission is established by law, and shall at all times thereafter and from time to time be subject to revision and control in the manner aforesaid;

(*d.*) That a reduction shall be made in the general rates and tolls of the company as now charged, or as contained in its present freight tariff, whichever rates are now the lowest, for carloads or otherwise, upon the classes of merchandise hereinafter mentioned, westbound, from and including Fort William and all points east of Fort

William on the company's railway to all points west of Fort William on the company's main line, or on any line of railway throughout Canada owned or leased by or operated on account of the company, whether the shipment is by all rail line or by lake and rail, such reduction to be to the extent of the following percentages respectively, namely :—

Upon all green and fresh fruits, 33⅓ per cent ;

Coal oil, 20 per cent ;

Cordage and binder twine, 10 per cent ;

Agricultural implements of all kinds, set up or in parts, 10 per cent ;

Iron, including bar, band, Canada plates, galvanized, sheet, pipe, pipe-fittings, nails, spikes and horse shoes, 10 per cent ;

All kinds of wire, 10 per cent ;

Window glass, 10 per cent ;

Paper for building and roofing purposes, 10 per cent ;

Roofing felt, box and packing, 10 per cent ;

Paints of all kinds and oils, 10 per cent ;

Live stock, 10 per cent ;

Wooden ware, 10 per cent ;

Household furniture, 10 per cent ;

And that no higher rates than such reduced rates or tolls shall be hereafter charged by the company upon any such merchandise carried by the company between the points aforesaid ; such reductions to take effect on or before the first of January, one thousand eight hundred and ninety-eight ;

(*e.*) That there shall be a reduction in the company's present rates and tolls on grain and flour from all points on its main line, branches or connections, west of Fort William to Fort William and Port Arthur and all points east, of three cents per one hundred pounds, to take effect in the following manner :—One and one-half cent per one hundred pounds on or before the first day of September, one thousand eight hundred and ninety-eight, and an additional one and one-half cent per one hundred pounds on or before the first day of September, one thousand eight hundred and ninety-nine ; and that no higher rates than such reduced rates or tolls shall be charged after the dates mentioned on such merchandise from the points aforesaid ;

(*f.*) That the Railway Committee of the Privy Council may grant running powers over the said line of railway and all its branches and connections, or any portions thereof, and all lines of railway now or hereafter owned or leased by or operated on account of the company in British Columbia south of the company's main line of railway, and the necessary use of its tracks, stations and station grounds, to any other railway company applying for such grant upon such terms as such committee may fix and determine, and according to the provisions of The Railway Act and of such other general Acts relating to railways as are from time to time passed by Parliament ; but nothing herein shall be held to imply that such running powers might not be so granted without the special provision herein contained ;

(*g.*) That the said railway, when constructed, together with that portion of the company's railway from Dunmore to Lethbridge, and all lines of railway, branches, connections and extensions in British Columbia south of the main line of the company in British Columbia shall be subject to the provisions of The Railway Act and of such other general Acts relating to railways as are from time to time passed by Parliament ;

(*h.*) That if the company or any other company with whom it shall have any arrangement on the subject shall, by constructing the said railway or any part of it, as stipulated for in the said agreement, become entitled to and shall get any land as a subsidy from the Government of British Columbia, then such lands, excepting therefrom those which in the opinion of the Director of the Geological Survey of Canada (expressed in writing) are coal-bearing lands, shall be disposed of by the company or by such other company to the public according to regulations and at prices not exceeding these prescribed from time to time by the Governor in Council, having regard to the then existing provincial regulations applicable thereto ; the expression "lands" including all mineral and timber thereon which shall be disposed of as aforesaid, either with or without the land, as the Governor in Council may direct :

(*i.*) That if the company or any other company with whom it shall have any arrangement on the subject shall, by constructing the said railway or any part of it as stipulated for in the said agreement, become entitled to and shall get any lands as a subsidy from the Government of British Columbia which in the opinion of the Director of the Geological Survey of Canada (expressed in writing) are coal-bearing lands, then the company will cause to be conveyed to the Crown, in the interest of Canada, a portion thereof to the extent of fifty thousand acres, the same to be of equal value per acre as coal lands with the residue of such lands. The said fifty thousand acres to be selected by the Government in such fair and equitable manner as may be determined by the Governor in Council, and to be thereafter held or disposed of or otherwise dealt with by the Government as it may think fit on such conditions, if any, as may be prescribed by the Governor in Council, for the purpose of securing a sufficient and suitable supply of coal to the public at reasonable prices, not exceeding two dollars per ton of two thousand pounds free on board cars at the mines.

And on the part of the Government, to pay the said subsidy by instalments as aforesaid.

2. The company shall be bound to carry out in all respects the said agreement, and may do whatever is necessary for that purpose.

3. In order to facilitate such financial arrangements as will enable the company to complete the railway as aforesaid without delay and to acquire and consolidate with it the railway from Dunmore to Lethbridge, hereinafter called "the Alberta Branch," which, under the authority of chapter thirty-eight of the statutes of 1893, it now operates as lessee, and is under covenant to purchase, the company may issue bonds which will be a first lien and charge and be secured exclusively upon the said Alberta Branch and Crow's Nest Line together in the same way and with the same effect as if both the said pieces of railway to be so consolidated were being built by the company as one branch of its railway within the meaning of section one of chapter fifty-one of the statutes of 1888, and that section shall apply accordingly, such first lien to be subject to the payment of the purchase money of the Alberta Branch, as provided for in the said covenant to purchase.

By the Act 62-63 Vic., chapter 7 (*Assented to 11th August, 1899*).

1. In this Act, unless the context otherwise requires, the expression "cost" means the actual, necessary and reasonable cost and shall include the amount expended upon any bridge, up to and not exceeding $25,000, forming part of the line of railway subsidized not otherwise receiving any bonus, but shall not include the cost of equipping the railway, nor the cost of terminals and right of way of the railway in any city or incorporated town; and such actual, necessary and reasonable cost shall be determined by the Governor in Council, upon the recommendation of the Minister of Railways and Canals, and upon the report of the Chief Engineer of Government Railways, certifying that he has made or caused to be made an inspection of the line of railway for which payment of subsidy is asked, and careful inquiry into the cost thereof, and that in his opinion the amount upon which the subsidy is claimed is reasonable, and does not exceed the true, actual and proper cost of the construction of such railway.

2. The Governor in Council may grant a subsidy of $3,200 per mile towards the construction of each of the undermentioned lines of railway (not exceeding in any case the number of miles hereinafter respectively stated) which shall not cost more on the average than $15,000 per mile for the mileage subsidized, and towards the construction of each of the said lines of railway not exceeding the mileage hereinafter stated, which shall cost more on the average than $15,000 per mile for the mileage subsidized, a further subsidy beyond the sum of $3,200 per mile of fifty per cent on so much of the average cost of the mileage subsidized as is in excess of $15,000 per mile, such subsidy not exceeding in the whole the sum of $6,400 per mile:—

415. To the Central Ontario Railway Company, for an extension of their railway from, or from near, either Coe Hill or Rathbun Station on the company's railway to, or near to Bancroft, not exceeding 21 miles, in lieu of the subsidy granted by chapter 5 of 1892;

416. To the Great Northern Railway Company, for a railway between Montcalm and St. Tite Junction, on the Lower Laurentian Railway, Quebec, not exceeding 53½ miles; and for a branch from their main line to Shawenegan Falls, Quebec, not exceeding 6½ miles.

417. To the Phillipsburg Railway and Quarry Company, shortage in the extension of their railway from a point on the company's line at or near the end of the subsidized section, to the government wharf at Phillipsburg, Quebec, not exceeding $\frac{66}{100}$ of a mile;

418. To the Strathroy and Western Counties Railway Company, for a line from Strathroy, Ontario, via Adelaide and Arkona, to either Forest, Tedford, or Park Hill, not exceeding 24 miles, in lieu of the subsidy granted by chapter 4 of 1894;

419. To the St. John Valley and Rivière du Loup Railway Company, for a line of railway from Fredericton, in the county of York, New Brunswick, to Woodstock, in the county of Carleton, not exceeding 59 miles;

420. For a railway from Port Hawkesbury, on the Strait of Canso, Nova Scotia, to St. Peter's, not exceeding thirty miles;

421. For a railway from Windsor, Nova Scotia, to Truro, via the township of Clifton, not exceeding 58 miles, in lieu of the subsidy granted by chapter 4 of 1894;

422. For a railway from a point at or near Brookfield Station, Nova Scotia, on the Intercolonial Railway, to Eastville, not exceeding 25 miles, in lieu of the subsidy granted by chapter 4 of 1897;

423. For a railway from Cross Creek Station, on the Canada Eastern Railway, to Stanley Village, New Brunswick, not exceeding 6 miles;

424. For a railway from the village of St. Rémi to Stottville or some point on the Delaware and Hudson Railway (Grand Trunk) in the parish of St. Paul de l'Ile aux Noix, not exceeding 19 miles;

425. For a railway between Pontypool and Bobcaygeon, via Lindsay, Ontario, not exceeding 40 miles.

426. To the Pontiac Pacific Junction Railway Company, for a railway from Aylmer to Hull, Quebec, not exceeding 9 miles, in lieu of the subsidy granted by chapter 4 of 1897;

427. To the Portage du Fort and Bristol Branch Railway Company, for a branch line from a point on the Pontiac Pacific Junction Railway at or near the village of Quyon, towards the village of Portage du Fort, Quebec, not exceeding 15 miles, in lieu of the subsidy granted by chapter 4 of 1897;

428. To the Orford Mountain Railway Company, for a branch from their railway from a point between Lawrenceville and Eastman to Waterloo, not exceeding 13 miles;

429. To the Atlantic and Lake Superior Railway Company, for an extension of their railway from Caplin to Paspebiac, Quebec, not exceeding 30 miles;

430. To the United Counties Railway Company, for a railway from St. Robert Junction to Sorel, 6½ miles, (this subsidy to be payable only in the event of adequate running rights over the South-eastern Railway between the two points above mentioned not being granted to the first mentioned Company on terms to be approved by the Railway Committee of the Privy Council,) and from Mount Johnson to St. Grégoire Station, 1 mile, not exceeding 7½ miles.

431. For a railway from a point on the Central Railway in the county of Lunenburg, Nova Scotia, to the town of Liverpool, via the village of Caledonia, or to the village of Caledonia, via Liverpool, or for any part thereof, the whole distance not exceeding 62 miles;

432. For a railway from Indian Gardens, Queen's County, Nova Scotia, to Shelburne, in the said province, a distance of 35 miles;

433. The subsidy which the Ontario and Rainy River Railway Company is entitled to receive under chapter 4 of 1897, shall be $6,400 per mile for the 80 miles mentioned in the said Act; not exceeding in all $512,000.

434. To the Bay of Quinté Railway Company, for such extensions, branches or additions to their system as will enable the said Company to connect their lines of railway or connecting lines with iron or other mines or mineral or wood lands in the counties of Peterborough, Northumberland, Hastings, Lennox and Addington, Frontenac or Leeds, payable in instalments regulated by the length of each of the said extensions or branches or additions, as the case may be, in lieu of part of the balance remaining unpaid of the subsidy granted to the Kingston, Napanee and Western Railway Company, by chapter 5 of 1892, but not exceeding $3,200 per mile for 10 miles, nor exceeding in the whole $32,000;

435. To the Quebec and Lake St. John Railway Company, for 12 miles of their railway from the end of their line at deep water on the Chicoutimi branch of their railway, to Ha Ha Bay, in the lieu of the subsidy for the 12 miles granted by chapter 4 of 1894;

436. For a line of railway from Hawkesbury, Ontario, to South Indian, not exceeding 35 miles;

437. For a railway from Sault Ste. Marie, Ontario, towards Michipicoten River and harbour and towards the main line of the Canadian Pacific Railway, not exceeding 40 miles;

438. For a branch line of railway from the main line of the Ottawa, Arnprior and Parry Sound Railway to the town of Parry Sound, Ontario, not exceeding 5 miles;

439. For a railway from the village of Haliburton, via the village of Whitney, towards the town of Mattawa, Ontario, not exceeding 20 miles;

440. For an extension of the Tilsonburg, Lake Erie and Pacific Railway, from Tilsonburg to Ingersoll or Woodstock, Ontario, not exceeding 28 miles;

441. To the South Shore Railway Company, from Sorel Junction along the South Shore to Lotbinière, Quebec, a distance not exceeding 82 miles;

442. To the Massawippi Valley Railway Company for an extension of their railway to the village of Stanstead Plain, Quebec, not exceeding 2½ miles;

443. For a railway from Port Hawkesbury on the Strait of Canso, to Caribou Cove, Nova Scotia, a distance of 10 miles;

444. For a railway from Fort Frances, Ontario, westerly to a point at or near the mouth of Rainy River, a distance not exceeding 70 miles;

445. To the Central Railway Company of New Brunswick, for an extension of their line of railway from Newcastle Coal Fields to Gibson, New Brunswick, not exceeding 30 miles;

446. To the Canadian Northern Railway Company, for a railway from a point on the present line of the Winnipeg Great Northern Railway north of Swan River to Prince Albert, North-west Territories, not exceeding 100 miles;

447. For a railway from some point near Antler Station to a point near Moose Mountain, Manitoba, not exceeding 50 miles;

448. For a railway from Sunnybrae to Country Harbour, and from a point at or near Country Harbour Cross Roads to Guysborough, Nova Scotia, to make up the deficiency in mileage between points mentioned and subsidized by chapter 4 of 1897, additional mileage not exceeding 15 miles;

449. For a railway from Port Clyde towards Lockeport, in the province of Nova Scotia, not exceeding 20 miles;

450. For a railway from a point on the Intercolonial Railway at or near Halifax towards the Central Railway in the county of Lunenburg, not exceeding 20 miles;

451. For a railway from Labelle, in the province of Quebec, in a north-westerly direction, to Nominingue, via Notre Dame de l'Annonciation, a distance not exceeding 22 miles;

452. For a railway from Owen Sound, in the province of Ontario, to Meaford, not exceeding 21 miles;

453. To the Ottawa and Gatineau Railway Company, for their line of railway in and through the city of Hull, Quebec, not exceeding 4 miles;

454. To the Western Alberta Railway Company, from a point on the United States boundary, west of Range 27, north-westerly towards Anthracite, in the district of Alberta, not exceeding 50 miles ;

455. To the Edmonton, Yukon and Pacific Railway Company, for a railway from the town of South Edmonton, North-west Territories, to North Edmonton, and thence westerly towards the Yellow Head Pass, a distance not exceeding 50 miles ;

456. To the Restigouche and Western Railway Company, in addition to the 20 miles subsidized by chapter 4 of 1897, and in continuation from the westerly end of the said 20 miles towards the St. John River, a further distance not exceeding 15 miles, and for the company's railway from a point on the St. John River, New Brunswick, at or near Grand Falls, or St. Leonard, or between Grand Falls and St. Leonard, and extending easterly towards Campbellton, such point to be approved by the Governor in Council, a distance of 12 miles ; in all not exceeding 27 miles ;

457. For a railway in extension of the St. Francis branch of the Temiscouata Railway to the mouth of the St. Francis River, a distance not exceeding 3 miles ;

458. To the Canada Eastern Railway Company, for a line of railway from Nelson, New Brunswick, to connect with the company's main line running into Chatham, to complete the connection from Nelson to such main line, not exceeding in the whole $2\frac{1}{4}$ miles ;

459 To the Bay of Quinté Railway Company, for an extension of their line in a westerly direction from a point at or near Richmond boundary road near Deseronto for a distance not exceeding 2 miles ; also for an extension of their line from its present terminus at Tweed in a northerly direction for a distance of 2 miles, and for an extension of their line from the end of the last 2 miles mentioned in a northerly direction for a distance not exceeding 3 miles—in all 7 miles ; subsidies payable on each of the sections mentioned as each of such sections is completed ;

460. To the Ontario, Belmont and Northern Railway Company, for an extension of their railway from its present terminus at Iron Mines in a north-westerly direction, a distance not exceeding 5 miles ; and also for an extension of the company's railway southerly, from the present southern terminus thereof to the Central Ontario Junction of the Canadian Pacific Railway, a distance not exceeding 2 miles ; but the last mentioned aid for the said 2 miles of railway shall not be granted in case the Railway Committee of the Privy Council finds that adequate running powers on fair terms can be secured to the company over that portion of the line of the Central Ontario Railway between the present southerly end of the Ontario, Belmont and Northern Railway and the Canadian Pacific Railway Company's line at Central Ontario Junction ; subsidies payable on each of the sections mentioned as each of such sections is completed ;

461. For a line of railway from a point on the Pembroke Southern Railway at or near Golden Lake, Ontario, towards a point on the Irondale, Bancroft and Ottawa Railway at or near Bancroft, not exceeding 20 miles ;

462. For a line of railway from Paspebiac, Quebec, to Gaspé in the said province, a distance not exceeding 82 miles ;

463. To the Lake Erie and Detroit River Railway Company, for a line of railway from Ridgetown, Ontario, to St. Thomas, in the said province, a distance not exceeding 44 miles ; this subsidy to be payable only in the event of adequate running rights over the Canada Southern Railway between the two points above mentioned not being granted to the first mentioned company on terms to be approved by the Railway Committee of the Privy Council ;

464. To the Kingston and Pembroke Railway Company, for the construction of branches from the Company's main line to the iron mine at Bluff Point and to the Martele mine in the county of Renfrew, not exceeding 5 miles ;

465. For a railway from the town of Parry Sound extending northerly towards Sudbury, a distance not exceeding 20 miles.

3. The Governor in Council may grant the subsidies hereinafter mentioned towards the construction of the railways also hereinafter mentioned, that is to say :—

466. The Ontario and Rainy River Railway Company, for a railway from a point 80 miles west of Stanley Station, on the Port Arthur, Duluth and Western Railway, to Fort Frances, for a distance of 140 miles, at $6,400 per mile, not exceeding in the whole	$ 896,000 00
467. To the Quebec Bridge Company, towards the construction of a railway bridge over the St. Lawrence River, at Chaudière Basin, near Quebec, one million dollars, 40 per cent of which amount may be paid on monthly progress estimates, approved by the Government engineers, of materials delivered and work done...	1,000,000 00
468. To the South Shore Railway Company, towards the restoration and renewal of the railway bridge over the Yamaska River at Yamaska, Quebec	50,000 00
469. Towards the construction of a bridge over the Richelieu River at Sorel, 15 per cent upon the amount expended thereon, not exceeding	35,000 00
470. Towards the construction of a bridge across the St. Francis River, 15 per cent of the amount expended thereon, not exceeding...	50,000 00
471. Towards the construction of a bridge across the Nicolet River, 15 per cent upon the amount expended thereon, not exceeding...	15,000 00
472. To the Midland Railway Company, Limited, towards the construction of a bridge across the Shubenacadie River, 15 per cent upon the amount expended thereon, not exceeding	33,750 00
473. To the Great Northern Railway Company, towards the construction of a bridge across the St. Maurice River, 15 per cent upon the amount expended thereon, not exceeding	16,425 00
474. Also towards the construction of a bridge across the Rivière du Loup, 15 per cent upon the amount expended thereon, not exceeding	15,000 00
475. Also towards the construction of a steel bridge and viaduct at the Maskinongé River, 15 per cent upon the amount expended thereon, not exceeding	15,000 00

4. The subsidies granted to the Ontario and Rainy River Railway Company, the Canadian Northern Railway Company and the Edmonton, Yukon and Pacific Railway Company are granted upon the condition, and, if received and paid under the authority of this Act to the above mentioned companies respectively, shall be received upon the condition, that the said companies shall not, nor shall any of them, at any time amalgamate with, or lease its line or lines to, any railway company other than those mentioned in this section, except as may be authorized by Parliament ; nor shall any of the said railways be leased to or operated by any other company ; nor shall any of the said companies make an agreement for a common fund or for pooling its receipts with any other railway company ; and any such lease, amalgamation or agreement shall be absolutely void, excepting in so far as such agreement may extend to traffic or running arrangements which have been approved by the Governor in Council.

5. The subsidies hereinbefore mentioned as to be granted to companies named for that purpose shall, if granted by the Governor in Council, be granted to such companies respectively ; the other subsidies may be granted to such companies as are approved by the Go or in Council as having established to his satisfaction their ability to construct and complete the said railways respectively ; all the lines for the construction of

which subsidies are granted, unless they are already commenced, shall be commenced within two years from the first day of August next, and completed within a reasonable time, not to exceed four years from the said first day of August, to be fixed by Order in Council, and shall also be constructed according to descriptions and specifications and upon conditions to be approved by the Governor in Council, on the report of the Minister of Railways and Canals, and specified in an agreement to be made in each case by the company with the Government, which agreement the Government is hereby empowered to make; the location also of every such line of railway shall be subject to the approval of the Governor in Council.

6. The granting of such subsidies, and the receipt thereof by the respective companies, shall be subject to the condition that the Governor in Council may at all times provide and secure to other companies such running powers, traffic arrangements and other rights as will afford to all railways connecting with those so subsidized reasonable and proper facilities in exercising such running powers, fair and reasonable traffic arrangements with connecting companies, and equal mileage rates between all such connecting railways; and the Governor in Council shall have absolute control at all times over the rates and tolls to be levied and imposed by any of the companies or upon any of the railways hereby subsidized.

7. The said subsidies respectively shall be payable out of the Consolidated Revenue Fund of Canada, by instalments, on the completion of each section of the railway of not less than ten miles, proportionate to the value of the portion so completed in comparison with that of the whole work undertaken, to be established by the report of the said Minister, or upon the completion of the work subsidized—except as to subsidies with respect to which it is hereinbefore otherwise provided.

8. Every company receiving a subsidy under this Act, its successors or assigns, and any person or company controlling or operating the railway or portion of railway subsidized under this Act, shall each year furnish to the Government of Canada transportation for men, supplies, material and mails over the portion of its line in respect of which it has received such subsidy, and, whenever required, shall furnish mail cars, properly equipped, for such mail service; and such transportation and service shall be performed at such rates as are agreed upon between the Minister of the department of the Government for which such service is being performed and the company performing it, and in case of disagreement, then at such rates as are approved by the Governor in Council; and in or towards payment for such charges the Government of Canada shall be credited by the company with a sum equal to three per cent per annum on the amount of subsidy received by the company under this Act.

9. As respects all railways for which subsidies are granted by this Act, the company at any time owning or operating any of the said railways shall, when required, produce and exhibit to the Minister of Railways and Canals, or any person appointed by him, all books, accounts and vouchers showing the cost of constructing the railway, the cost of operating it, and the earnings thereof.

By the Act 63-64 Vic., chapter 8 (*Assented to July 18, 1900*).

1. In this Act, unless the context otherwise requires, the expression 'cost' means the actual, necessary and reasonable cost and shall include the amount expended upon any bridge, up to and not exceeding $25,000, forming part of the line of railway subsidized not otherwise receiving any bonus, but shall not include the cost of equipping the railway nor the cost of terminals and right of way of the railway in any city or incorporated town; and such actual, necessary and reasonable cost shall be determined by the Governor in Council, upon the recommendation of the Minister of Railways and Canals, and upon the report of the Chief Engineer of Government Railways, certifying that he has made or caused to be made an inspection of the line of railway for which payment of subsidy is asked, and careful inquiry into the cost thereof, and that in his

opinion the amount upon which the subsidy is claimed is reasonable, and does not exceed the true, actual and proper cost of the construction of such railway.

2. The Governor in Council may grant a subsidy of $3,200 per mile towards the construction of each of the undermentioned lines of railway (not exceeding in any case the number of miles hereinafter respectively stated) which shall not cost more on the average than $15,000 per mile for the mileage subsidized, and towards the construction of each of the said lines of railway not exceeding the mileage hereinafter stated, which shall cost more on the average than $15,000 per mile for the mileage subsidized, a further subsidy beyond the sum of $3,200 per mile of fifty per cent on so much of the average cost of the mileage subsidized as is in excess of $15,000 per mile, such subsidy not exceeding in the whole the sum of $6,400 per mile :—

476. For a railway from a point at or near the junction of the Irondale, Bancroft and Ottawa Railway and the Grand Trunk Railway to the village of Minden, in the county of Haliburton, Ontario, not exceeding 12 miles.

477. To the Strathroy and Western Counties Railway Company, for a railway commencing at a point at or near Caradoc station, on the Canadian Pacific Railway, and extending to the town of Strathroy, Ontario, not exceeding 7 miles.

478. For a line of railway from a point on the Pembroke Southern Railway at or near Golden Lake, towards a point on the Irondale, Bancroft and Ottawa Railway at or near Bancroft, Ontario, for the further extension of such railway westerly from the western terminus of the 20 miles subsidized by chapter 4 of 1897, for a distance not exceeding 20 miles.

479. To the Algoma Central Railway Company for 25 miles of its line of railway from its terminus at Michipicoten Harbour, Lake Superior, towards the main line of the Canadian Pacific Railway, and for a further extension of this company's line of railway from Sault Ste. Marie towards Michipicoten River and Harbour, Ontario, towards the main line of the Canadian Pacific Railway, 25 miles in all, not exceeding 50 miles.

480. To the Central Ontario Railway Company, for a further extension of their railway from, at or near Bancroft to a point on the Canada Atlantic Railway between Whitney and Barry's Bay, Ontario, not exceeding 20 miles.

481. To the Manitoulin and North Shore Railway Company, for a line of railway between Little Current, on Manitoulin Island, and Sudbury, Ontario, on the Canadian Pacific Railway, the company undertaking to bridge between Little Current and the main land, the bridge to be so constructed and maintained as to afford suitable facilities, in the opinion of the Minister of Railways and Canals, for free vehicular and passenger traffic, the same as upon a public highway, the work to be begun and prosecuted from Little Current and Sudbury, one-half of the subsidy to be applicable, as earned, in respect of the work beginning at Little Current and carried on towards Sudbury, and one-half thereof to be applicable, as earned, in respect of the work beginning at Sudbury and carried on towards Little Current, the course of the line of railway to cross the Sault Ste. Marie branch of the Canadian Pacific Railway, not exceeding 66 miles.

482. For a railway from Bracebridge, in Muskoka, to a point at or near Baysville, Ontario, not exceeding 15 miles.

483. For a railway beginning at a point northerly 20 miles from Parry Sound, and extending from that point to the French River, Ontario, not exceeding 35 miles.

484. For a railway from a point 20 miles north-easterly from the village of Haliburton, via the village of Whitney, towards the village of Mattawa, Ontario, not exceeding 40 miles.

485. To the Kingston and Pembroke Railway Company, for a branch line of railway to iron mines in Bedford township, Ontario, not exceeding 12 miles.

486. To the Thousand Islands Railway Company for an extension of their railway from the present northerly terminus to a point easterly thereof, not exceeding 2 miles ;

And also for an extension from a point on the railway to connect their railway with the Brockville, Westport and Sault Ste. Marie Railway, the Bay of Quinté Railway, the Kingston, Smith's Falls and Ottawa Railway, or the waters of the Rideau Canal, the balance remaining of the subsidy granted by chapter 5 of 1892, not exceeding 9½ miles.

487. For a railway from Dyment, on the Canadian Pacific Railway, to the New Klondike mining district, Ontario, not exceeding 7 miles.

488. To the Schomberg and Aurora Railway Company, for an extension of their line from its easterly terminus to a point at or near Bond's Lake, Ontario, not exceeding 4 miles.

489. To the Nipissing and James Bay Railway Company, for a railway from, at or near North Bay station, on the Canadian Pacific Railway, towards James Bay, or Lake Tamagaming, Ontario, not exceeding 20 miles.

490. In aid of the Ottawa and New York Railway Company's bridge over the St. Lawrence River, and for the Canadian portion of such bridge, a sum not exceeding $90,000.

491. To the Grand Trunk Railway Company of Canada, towards the cost of the rebuilding and enlargement of the Victoria Bridge over the St. Lawrence River, Quebec, in addition to the amount received by the company on account of the subsidy granted by chapter 4 of 1897, viz: $270,000, to make up the grant in aid of the undertaking to $500,000, upon condition that the tolls upon the bridge for passenger and vehicular traffic shall be subject to the approval of the Governor in Council, a sum not exceeding $230,000.

492. For a railway and traffic bridge over the Ottawa River at Nepean Point, between the city of Ottawa, Ontario, and the city of Hull, Quebec, upon condition that the bridge be so constructed as to provide suitable facilities, to the satisfaction of the Minister of Railways and Canals, for free vehicular and foot passenger traffic, the same as upon a public highway, in addition to the $112,500 already granted,—and, notwithstanding anything in the said Act, the subsidy hereby granted, together with the grant of $112,500 under chapter 4 of 1897, shall be paid upon the completion of the bridge and its approaches, upon the Chief Engineer's report of such completion, and the recommendation of the Minister,—a sum not exceeding $100,000.

493. To the Canadian Northern Railway Company, in further extension of their railway north of Swan River towards Prince Albert, North-west Territories, in addition to the grant by chapter 7 of 1899, a further mileage not exceeding 100 miles.

494. For a railway from the westerly end of the Waskada branch of the Canadian Pacific Railway, Manitoba, further westward, not exceeding 20 miles.

495. For a railway from a point on the Alberta Railway and Coal Company's Railway towards Cardston, Alberta, N.W.T., for 30 miles of railway at $2,500 per mile.

496. To the Kaslo and Lardo-Duncan Railway Company, for a railway from Duncan Lake towards Lardo or Arrow Lake, British Columbia, or from Lardo to Arrow Lake, not exceeding 30 miles.

497. To the Restigouche and Western Railway Company, for the company's railway, in addition to the 15 miles subsidized by chapter 7 of 1899, on the easterly section of the line, and in continuation from the westerly end of the said 15 miles, a further distance of 15 miles towards the St. John River; and for the said railway, in addition to the 12 miles subsidized by the said chapter on the westerly section of the said line, a further distance from the easterly end thereof of 15 miles, towards Campbellton, N.B, not exceeding 30 miles.

498. For a line of railway from St. Charles Junction on the Intercolonial Railway towards the St. Francis branch of the Temiscouata Railway, Quebec, not exceeding 45 miles, and from the mouth of the St. Francis River, N.B., westerly towards St. Charles Junction, 15 miles, in all not exceeding 60 miles.

499. For a line of railway from Bristol, in the county of Carleton, New Brunswick, on the Canadian Pacific Railway, easterly, a distance not exceeding 17 miles.

500. For a line of railway from Shediac, county of Westmorland, New Brunswick, to Shemogue, and towards Cape Tormentine, in the said county, a distance not exceeding 38 miles.

501. For a railway from Lockeport, Nova Scotia, to Sable River, or other convenient point of railway connection, not exceeding 20 miles.

502. To the Inverness and Richmond Railway Company, for a railway in extension of the company's line northward from Broad Cove to Cheticamp, C.B., Nova Scotia, not exceeding 40 miles.

503. For a railway from Bridgetown to Victoria Beach, Nova Scotia, not exceeding 30 miles.

504. For a railway from a point on the Intercolonial Railway, Pictou branch, to Kempt Town, county of Colchester, Nova Scotia, not exceeding 4½ miles.

505. For a railway from Brazil Lake, on the Dominion Atlantic Railway, to Kemptville, Nova Scotia, not exceeding 11 miles.

506. To the Montfort and Gatineau Colonization Railway Company, to enable it to extend its railway from Arundel to a point in the municipality of the united townships of Preston and Hartwell, province of Quebec, not exceeding 30 miles.

507. To the Chateauguay and Northern Railway Company, for a railway from a point in Hochelaga ward, Montreal, to a point on the Great Northern Railway, in or near the town of Joliette, passing near the town of L'Assomption, Quebec, together with a spur into the said town, not exceeding 42 miles.

508. To the Chateauguay and Northern Railway Company, for a single-track standard railway bridge, with two roadways 10 feet wide, for free vehicular and foot passenger traffic, the same as upon a public highway, from Bout L'Isle to Charlemange, at the junction of the Ottawa and St. Lawrence rivers, $150,000.

509. To the Chateauguay and Northern Railway Company, towards the construction of a bridge across the Lac Ouareau River, $15,000.

510. To the Arthabaska Railway Company, for a railway from Victoriaville to West Chester, province of Quebec, a distance not exceeding 12 miles.

511. To the Great Northern Railway Company, for a branch line from the town or from near the town of Joliette towards Ste. Emélie, touching the parishes of Ste. Beatrix and Ste. Jean de Matha, not exceeding 20 miles.

512. For a railway from Farnham, province of Quebec, to Frelighsburg and the International Boundary Line, not exceeding 21 miles.

513. Towards the construction of a railway bridge over the St. Francis River, in lieu of the grant under chapter 7 of 1899, at St. François du Lac, on the condition that the bridge, with approaches, be built so as to allow the municipalities to make use thereof, to establish and maintain a suitable roadway for the free passage of foot passengers, vehicles and animals, to be approved by the Minister of Railways and Canals, $50,000.

514. Towards the construction of a railway bridge over the Nicolet River at Nicolet, in lieu of the grant under chapter 7 of 1899, $15,000.

515. For a line of railway from Halifax towards a point on the Central Railway of Nova Scotia, in the county of Lunenburg, in addition to and in extension of the 20 miles subsidized by chapter 7 of 1899, not exceeding 20 miles.

3. The subsidies hereby granted and any subsidies heretofore granted under any Act of the Parliament of Canada, still in force, but not fully paid, towards the construction of any railway or bridge, shall be payable out of the Consolidated Revenue Fund of Canada, and may, unless in this Act otherwise expressly provided, at the option of the Governor in Council, on the report of the Minister of Railways and Canals, be paid as follows:

(*a*) upon the completion of the work subsidized; or

(*b*.) by instalments on the completion of each ten-mile section of the railway, in the proportion which the cost of such completed section bears to that of the whole work undertaken; or

(*c.*) upon progress estimates on the certificate of the Chief Engineer of Railways and Canals, that in his opinion, having regard to the whole work undertaken and the aid granted, the progress made justifies the payment of a sum not less than sixty thousand dollars ; or

(*d.*) with respect to (*b*) and (*c*), part one way, part the other.

4. The subsidies hereinbefore mentioned as to be granted to companies named for that purpose shall, if granted by the Governor in Council, be granted to such companies respectively ; the other subsidies may be granted to such companies as are approved by the Governor in Council as having established to his satisfaction their ability to construct and complete the said railways respectively ; all the lines for the construction of which subsidies are granted, unless they are already commenced, shall be commenced within two years from the first day of August next, and completed within a reasonable time, not to exceed four years from the said first day of August, to be fixed by Order in Council, and shall also be constructed according to descriptions and specifications and upon conditions to be approved by the Governor in Council, on the report of the Minister of Railways and Canals, and specified in an agreement to be made in each case by the company with the government, which agreement the government is hereby empowered to make ; the location also of every such line of railway shall be subject to the approval of the Governor in Council.

5. The granting of such subsidies, and the receipt thereof by the respective companies, shall be subject to the condition that the Governor in Council may at all times provide and secure to other companies such running powers, traffic arrangements and other rights as will afford to all railways connecting with those so subsidized reasonable and proper facilities in exercising such running powers, fair and reasonable traffic arrangements with connecting companies, and equal mileage rates between all such connecting railways ; and the Governor in Council shall have absolute control at all times over the rates and tolls to be levied and imposed by any of the companies or upon any of the railways hereby subsidized.

6. The Governor in Council may make it a condition of the subsidies hereby granted, or of any heretofore granted by any Act of Parliament as to which a contract has not yet been entered into between Her Majesty and the company for the construction of the railway, that the company shall lay its road with new steel rails made in Canada, if such rails are procurable in Canada of suitable quality upon terms as favourable as other rails can be obtained upon, of which the Minister of Railways and Canals shall be the judge.

7. Every company receiving a subsidy under this Act, its successors or assigns, and any person or company controlling or operating the railway or portion of railway subsidized under this Act, shall each year furnish to the government of Canada transportation for men, supplies, material and mails over the portion of its line in respect of which it has received such subsidy, and, whenever required, shall furnish mail cars, properly equipped, for such mail service ; and such transportation and service shall be performed at such rates as are agreed upon between the minister of the department of the government for which such service is being performed and the company performing it, and in case of disagreement then at such rates as are approved by the Governor in Council ; and in or towards payment for such charges the government of Canada shall be credited by the company with a sum equal to three per cent per annum on the amount of subsidy received by the company under this Act.

8. As respects all railways for which subsidies are granted by this Act, the company at any time owning or operating any of the said railways shall, when required, produce and exhibit to the Minister of Railways and Canals, or any person appointed by him, all books, accounts and vouchers showing the cost of constructing the railway, the cost of operating it, and the earnings thereof.

9. Paragraph 20 of section 2 of chapter 7 of the statutes of 1899 is amended by inserting after the word "railway," in the third line, the words "or to connect the said lines."

10. The subsidy provided for by chapter 7 of the statutes of 1899 towards the construction of a railway bridge over the St. Lawrence River at Chaudière Basin, near Quebec, shall be deemed to be applicable, as to one-third thereof, to the substructure and approaches, and as to two-thirds thereof to the superstructure, and the said subsidy may be paid upon that basis by authority of the Governor in Council, upon progress estimates to be furnished from time to time by the Chief Engineer of Government Railways and Canals, so that one-third of such subsidy, and no more, may be paid in respect of and upon completion of the masonry of the substructure and approaches of the said bridge, one-third, and no more, upon the work and material of one-half of the superstructure being done and supplied, in respect of such work and material, and the remaing one-third upon the completion of the whole work.

LAND SUBSIDIES.

By 47 Vic., chap. 25, clause 7, 1884 (*Assented to April 19, 1884*):—

1. The Governor in Council is hereby authorized in aid of the construction of a railway from some point on the Canadian Pacific Railway to Hudson's Bay, to make a free grant of not more than six thousand four hundred acres for each mile of railway within Manitoba, and not more than twelve thousand eight hundred acres for each mile in the North-west Territories.

By 48-49 Vic., chap. 60, 1885 (*Assented to July 20, 1885*):—

2. To the North-western Coal and Navigation Company (Limited), Dominion lands to an extent not exceeding three thousand eight hundred acres for each mile of the company's railway, from Medicine Hat to the coal banks on the Belly River, about one hundred and ten miles.

3. To the Manitoba and South-western Colonization Railway Company, Dominion lands to an extent not exceeding six thousand four hundred acres for each mile of the company's railway from its commencement at Winnipeg to its terminus at Whitewater Lake, about one hundred and fifty miles.

4. To the Manitoba and North-western Railway Company, Dominion lands to the extent of six thousand four hundred acres for each mile of the company's railway, for the whole distance from Portage la Prairie to the crossing of the South Branch of the River Saskatchewan, twenty miles from Prince Albert, about four hundred and thirty miles.

5. To the Qu'Appelle, Long Lake and Saskatchewan Railroad and Steamboat Company Dominion lands to an extent not exceeding six thousand four hundred acres for each mile of the company's railway, from its commencement near Regina to the navigable waters of Long Lake.

'The said grants, and each of them, may be so made in aid of the construction of the said railways respectively, in the proportion and upon the conditions fixed by the Orders in Council made in respect thereof,—each of the said enterprises being respectively subject to any modification thereof which may hereafter be made by the Governor in Council; and except as to such conditions, the said grants shall be free grants, subject only to the payment by the grantees respectively of the cost of survey of the lands and incidental expenses, at the rate of ten cents per acre in cash on the issue of the patents therefor.'

By 49 Vic., cap. 11, 1886 (*Assented to June 2, 1886*):—

6. To the Manitoba and North-western Railway Company, Dominion lands to the extent of six thousand four hundred acres per mile for each mile of the com-

pany's branch railway running from a point on the main line of that railway, at or near Todburn, in a north-westerly direction through the county of Russell to the Assiniboine River, near the town of Shellmouth, about twenty-six miles.

*7. To the North-west Central Railway Company, or to such other company as may undertake the construction of the railway or a railway from a point on the Manitoba and North-western Railway via Rapid City, westward, Dominion lands to the extent of six thousand four hundred acres for each mile of the company's railway, for the whole distance from Brandon station on the Canadian Pacific Railway, or from such point on the Manitoba and North-western Railway as aforesaid, to Battleford, in the provisional district of Saskatchewan, about four hundred and fifty miles.

†8. To the Wood Mountain and Qu'Appelle Railway Company, Dominion lands to the extent of six thousand four hundred acres for each mile of the company's railway for the whole distance commencing at a point in township number four, in range number thirty, west of the second meridian, in the Dominion lands system of survey, passing through the town of Fort Qu'Appelle to join the Manitoba and North-western Railway at a point to be fixed for that purpose by the Governor in Council, about two hundred and forty miles

'The said grants, and each of them, may be so made in aid of the construction of the said railways respectively, in the proportions and upon the conditions fixed by the Orders in Council made in respect thereof,—each of the said enterprises being respectively subject to any modification thereof which may hereafter be made by the Governor in Council; and, except as to such conditions, the said grants shall be free grants, subject only to the payment by the grantees respectively, of the cost of survey of the lands and incidental expenses, at the rate of ten cents per acre in cash on the issue of the patents therefor.'

By section 5 of this Act authority was given for the incorporation by the Governor in Council of a company to construct the line from Brandon, or other point indicated, to Battleford, subsidized by this Act.

By 50–51 Vic., cap. 22, 1887 (*Assented to June 23, 1887*):—

9. The subsidy to the North-western Coal and Navigation Company, granted by 49 Vic., chap. 60, was increased from 3,800 acres per mile to 3,840 acres per mile.

By 50–51 Vic., cap. 23, 1887 (*Assented to June 23, 1887*):—

†10. To the Alberta and Athabasca Railway Company, Dominion lands to an extent not exceeding six thousand four hundred acres for each mile of the company's railway from some point on the Bow River or Canadian Pacific Railway, at or between Calgary and Crowfoot Creek, to a point near the town plot of Edmonton, about three hundred miles.

11. To the Qu'Appelle, Long Lake and Saskatchewan Railway and Steamboat Company, Dominion lands to an extent not exceeding six thousand four hundred acres for each mile of the company's railway, from a point near the northern terminus of the completed portion of that railway, at or near Long Laketon, on the navigable waters of Long Lake, to a point at or near where the fifty-second parallel of latitude crosses the South Saskatchewan River, thence to a point at or near the elbow of the North Saskatchewan River, with branches to Prince Albert and Battleford, about three hundred and twenty-five miles.

†12. To the Medicine Hat Railway and Coal Company, Dominion lands to an extent not exceeding six thousand four hundred acres for each mile of the company's railway, from a point at or near Medicine Hat, on the line of the Canadian Pacific Railway, to the coal field in or near townships twelve and thirteen,

*Lapsed except for the subsidy earned for the 50 miles constructed.

†The subsidies in land grants for the Wood Mountain and Qu'Appelle, the Alberta and Athabasca and the Medicine Hat railways have lapsed.

range six, west of the fourth principal meridian, a distance of about eight miles to be selected out of such lands as are at the disposal of the Government in the proximity of the line of the company's railway.

'The said grants, and each of them may be so made in aid of the construction of the said railways respectively, in the proportions and upon the conditions fixed by the Orders in Council made in respect thereof, each of the said enterprises being respectively subject to any modification thereof which may hereafter be made by the Governor in Council; and, except as to such conditions, the said grants shall be free grants, subject only to the payment by the grantees respectively, of the cost of survey of the lands and incidental expenses, at the rate of ten cents per acre in cash on the issue of the patents therefor.'

By 52 Vic., chap. 4, 1889 (*Assented to May 2, 1889*):—

13. To the North-western Coal and Navigation Company (Limited), in addition to the grant provided for by section one of the Act passed in the session held in the forty-eighth, and forty-ninth years of Her Majesty's reign, and chaptered sixty, Dominion lands to an extent not exceeding two thousand six hundred acres for each mile of the company's railway from Dunmore station on the Canadian Pacific Railway, to Lethbridge, on the Belly River, the present terminus of the said railway, a distance of one hundred and nine and one-half miles,—such additional grant to be made only on condition that the gauge of the said railway be made standard width; and also to the said North-western Coal and Navigation Company (Limited), Dominion lands to an extent not exceeding six thousand four hundred acres for each mile of the company's railway from Lethbridge to the international boundary, a distance of about fifty miles.

14. To the Red Deer Valley Railway and Coal Company, Dominion lands to an extent not exceeding six thousand four hundred acres for each mile of the company's railway from Cheadle Station, on the Canadian Pacific Railway, to its terminus at a point in or near township twenty-nine, range twenty-three west of the fourth meridian, a distance of about fifty-five miles.

*__15__. To the North-western Railway Company of Canada, Dominion lands to an extent not exceeding ten thousand acres for each mile of the company's railway from Calgary, on the Canadian Pacific Railway, northerly to a point on the North Saskatchewan River, at or near Edmonton, a distance of about two hundred and ten miles; and also to the said North-western Railway Company of Canada, Dominion lands to an extent not exceeding ten thousand acres for each mile of the company's railway from Calgary southerly to Lethbridge, a distance of about one hundred and twenty miles.

16. To the Lake Manitoba Railway and Canal Company, Dominion lands to an extent not exceeding six thousand acres for each mile of the company's railway from Portage la Prairie to the southern boundary of Lake Manitoba, a distance of about seventeen miles.

'The said grants, and each of them, may be so made in aid of the construction of the said railways respectively, in the proportions and upon the conditions fixed by the Orders in Council made in respect thereof, and except as to such conditions, the said grants shall be free grants, subject only to the payment by the grantees respectively, of the cost of survey of the lands and incidental expenses, at the rate of ten cents per acre in cash on the issue of the patents therefor.

'The Governor in Council may make the grant of land provided for by section three of the Act forty-ninth Victoria, chapter eleven, being for the line of the Wood Mountain and Qu'Appelle Railway, of about two hundred and forty miles in length, applicable to the line of railway of the said company, as authorized by the Act respecting the Wood Mountain and Qu'Appelle Railway Company, passed during the present session of Parliament, upon the like terms and subject to the like conditions as those upon which the grant hereinbefore mentioned was authorized to be made to the said company by the Act in this section first cited.'

*The North-western Railway of Canada land grant subsidy has lapsed.

By the Act 53 Vic., cap. 4, 1890 (*Assented to May 16, 1890*) :—

17. To the Canadian Pacific Railway Company, Dominion lands to an extent not exceeding six thousand four hundred acres per mile for a branch line to be constructed from Glenboro' westerley a distance of about sixty miles to a point on the proposed branch railway of the said company running from Brandon south-westerly.

18. To the Canadian Pacific Railway Company, Dominion lands to an extent not exceeding six thousand four hundred acres per mile for a branch line of railway from a point at or near Brandon, on the main line of the Canadian Pacific Railway, south-westerly to or near township three, range twenty-seven, west of the first principal meridian, and thence westerly, a total distance of one hundred miles; and also a similar grant, at the same rate per mile, for the said company's proposed branch railway from a point on the line just described at or near township three, range twenty-seven, west of the first principal meridian, easterly to Deloraine, a distance of about twenty-five miles, making the total length of railway to which this grant is applicable one hundred and twenty-five miles.

*__19__. To the Brandon and South-western Railway Company, Dominion lands to an extent not less than six thousand four hundred acres per mile for the line of railway from a point in township one, in either range twenty-three or twenty-four west of the first principal meridian, to Deloraine, a distance of about seventeen miles.

*__20__. To the Lac Seul Railway Company, Dominion lands to an extent not exceeding six thousand four hundred acres per mile for a line of railway from a point at or near Shelly Station, on the main line of the Canadian Pacific Railway, to a point at or near White Mud Lake, on the Winnipeg River, a distance of about eighteen miles.

21. To the Calgary and Edmonton Railway Company, Dominion lands to an extent not exceeding six thousand four hundred acres for each mile of the company's railway from Calgary to a point at or near Edmonton on the North Saskatchewan River, a distance of about one hundred and ninety miles; and also a grant of six thousand four hundred acres for each mile of the company's railway from Calgary to a point on the international boundary between Canada and the United States, a distance of about one hundred and fifty miles.

*__22__. To the North-western Coal and Navigation Company (Limited) Dominion lands to an extent not exceeding three thousand eight hundred and forty acres for each mile of the company's railway from Lethbridge to the Crow's Nest Pass, a distance of about one hundred miles.

23. To the Lake Manitoba Railway and Canal Company, Dominion lands to an extent not exceeding six thousand four hundred acres per mile, for a line of railway from Portage la Prairie to Lake Winnipegosis, at or near Meadow Portage, a distance of about one hundred and twenty-five miles.

24. To the Manitoba and South-eastern Railway Company, Dominion lands to an extent not exceeding six thousand four hundred acres per mile, for a line of railway from Winnipeg southerly or south-easterly to a point on the west side of the Lake of the Woods, a distance of about one hundred and ten miles.

The said grants and each of them may be made in aid of the construction of the said railways respectively, in the proportion and upon the conditions fixed by the Orders in Council made in respect thereof, and except as to such conditions, the said grants shall be free grants, subject only to the payment by the grantees respectively of the cost of survey of the lands and incidental expenses, at the rate of ten cents per acre in cash, on the issue of the patents therefor.

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* The land grant subsidy to the Brandon and South-western, the Lac Seul and North-western Coal and Navigation railways has lapsed.

The lands by this Act authorized to be granted to the Canadian Pacific Railway Company shall be taken and held, and may be disposed of, free and clear of any encumbrance on the lands or property of the said company created before the passing of this Act.

By the special Act 53 Vic., cap. 3, 1890 (*Assented to March 26, 1890*):—

25. The Act 52 Victoria, chapter 4, authorizing, in error, the grant of land to the Canadian North-western Coal and Navigation Company, for fifty miles from Lethbridge to the international boundary, was amended—the said grant being made to the Alberta Railway and Coal Company.

By 54–55 Vic., cap. 9, 1891 (*Assented to September 30, 1891*):—

26. In lieu of the subsidy in land authorized by the Act 52 Victoria, chapter 4, to be granted to the Red Deer Valley Railway and Coal Company, and subject to the conditions in the said Act mentioned, the Governor in Council may grant Dominion lands to the said company to an extent not exceeding six thousand four hundred acres for each mile of the said company's railway, from the town of Calgary, in the district of Alberta, in the North-west Territories, to a point in or near township twenty-nine, range twenty-three, west of the fourth meridian, a distance of about fifty-five miles.

By 54-55 Vic., cap. 10, 1891 (*Assented to September 30, 1891*):—

27. To the Manitoba South-western Colonization Railway Company, in addition to the subsidy for one hundred and fifty miles of railway authorized by the Act passed in the session held in the forty-eighth and forty-ninth years of Her Majesty's reign, chapter sixty, Dominion lands to the extent of six thousand four hundred acres per mile for the balance of the two hundred and twelve miles of railway which have been constructed and are in operation, that is to say, for a distance of sixty-two miles.

28. Also, to the Manitoba South-western Colonization Railway Company, Dominion lands to the extent of six thousand four hundred acres for each mile of the company's branch line of railway from Carmen to Barnsley, a distance of about six and one-quarter miles.

29. To the Canadian Pacific Railway Company, in addition to the subsidy authorized by the Act 53 Victoria, chapter 4, for the company's branch line running in a south-westerly and westerly direction from a point at or near Brandon for a distance of one hundred miles, Dominion lands to the extent of six thousand four hundred acres for each mile of the extension westward of the said branch line, from the western limit of the said one hundred miles to a point at or near La Roche Percée, situated in township one, range six, west of the second meridian, a distance of about sixty miles.

'The said grants and each of them shall be made in aid of the construction of the said railways respectively, in the proportion and upon the conditions fixed by the Orders in Council made in respect thereof, and, except as to such conditions, the said grants shall be free grants, subject only to the payment by the grantees respectively, of the cost of survey of the lands and incidental expenses, at the rate of ten cents per acre in cash, on the issue of the patents therefor.'

By the Act 57-58 Vic., cap. 6, 1894 (*Assented to July 23, 1894*):—

***30.** To the Rocky Mountain Railway and Coal Company, Dominion lands to an extent not exceeding six thousand four hundred acres per mile for a line of railway from a point at or near Olds Station on the line of the Galgary and Edmonton Railway in a westerly direction to the Red Deer River and thence along the said river in a westerly direction to the coal fields, a distance of about sixty miles.

*The land grant subsidy to the Rocky Mountain Railway and Coal Company has lapsed.

31. To the Canadian Pacific Railway Company, Dominion lands to an extent not exceeding six thousand four hundred acres per mile for a line of railway from a point at or near Souris on the Souris Branch of the Canadian Pacific Railway, in a westerly direction to the Pipestone Valley, a distance of about thirty-two miles.

*32. To the Brandon and South-western Railway Company, Dominion lands to an extent not exceeding six thousand four hundred acres per mile for a line of railway from a point in township one, in either range twenty-three or twenty-four west of the first principal meridian, to a point at or near Deloraine, a distance of about seventeen miles.

33. To the Saskatchewan and Western Railway Company, Dominion lands to an extent not exceeding six thousand four hundred acres per mile for a line of railway from Minnedosa to Rapid City, a distance of about fifteen miles.

The said grants and each of them may be made in aid of the construction of the said railways respectively in the proportion and upon the conditions fixed by the Orders in Council made with respect thereto; and, except as to such conditions, the said grants shall be free grants, subject only to the payment by the grantees respectively of the cost of the survey of the lands and incidental expenses at the rate of ten cents per acre in cash on the issue of the patents therefor.

The lands authorized by this Act to be granted to the Canadian Pacific Railway Company shall be taken and held, and may be disposed of, free and clear of any encumbrance on the lands and property of the said company created before the passing of this Act.

*The land grant subsidy to the Brandon and South-western Railway Company has lapsed.

PART IV

MISCELLANEOUS STATEMENTS

No.

SUBSIDY Agreements for the Construction of Railways

Number of Contract.	Date of Signature.	Name of Railway.	Line of Railway to be Constructed.	Acts of Canada granting Subsidies.
13568	July 29, 1899.	Ontario and Rainy River Ry. Co.	From Port Arthur, Duluth and Western Ry. to Rainy Lake.	60-61 V., c. 4
13569	" 29, 1899	St. Gabriel de Brandon and Ste. Emilie de l'Energie Ry. Co.	From St. Gabriel to Ste. Emilie de l'Energie, and from a point on main line to St. Jean de Matha.	60-61 V., c. 4
13570	" 29, 1899.	Schomberg and Aurora Ry. Co.	From a point on Grand Trunk Ry. Co. between stations known as King and Newmarket to Schomberg, Ont.	60-61 V., c 4
13580	" 29, 1899.	Ottawa and Gatineau Ry. Co.	From Hull northward towards Le Desert, Que.	60-61 V., c. 4
13581	" 29, 1899.	" " ..	From eastern end of 62 miles already subsidized towards Desert, Que.	60-61 V., c. 4
13582	" 29, 1899.	Pontiac Pacific Junction Ry. Co.	From Hull to Aylmer, Que	60-61 V., c. 4
13600	" 29, 1899.	" " ..	From Aylmer to Pembroke, and also for bridging the Ottawa River.	60-61 V., c. 4
13617	Oct. 12, 1899.	Great Northern Ry. Co..	From Ste. Jérôme, Que., to Hawkesbury, Ont.	60-61 V., c. 4
13677	Nov. 23, 1899.	York and Carleton Ry. Co.	From Cross Creek Station to Stanley Village, N.B.	62-63 V., c. 7
13678	Dec. 5, 1899	Philipsburg Railway and Quarry Co.	From a point on Co.'s line to government wharf at Philipsburg.	62-63 V., c. 7
13688	" 23, 1899	South Shore Ry. Co.....	Bridge over Richelieu River at Sorel.....	62-63 V., c. 7
13689	" 21, 1899.	Great Northern Ry. Co..	Steel bridge and viaduct at Maskinongé River.	62-63 V., c. 7
13690	" 21, 1899.	" " ..	Bridge across Rivière du Loup	62-63 V., c. 7
13691	" 21, 1899.	" " ..	" St. Maurice River.....	62-63 V., c. 7
13695	Sept. 21, 1899	Pontiac Pacific Junction Ry. Co. and Ottawa and Gatineau Ry. Co.	Interprovincial Bridge, Nepean Point, Ottawa River.	60-61 V., c. 4
13718	Jan. 27, 1900.	Nova Scotia Southern Ry. Co.	From a point on Central Ry., at or near New Germany, to town of Liverpool.	62-63 V., c. 7
13719	" 27, 1900.	" " ..	From Indian Gardens, Queen's Co., N.S., to Shelburne.	62-63 V., c. 7
13732	" 29, 1900.	Canada Eastern Ry. Co..	Branch from Nelson to main line, N.B....	62-63 V., c. 7
13734	Dec. 18, 1899.	Canadian Pacific Ry. Co.	From a point near Arthur Station to a point near Moose Mountain, Man.	62-63 V., c. 7
13737	Feb. 14, 1900	Ontario and Rainy River Ry. Co.	From Fort Francis to a point at or near the mouth of Rainy River.	62-63 V., c. 7
13738	" 14, 1900.	" " .	From a point 80 miles west of Stanley Station, on the Port Arthur, Duluth and Western Ry., to Fort Francis.	62-63 V., c. 7
13739	Dec. 7, 1899.	Midland Ry. Co.....	From Windsor, N.S., to Truro, via the township of Clifton.	62-63 V., c. 7
13757	Feb. 8, 1900.	Central Ry. Co. of New Brunswick.	From Newcastle Coal Fields to Gibson, N.B.	62-63 V., c. 7
13760	" 28, 1900.	Great Northern Ry. Co..	Bridge over Ottawa River at Hawkesbury, Ont.	60-61 V., c. 4
13800	Apr. 21, 1900	Ontario and Rainy River Ry. Co.	Supplementary subsidy to subsidy agreement, No. 13568.	62-63 V., c. 7
13809	Dec. 18, 1899.	Massawippi Valley Ry. Co.	Extension of their railway to village of Stanstead Plain, Que.	62-63 V., c. 7
13812	May 9, 1900.	South Shore Ry. Co....	Bridge over Yamaska River at Yamaska, Que.	62-63 V., c. 7
13816	" 9, 1900.	" "	From Sorel Junction, along the south shore, to Lotbinière, Que.	62-63 V., c. 7
13865	June 23, 1900.	Lake Erie and Detroit River Ry. Co.	From Ridgetown, Ont., to St. Thomas.....	62-63 V., c. 7

OTTAWA, Oct. 12, 1900.

1.

entered into during the Fiscal Year ended June 30, 1900.

Amount of Subsidy.		Number of Miles Subsidized.	Maximum Grade Feet per Mile.	Radius of Curvature not less than.	Width of Clearing each side.	Width of Cutting.	Embankment.	Steel Rails, lbs., per Lineal Yard.	Date for Completion.
Per Mile.	Not exceeding.								
$	$		Feet.	Feet.	Feet.	Feet.	Feet.	Lbs.	
3,200	6,400 p. mile	80	$52\frac{80}{100}$	717	50	20	15	56	Aug. 1, 1901.
3,200	6,400 "	15 & $\frac{1}{4}$	80	1,127	50	20	15	56	" 1, 1901.
3,200	6,400 "	15	80	955	50	20	15	56	" 1, 1901.
3,200	35,872	62	106	574	50	20	15	56	" 1, 1900.
3,200	6,400 p. mile	20	106	574	50	20	15	56	" 1, 1901.
3,200	6,400 "	$7\frac{1}{2}$	80	717 ; at sta. 410, 574	50	20	15	56	Nov. 30, 1900.
3,200	114,272	85	53	1,433	50	20	15	56	Aug. 1, 1900.
3,200	6,400 p. mile	35	$52\frac{80}{100}$	1,433	50	20	15	56	Dec. 31, 1900.
3,200	6,400 "	6	64	595 & 573	50	20	15	56	Oct. 1, 1900.
3,200	6,400 "	0·66	80	716	50	20	15	56	June 30, 1900.
15 p. c. of cost.	35,000	.....	.....	.....	.....	.....	.....	.....	May 1, 1900.
"	15,000	.....	.....	.....	.....	.....	.....	.....	June 30, 1901.
"	15,000	.....	.....	.....	.....	.....	.....	.....	" 30, 1901.
"	16,425	.....	.....	.....	.....	.....	.....	.....	" 30, 1901.
"	112,500	.....	.....	.....	.....	.....	.....	.....	Aug. 1, 1900.
3,200	6,400 p. mile	62	80	955	50	20	15	56	Dec. 31, 1901.
3,200	6,400 "	35	80	955	50	20	15	56	" 31, 1901.
3,200	6,400 "	$2\frac{1}{4}$	80	716	50	20	15	56	June 30, 1900.
3,200	6,400 "	50	$52\frac{80}{100}$	1,433	50	20	14	56	Oct. 31, 1901.
3,200	224,000 "	70	65	717	50	20	14	56	Aug. 1, 1904.
6,400	896,000 "	140	65	717	50	20	14	56	" 1, 1904.
3,200	6,400 p. mile	58	56	882	50	20	15	56	Oct. 31, 1901.
3,200	6,400 "	30	66	955	50	20	15	56	Dec. 31, 1901.
15 p. c. of cost.	52,500	.....	.....	.....	.....	.....	.....	.....	Aug. 1, 1901.
6,400	6,400 p. mile	80	65	717	50	20	14	56	" 1, 1901.
3,200	6,400 "	$2\frac{1}{2}$	184	716	50	20	15	56	" 31, 1902.
50,000	.....	.....	.....	.....	.....	.....	.....	.....	May 1, 1902
3,200	6,400 p. mile	82	$52\frac{80}{100}$	1,433	50	20	15	56	Aug. 1, 1903.
3,200	6,400 "	44	37	2,865	50	20	15	56	July 1, 1902.

GERARD RUEL, *Law Clerk.*

No. 2.

CONTRACTS entered into during the Fiscal Year ended June 30, 1900.

INTERCOLONIAL RAILWAY.

No. of Contract.	Date of Signature.	Contractors.	General Description.
13540	July 1, 1899.	Galena Oil Co.	Supply signal oil for summer and winter use.
13541	" 1, 1899.	"	" oils for government railways.
13583	" 24, 1899.	Town of Stellarton	" water to I. C. Ry. at Stellarton.
13601	Aug. 29, 1899.	Honore Huard.....	Erect a station and freight shed at St. Valier.
13603	Sept. 6, 1899.	R. C. & A. D. Donald.....	" covered shelter at Painsec Junction.
13639	Oct. 18, 1899.	John Starr, Son & Co.....	Install 155 lamps in freight shed at Halifax, N.S.
13640	" 2, 1899.	Willard Kitchen	Remove rock from Morrisey's tunnel.
13645	" 14, 1899.	"	Grading, &c., to change line at Colville and Loyalist.
13650	" 30, 1899.	Dominion Bridge Co.....	Erect 7 truss bridges.
13657	Dec. 3, 1898.	Canadian Locomotive and Engine Co., Ltd.	Construct 2 narrow-gauge locomotives.
13660	Nov. 1, 1899.	Town of North Sydney	Supply water at North Sydney, N.S.
13661	Oct. 26, 1899.	Rhodes, Curry & Co., Ltd...	" 200 33-in. and 50 30-in. car wheels.
13676	Dec. 2, 1899.	W. P. Mills.	Erect a station and freight shed at Alba, C.B.
13681	Sept. 23, 1899.	Rhodes, Curry & Co., Ltd...	Supply 30 26-in., 40 28-in., and 40 30-in. car wheels.
13685	Nov. 15, 1899.	Frank McCaie	Erect freight shed at Tunnel Siding.
13692	Dec. 11, 1899.	Hugh McDonald.	Construct protection wall between Iona and McKmnon's Harbour.
13696	" 9, 1899.	E. T. Nesbitt	Construct wooden snow shed at St. Moïse station.
13697	" 31, 1899.	H. H. Cameron...	Handling of coal at Springhill Junction.
13712	" 30, 1899.	John McGourty.	" " St. John, N.B.
13713	" 4, 1899.	Joseph McDonald & Sons....	Erect a freight shed at Scotsburn, N.S.
13723	" 11, 1899.	H. Boulay	" " St. Moïse.
13724	" 11, 1899.	"	" an addition to station at St. Moïse.
13725	" 11, 1899.	"	" a freight shed at Cedar Hall.
13726	" 11, 1899.	"	" " St. Anaclet.
13727	Jan. 22, 1900.	Rhodes, Curry & Co., Ltd...	" an extension to freight shed at Sydney, N.S.
13729	" 26, 1900.	Dussault & Lemieux	Build cribwork, and filling at Lévis, Que.
13745	" 18, 1900.	William A. Johnson....	Handling of coal at Truro, N.S.
13746	Feb. 9, 1900.	The Rathbun Co	Supply 25 box freight cars.
13752	Jan. 18, 1900.	F. Gosselin & D. Girard....	Handling of coal at St. Charles, Que.
13753	Oct. 30, 1899.	Hamilton Bridge Works Co..	Construct 3 spans steel deck-plate girders.
13754	Feb. 17, 1900.	Paul Lea.....	Finish 3rd floor of general office at Moncton, N.B.
13755	" 12, 1900.	Rhodes, Curry & Co., Ltd...	Construct an ice-house at Sydney, N.S.
13761	Mar. 3, 1900.	Geo. A. Appleby.....	" freight shed on terminal wharf at St. John, N.B.
13762	Feb. 16, 1900.	Theodore Therriault..... ..	Improvements to station at Causapscal, Que.
13766	" 2, 1900.	Honore Huard	Construct a station at St. Jean, Port Joli.
13769	June 13, 1899.	Canada Coals & Ry. Co.	Supply coal for the year 1899 1900.
13775	Apl. 20, 1899.	Crossen Car Mfg. Co. of Cobourg.	Deliver 6 first-class passenger cars.
13786	Jan. 18, 1900.	W. J. Watkins	Handling of coal at Drummondville.
13791	Mar. 22, 1900.	Cleophas Auger.	Construct 3 dwellings.
13794	" 31, 1900	Alphonse Dallaire....	Extend freight house at Cap St. Ignace.
13798	May 1, 1900.	Great North-western Telegraph Co. of Canada.	Construct, repair and maintain telegraph line between Montreal and Moncton.
13802	Feb. 15, 1900.	John Lemieux..	Handling of coal at Campbellton, N.B.
13803	Mar. 1, 1900.	Joseph Marquis & Cie.....	" " Rivière du Loup, Que.
13804	Feb. 15, 1900.	Charles Maisey...	" " Campbellton, N.B.
13805	" 15, 1900.	Jerome Roy	" " Newcastle, N.B.
13806	Apl. 16, 1900.	John McDougall & Co.....	Supply 200 33-in. car wheels.
13811	" 18, 1900.	Illinois Steel Co. of Chicago..	Supply 10,600 tons of steel rails, first quality, with privilege of furnishing a quantity not exceeding 5 p.c. of first quality, of second quality rails.
13813	" 12, 1900.	William Talbot..... .	Construct an ice-house at New Glasgow, N.S.

SESSIONAL PAPER No. 20

No. 2.—CONTRACTS entered into during the Fiscal Year ended June 30, 1900.—*Con.*

INTERCOLONIAL RAILWAY—*Continued.*

No. of Contract.	Date of Signature.	Contractors.	General Description.
13814	Jan. 18, 1900.	Damas Charette	Handling of coal at Ste. Flavie, Que.
13817	Apl. 18, 1900.	P. E. I. Government	Construct, by Dominion Government, a railway and highway bridge over Hillsborough River.
13819	" 16, 1900.	David Smith	Erect a passenger and freight building at River Sauvage, Que.
13826	" 12, 1900.	Rhodes, Curry & Co., Ltd	Deliver 275 box freight cars.
13831	May 25, 1900.	Thomas Gilliland	Erect station and freight shed at model farm.
13845	" 30, 1900.	Willard Kitchen	Lower a street and construct a sub-way at Christie's crossing, at south end of Amherst station.
13846	" 25, 1900.	J. B. McManus	Construct 250 farm crossing gates.
13847	" 19, 1900.	E. Mattinson & Sons	" 123 switch stands.
13848	" 25, 1900.	New Brunswick Anchor Wire Fence Co.	" 250 farm crossing gates.
13856	" 25, 1900.	Pierre Morin	" 500 " "
13857	June 27, 1900.	Galena Oil Co.	Supply lubricating oils.
13858	" 27, 1900.	"	" signal "
13859	May 16, 1900.	Alexis Belanger	Erect a freight shed at Old Lake River.
13860	" 16, 1900.	"	" " St. Alexandre.
13861	May 16, 1900.	Alexis Belanger	Erect a freight shed at St. Philippe de Neri.
13863	Mar. 1, 1900.	Auguste Larouche	Handling of coal at Rivière du Loup.
13864	June 19, 1900.	R. C. Eacon	Construct roof on general office at Moncton, N.B.
13866	Jan. 1, 1900.	Westinghouse Air Brake Co.	Supply air brakes and signal materials.
13867	June 21, 1900.	L. A. Cloutier	Paint buildings and bridges in Districts 1 and 3.
13868	" 21, 1900.	Alphonse Caron	" " District 4.
13869	" 28, 1900.	W. S. Kinnear & R. F. Kinnear	" " Districts 5, 6, 7 and 8.
13870	" 21, 1900.	H. J. Walsh	" " District 9.
13871	" 21, 1900.	S. Venoit	" " Districts 12 and 13.
13872	" 21, 1900.	A. McDonald	" " District 14.
13873	" 16, 1900.	Town of Sydney	Construct level crossing at Whitney Avenue, Sydney, C.B.
13728	Jan. 6, 1900.	Simmons & Burpee	Erect an extension of cribwork at Mulgrave, N.S.

No. 2.—CONTRACTS entered into during the Fiscal Year ended June 30, 1900.—*Con.*

BEAUHARNOIS CANAL.

No. of Contract.	Date of Signature.	Contractors.	General Description.
13656	Nov. 6, 1899.	Dominion Bridge Co., Ltd...	Construct swing bridge at St. Timothée.
13658	Oct. 31, 1899.	Dussault & Pageau	" protection wall from McKee's Point to Wood's Creek.
13672	" 31, 1899.	Quinlan, Phippen & Robertson	" stone wall between Coteau Landing and St. Zotique.

CORNWALL CANAL.

13625	Oct. 18, 1899.	J. & R. Miller	Construct guide piers at lock 20.
13634	Sept. 28, 1899.	Weddell & McAuliff	Improvements at upper entrance of canal.

CHAMBLY CANAL.

13671	Oct. 31, 1899.	Napoleon Trahan & Cie	Construct stone walls around head of St. Thérèse Island.

LACHINE CANAL.

13632	Oct. 18, 1899.	John B. de Lorimier	Rebuild portions of the slope walls of canal.
13789	Mar. 27, 1900.	Farand & Delorme.....	Construct 2 lighthouses at Lachine.
13801	Apl. 18, 1900.	Michael J. Hogan...	Enlarge regulating weir at Lachine.

RIDEAU CANAL.

13652	Nov. 11, 1899.	John Burns.....	Reconstruct dredge *Rideau*.
13659	" 18, 1899.	Timothy F. Delaney	Deepen upper rock cut at Kilmarnock Lock Station.
13768	Mar. 13, 1900.	Mathew Ryan	Supply timber for the year 1900-1901.

SAULT STE. MARIE CANAL.

13675	Oct. 31, 1899.	Hickler Bros.....	Deepen channel way forming lower entrance of canal.

SOULANGES CANAL.

13627	Oct. 23, 1899.	Bellhouse, Dillon & Co	Supply 3,000 brls. Portland cement.
13631	" 23, 1899.	Manning & McDonald	Letting of a dredge, tug and scows for use on canal.
13795	Apl. 2, 1900.	Dominion Bridge Co., Ltd ..	Supply and erect 7 pairs of automatic gates.
13849	May 19, 1900.	Bellhouse, Dillon & Co.....	" 1,700 brls. Portland cement.
13789	Mar. 27, 1900.	Farand & Delorme	Construct 4 lighthouses.

No. 2—CONTRACTS entered into during the Fiscal Year ended June 30, 1900.—*Con.*

TRENT CANAL.

No. of Contract.	Date of Signature.	Contractors.	General Description.
13577	Oct. 10, 1899.	The Rathbun Co.....	Supply 12,000 brls. Portland cement.
13673	" 12, 1899.	David Conroy	Construct 2 concrete piers at Rosedale.
13773	Jan. 15, 1900.	Corry & Laverdure... . ..	Excavate walls for hydraulic lift lock at Peterborough.
13825	June 1, 1900.	Arthur H. Rowley	Supply 5,000 brls. Portland cement

WELLAND CANAL.

13749	Feb. 17, 1900.	Cunningham & Cuthbert	Supply iron castings for 1900.
13750	" 15, 1900.	John McLean.	" timber and lumber for 1900.
13756	" 17, 1900.	Dean Bros	" brass and phosphor bronze castings for 1900.
13767	" 23, 1900.	P. D. Gordon & Co	" timber for 1900
13792	Apl. 5, 1900.	Rowan & Elliott...	Construct substructure and approaches of a swing bridge on line of concession 4, Humberstone Tp.
13807	May 4, 1900.	Hogan & MacDonell.... ...	Improve Port Colborne entrance.
13830	" 21, 1900.	Hamilton Bridge Works Co .	Construct and erect superstructure of a swing bridge on line of concession 4, Humberstone Tp.

WILLIAMSBURG CANALS.

13564	Sept. 5, 1899.	Dominion Bridge Co., Ltd...	Remove Sault Ste. Marie swing bridge to Galops Canal and erect it thereat.

DOMINION SURVEY.

13644	Oct. 26, 1899.	William H. Rose...	Wintering of 23 heads of mules and horses.

ST. LAWRENCE RIVER.

1376	Feb. 2, 1900.	Waterous Engine Works Co., Ltd	Deliver marine engines and a Clyde boiler for use on the Galops Canal.

GERARD RUEL,
Law Clerk.

OTTAWA, October 12, 1900.

No.

GENERAL

SHOWING Water Power and other Public Property leased by the Department

No. of Lease.	Date of Signature.	Term of Lease.	Lessees.	Property Leased.
				Intercolonial Railway.
13636	Sept. 1,'99	1 year.....	Sydney Grey	Privilege to sell newspapers, &c., on trains and stations of P. E. I. Ry.
13638	" 28,'99	10 years..... .	John C. McNeil	Part Intercolonial property at Grand Narrows, N. S.
13674	Nov. 4,'99	During pleasure.	Lazare Lefebvre to the Queen.	Right to lay pipes, &c., over his lands to draw water to the railway water tank at St. Apollinaire, Que.
13763	Dec. 26,'99	5 years.....	Canadian Express Co....	Right to carry on a general freight and transportation business on railway, &c.
				Chambly Canal.
13646	Oct. 27,'99	During pleasure.	Jules Audette	Land on canal wharf at St. Johns.....
13740	Jan. 9,'00	" ..	St. Johns Electric Light Co., Ltd.	Right to erect a line of poles with wires to transmit electric current.
				Cornwall Canal.
13611	Aug.18,'99	" ..	Ambrose F. Mulhern....	Parcel of land on south side of Water St..
13774	Jan. 17,'00	21 years, renewable.	Town of Cornwall.....	Parts of lots 12 and 13, concession 1, Township of Cornwall, County of Stormont.
				Lachine Canal.
13604	Aug.20,'99	During pleasure.	Ferdinand Tremblay ...	Privilege to draw water at St. Gabriel basin No. 3.
13605	Sept. 1,'99	" ..	V. E. Traversy & Co....	Space in St. Gabriel shed No. 2, on N. E. side of new St. Gabriel basin No. 2.
13637	" 15,'99	" ..	Grand Trunk Ry. Co. of Canada.	Privilege to lay a siding on N. side of canal to Merchant's cotton factory in St. Henri.
13651	Nov. 1, '99	" ..	" " ..	Privilege to extend their track 660 ft. from foundry of W. Clendenning & Son, along canal.
13662	" 23,'99	" ..	City of Montreal.....	Parcel of land in Montreal for a public park.
13663	" 13,'99	" ..	"	Parcel of land in Montreal for a public bath.
13687	" 9,'99	" ..	Wilfrid Marsan	Parcel of land at lock No. 2.....
13741	Jan. 1,'00	" ..	The Chambly Mfg. Co...	Privilege to erect 15 poles with wires.....
13764	Feb. 22,'00	" ..	Montreal Street Ry. Co..	Privilege to lay a 30-inch pipe, &c., at St. Gabriel basin No. 1.
13780	Mar.21,'00	10 years, renewable.	Edward Cavanagh Co...	Wharf lots 1, 2 and 3, south-eastern side of Wellington basin.
13781	" 5,'00	During pleasure.	Lawrence & Robitaille ..	Storage lots 1 and 2, west of St. Gabriel basin No. 4.

3.

STATEMENT

of Railways and Canals during the Fiscal Year ended June 30, 1900.

Area.	For what purpose used.	Amount of Water Power.	Date from which Lease is reckoned.	Terms of Payment.			Remarks.
				Annual Rental.	When due each year.	When first instalment was due.	
				$ cts.			
.....	.....	.....	Sept. 1, '99	360 00	On the 5th day of each month, 830.	.....	
0·11 acres..	Railway restaurant.	.....	May 1, '98	10 00	June 30.....	Sept. 28, '99	
.....	.....	.....	Nov. 1, '99	25 00	$12.50 half-yearly on Nov. and May 1.	Nov. 1, '99	
.....	.....	.....	Dec. 1, '99	40 p. c. of gross receipts paid monthly.	Monthly.....	.....	
5,000 sq. ft..	Storing coal...	.....	Oct. 1, '99	48 00	Oct. 1.	Oct. 1, '99	
.....	.....	.....	Jan. 1, '00	1 00	Jan. 1	Jan. 1, '00	
0·37 acres..	Storing coal...	.....	Oct. 1, '99	40 00	Oct. 1	Oct. 1, '99	
19·65 " ..	Iron, wood, cotton, &c., manuf'tories	.....	Jan. 17, '00	100 00	Jan. 17.....	Jan. 17, '00	
.....	Factory purposes.	.....	Sept. 1, '99	20 00	Sept. 1	Sept. 1, '99	
100 ft. x 40 ft.	Storing lumber	.....	" 1, '99	100 00	"	" 1, '99	
.....	.....	.....	Oct. 1, '99	1 00	Oct. 1	Oct. 1, '99	
.....	Receive or deliver goods to Colonial Bleaching Co	.....	Nov. 1, '99	10 00	Nov. 1..	Nov. 1, '99	
15,682 sq. ft.	.....	.....	Oct. 1, '99	1 00	Oct. 1	Oct. 1, '99	
9,276 " ..	.....	.....	Nov. 1, '99	1 00	Nov. 1.....	Nov. 1, '99	
400 " ..	Weigh scales..	.....	Sept. 1, '99	20 00	Sept. 1	Sept. 1, '99	
.....	Transmission of electricity	.....	Jan. 1, '00	1 00	Jan. 1	Jan. 1, '00	
.....	Condensing purposes and generating steam.	.....	Aug. 25, '97	500 00	Aug. 25	Aug. 25, '97	
2·37 acres..	Storing of goods, &c.	.....	May 1, 00	622 50	May and Nov. 1.	May 1, '00	
19,046 sq. ft.	Storing lumber	.....	Jan. 1, '00	380 92	Jan. 1	Jan. 1, '00	

No. 3.—General Statement showing Water Power and other Public

No. of Lease.	Date of Signature.	Term of Lease.	Lessees.	Property Leased.
	1900			*Lachine Canal*—Con.
13782	Mar. 6,'00	30 years	Thomas A. Trenholme ..	Lots 950, 964 and 1004, and parts of lots 1005 and 3605, in the parishes of Lachine and Montreal.
13783	" 16,'00	During pleasure.	Montreal Sand & Gravel Co.	Wharf lots at head of and on the eastern side of St. Gabriel basin No. 1.
13784	Feb. 20,'00	"	" " ..	Lots 23 and 24 on western side of St. Gabriel basin No. 2.
13785	" 20,'00	"	" " ..	Wharf lot at head of St. Gabriel basin No. 2.
13790	Mar. 19,'00	"	Montreal Gas Co.....	Privilege to lay gas pipes under canal.....
13821	April 21..	"	The Consumers Cordage Co., Ltd.	Privilege to lay a 6-in. iron pipe and to take water from canal.
13850	May 3 .	" ..	The Canada Paint Co...	Privilege to lay a 3-in. pipe and to take water from canal.
	1899.			*Rideau Canal.*
13576	Sept. 1..	During pleasure.	A. Foster...	Privilege to extend his present wharf into the basin at Smith's Falls, and to erect a coal shed.
13624	Aug. 28..	21 years	Pontiac Pacific Junction Ry. Co. and Ottawa & Gatineau Ry. Co.	Certain lands within the limits of the city of Ottawa, in the vicinity of and along canal.
13708	1900. Jan. 9..	"	J. R. Booth	Two parcels of land, parts lot 'M,' concession 'B.'
	1899.			*Sault Ste. Marie Canal.*
13593	Aug. 3..	21 years	The Lake Superior Power Co.	Parcel of land in town of Sault Ste. Marie.
				Soulanges Canal.
13612	Oct. 2..	....	S. Hudon, P.P., to Govt.	Shed at Rockland, Ont..... ....
				Trent Canal.
13654	Sept. 21..	When metal work is delivered.	Dominion Bridge Co., Ltd., to Govt.	Part of storage yard at Lachine ....
13683	Nov. 7..	During pleasure.	Francis Sandford	Part block 'K' and south-west part Cameron lot, and part lot 7, south of Francis St., Fenelon Falls.
13693	" 15..	" ..	The Trent Valley Peat Fuel Co., Ltd.	Part lot 60, south of Portage Road, in Township of Eldon.
13751	1900. Feb. 22..	20 years	John A. Culverwell	Privilege to use water power at Perry's Creek, and to remove Govt. dams for that purpose.
	1899.			*Welland Canal.*
13498	Sept. 5..	During pleasure.	R. Cooper	Parcel of land in town of Welland.....
13615	Aug. 29..	10 years	Chester Tufts.	Part lot 26, con. 5, Township of Crowland, and privilege to erect a wharf thereat.
13629	Oct. 18..	21 years	A. & W. Muir.....	Two parcels of land above lock No. 1, old canal, with surplus water.
13630	Aug. 4..	During pleasure.	Town of Thorold	Privilege to lay an electric cable under canal at Thorold, Ont.
13670	Nov. 22..	" ..	Dunnville Natural Gas Co., Ltd.	Privilege to lay a 2-in. gas pipe across bottom of canal at Dunnville, Ont.
13694	Dec. 30..	" ..	Henry D. Symmes.....	Privilege to lay 3 electric cables under canal.

SESSIONAL PAPER No. 20

Property Leased by the Department of Railways and Canals, &c.—*Concluded.*

Area.	For what purpose used.	Amount of Water Power.	Date from which Lease is reckoned.	Terms of Payment.			Remarks.
				Annual Rental.	When due each year.	When first instalment was due.	
				$ cts.			
81 arp. 72 per.	Farming		May 1, '99	81 00	May 1	May 1, '99	
8,675 sq. ft.	Storing of sand		April 1, '00	130 00	April 1	April 1, '00	
43,740 "	"		" 1, '00	656 00	" 1	" 1, '00	
5,250 "	"		" 1, '00	78 00	" 1	" 1, '00	
			" 1, '00	30 00	" 1	" 1, '00	
	Boilers		May 1, '00	60 00	May 1	May 1, '00	
	"		" 1, '00	30 00	" 1	" 1, '00	
			Sept. 1, '99	7 00	Sept. 1	Sept. 1, '99	
	Railway, &c		" 1, '99	100 00	" 1	" 1, '99	
2·6 / 3·6 acres.	Farming		Jan. 1, '00	6 25	Jan. 1	Jan. 1, '00	
1·38 acre.			Aug. 1, '99	25 00	Aug. 1	Aug. 1, '99	
	Storing of tools, &c.		Oct. 2, '99	1 50	Per month		
			" 1, '99	1 00	At end of term		
1/3 / 2/3 acres.	Manufacturing works and to erect an office thereon.		July 1, '99	10 00	July 1	July 1, '99	
14·55 acres.	Cut, &c., peat and moss.		Nov. 1, '99	14 50	Nov. 1	Nov. 1, '99	
			Dec. 1, '99	1 00	Dec. 1	Dec. 1, '99	
0·13 acre.	Erect a store-house.		June 1, '99	20 00	June 1	June 1, '99	
1·66 "			Sept. 1, '99	20 00	Sept. 1	Sept. 1, '99	
0·75 / 0·25 acre.			Jan. 1, '99	100 00	Jan 1	Jan. 1, '99	
			Aug. 1, '99	5 00	Aug. 1	Aug. 1, '99	
			Oct. 1, '99	5 00	Oct. 1	Oct. 1, '99	
			May 1, '99	15 00	May 1	May 1, '99	

No. 3.—General Statement showing Water Power and other Public

No. of Lease.	Date of Signature.	Term of Lease.	Lessees.	Property Leased.
	1900.			*Welland Canal*—Con.
13705	Jan. 4..	During pleasure.	Packard Electric Co., Ltd.	Privilege to place temporary gates at the spill-way near end of Co.'s race-way.
13796	April 3..	" ..	Niagara, St. Catharines and Toronto Ry. Co.	Privilege to lay 3 electric cables across bottom of canal at Co.'s swing bridge.
13822	" 30..	21 years, renewable.	Port Dalhousie Village..	Land and water-power at Port Dalhousie, Ont.
13832	May 8.. 1899.	During pleasure.	William Thomson	Land west of the West Pier at Port Dalhousie, Ont.
13833	Dec. 1.. 1900.	" ..	James A. Stewart *et al*..	Privilege to lay a 2-in. syphon pipe over east bank of canal at upper end of lock 16.
13843	June 1.. 1899.	10 years	Henry J. Johnston.....	Land on east side of old canal, below lock 2, St. Catharines, Ont.
13862	Dec. 27..	During pleasure.	Arthur L. Bradley *et al*..	Privilege to lay a 2-in. syphon pipe between locks 15 and 16.
	1900.			*Williamsburg Canals.*
13815	May 10 .	21 years, renewable.	Village of Morrisburg...	Parcel of land at lock 23, Morrisburg, and surface water, Rapide Plat Canal.

Ottawa, October 12, 1900.

SESSIONAL PAPER No. 20

Property Leased by the Department of Railways and Canals, &c.—*Continued.*

Area.	For what purpose used.	Amount of Water Power.	Date from which Lease is reckoned.	Terms of Payment.			Remarks.
				Annual Rental.	When due each year.	When first instrlment was due.	
				$ cts.			
.....	....	.....	....	....	....	... .	
.....	Electric power and telegraph.	... .	April 1, '00	10 00	April 1	Apl. 1, '00	
0·80 acre.	Manufacturing establishm'ts.	500	May 1, '00	Land 60 00 Pr h p 2 00	Dec. and May 1.	Dec. 1, '00	
0·38 acre.	.....	....	„ 1, '00	40 00	May and Nov. 1.	May 1, '00	
.....	To water cattle, &c.	.. ..	Dec. 1, '99	5 00	Dec. 1...	Dec. 1, '99	
0·30 acre.	.....	.... . .	June 1, '00	15 00	June 1.... ...	June 1, '00	
. .. .	To water cattle, &c.	..... .	Jan. 1, '00	3 00	Jan. 1	Jan. 1. '00	
0·16 acre.	.....	250	Sept. 1, '00	Land 40 00 Pr h p 2 00	Sept. and Mar. 1	Sept. 1, '00	

GERARD RUEL,
Law Clerk.

No.

PROPERTY conveyed and damages released to the Department of

No. of Deed.	Date of Signature.	Grantor.	Lot.	District.
				Canadian Pacific Railway.
13655	Mar. 15, '99	John Murray	Pt. Lot 1, Block 3	New Westminster
13770	Feb. 22, '93	Mary Howison	" 397, Group I.	"
13771	Dec. 19, '96	Alice Smith Place *et al.*	" 13, " Lytton Div.	Yale
13776	Feb. 28, '93	Peter Baker	" 405, "	New Westminster
13777	Aug. 11, '94	Samuel Robertson	" (275) (407) "	
13778	" 15, '92	Charles McDonough	" 18, Block 1, Pt. Moody, being subdivision of Lot 203, Group I.	
13779	Oct. 21, '92	Ernest V. Bodwell, administrator E. V. Bodwell	12, Block 9, Port Moody, being subdivision of Lot 202, Group I.	
				Intercolonial Railway.
13664	Nov. 4, '99	Eliza Knight		
13682	May 10, '98	St. John Terminal Ry. Co.	Long Wharf Property, lying between S. side of Main st. and Harbour line, etc.	St. John City
13744	Nov. 7, '99	Drummond County Ry. Co		
13835	June 6, '00	Helen Roy, *et al*		
				Beauharnois Canal.
13584	Aug. 8, '00	Hector Langevin		
13585	" 8, '99	Belonnie Poirier		
13586	" 8, '99	Felix Pilon		
13587	" 8, '99	Mathias Godin		
13588	" 8, '99	Olier Marchand		
13589	" 8, '99	Antoine Miron		
13590	" 8, '99	Joseph Auger		
13591	" 8, '99	Amedée Pilon		
				Cornwall Canal.
13709	Jan. 13, '00	John G. Snetsinger		
13797	Apr. 10, '00	Roman Catholic Corporation for the Diocese of Alexandria.	Pt. Lot 7, Con. 1.	Osnabruck
13823	May 23, '00	Wm. Ira Brown, *et ux.*	" 6, "	
13841	" 8, '00	Ellen M. Baker	Part W ½ Lot 7, Con. 1	
				Lachine Canal.
13597	Sept. 6, '99	Heney & Borthwick		
13686	Dec. 9, '99	Adelard Bourdon		
				Rideau Canal.
13649	Oct. 25, '99	Lawrence J. Gemmell		
				Sault Ste. Marie Canal.
13710	Jan. 4, '00	Hugh Ryan & Co., *et al.*		

4.

Railways and Canals during the Fiscal Year ended June 30, 1900.

County.	Area.	Amount.	Remarks.
		$ cts.	
... ...	0·13 acre... ...	147 00	Too late for last year's Report.
...	8·43 acres.....	376 63	" "
...	0·43 acre.....	200 00	" "
... ...	7·58 acres.....	818 75	" "
... ...	14·61 / 4·18	2,167 43	" "
... ...	4,554 sq. ft.....	1 00	" "
... ...	8,712 sq. ft.....	2 20	" "
... ...	... ...	400 00	Release for dower.
St. John ...	7·68 acres....	100,000 00	Too late for last year's Report.
... ...	... ...	1,464,000 00	Line of railway extending from Ste. Rosalie to Chaudiere, and branch extending from St. Leonard to Nicolet.
...	...	550 00	Release for damages as set forth in a Petition of Right filed in Exchequer Court of Canada on Aug. 2, 1899.
... ...	... ...	180 00	Release for damages to his lands, etc., caused by steamer 'Sir S. L. Tilley' in breaking gates of Lock 12.
... ...	... ...	45 00	" "
... ...	... ...	225 00	" "
... ...	... ...	100 00	" "
... ...	... ...	15 00	" "
... ...	... ...	12 00	" "
... ...	... ...	8 00	" "
... ...	... ...	75 00	" "
... ...	... ...	8,000 00	Release for damages by reason of loss of
Stormont ...	0·2 acre. ...	Int. 3,000 00 / 575 00	water power and land leased.
... ...	0·31 " ...	100 00	
... ...	0·36 " ...	915 00	
... ...	... ...	8,932 86	Release for claims in connection with contract dated June 25, 1891.
... ...	... ...	39 58	Release for damages to barge 'Caroline,' colliding with a scow controlled by Her Majesty.
... ...	...	2,750 00	Release for damages to his mills at Port Elmsley by diversion of River Tay.
... ...	...	800 00	House on canal reserve.

No. 4.—PROPERTY conveyed and damages released to the Department

No. of Deed.	Date of Signature.	Grantor.	Lot.	District.
				Soulanges Canal.
13747	Jan. 23, '00	Archibald Stewart *et ux*, From the Queen.	Pts. Lot 'A,' Con. 8 ..... Pt. of W. of the N. pt. L. 'A,' C. 8 " Lot 'B,' Con. 8.. ... " " " " 9..... " " 'C,' " 9.....	Clarence .....
				Trent Canal.
13643	Oct. 6, '99	Canadian Pacific Ry. Co. From the Queen.	Pts. Lots 26 & 27, 18 & 19 and pt. Block W.	Ashburnham Village .....
13706	Jan. 3, '00	Henry Cox	Lot 30, Con. 12	Otonabee .....
13707	" 10, '00	Toronto Gen. Trusts Co..	"	" .....
13736	Feb. 7, '00	Can. Bk. of Commerce ..	Pts. Lots 6 & 5, Con. 11	Douro .....
13772	" 7, '00	B. W. McDonnell	Pt. Lot 22, Con. 4	Smith .....
13799	Mar. 22, '00	David Wright, *et ux*.....	Pts. Lots 57, 58 & 59.....	Eldon .....
13834	June 1, '00	Alex. C. Graham, *et ux*..	" Lot 32, Con. 11....	" .....
13854	Dec. 30, '99	Ellen Crowley, *et al*	" " 7 " 10.....	Douro .....
				Welland Canal.
13562	July 20, '99	John Read..	... .	.....
13607	Sept. 6, 99	Methodist Church.....	Pts. Lots 4 & 5, Huft Tract.....	North Cayuga .....
				Williamsburg Canal.
13563	July 27, '99	James Begg	Pt. Lot O, S. side new canal....	Cardinal ....
13572	" 28, '99	Elizabeth Hawley... .	Pts. Lot P & Q, N. side of Dundas st.	" .....
13575	" 22, '99	Chas. C. Farran (heirs C. C. Farran).	....	....
13606	Sept. 8, '99	Walter A. Weston.....	Pt. W ½, Lot 26, Con. 1 and pt. W ½ of E ½, Lot 26.	Matilda .....
13614	Aug. 19, '99	Sophia Bush, *et al*	Pt. Lot 9, W. side of West st., and pt. Lot 27, N. side of Dundas st.	Cardinal..... .....
13619	" 19, '99	John Gilligan, *et al*.....	Pt. Lot 26, W. side of Waddell st.	" .....
13620	Oct. 5, '99	Thomas Rams, *et ux* ...	" 6, E. side of West st....	" .. ..
13622	Sept. 19, '99	John Kavanagh, *et ux*...	" 7, W. side of Walter st.	" .....
13699	Dec. 11, '99	Andrew Ferguson	" 26, N. side of Elgin st...	" .....
13711	" 30, '99	Barbara L. Lambert (Lambert Estate).	Pts. Lots 24 & 25, N. side Lambert st.	" .....
13714	" 2, '99	William Gibson....	....	.....
13721	Oct. 14, '99	Geo. A. Shaver..	Pt. Lot 12, S. side of Elgin st...	Cardinal... . . . .
13733	Dec. 28, '99	Edwardsburg Starch Co.	.....	....
13743	Jan. 24, '00	Agnes Duval	....	....
13759	Aug. 19, '99	John Ferney, *et ux*.....	Pt. Lot 20, E. side of Waddell st	Cardinal.. ....
13827	May 8, '00	James A. McCullough, *et al*.	Lot 1, Block 7..	Iroquois..... .....
13828	" 8, '00	Micheli Battista	Pt. Lot 1, Block 7.....	" ....
13829	" 8, '00	William Patton.....	" "	" . .....
13842	" 25, '00	William N. Barrie	" 7, Block F, and pt. Ronan Catholic Church Lot, Block E.	Morrisburg..... .....

OTTAWA, October 12, 1900.

SESSIONAL PAPER No. 20

Railways and Canals during the Fiscal Year ended June 30, 1900—*Continued.*

County.	Area.	Amount.	Remarks.
Russell	1·49 acre.. 0·46 " .. 3·5 acres .. 0·22 acre.. 18·07 acres	8 cts. 1 00	Special grant.
Peterborough	0·47 acre.		Special grant.
"			Release as tenant as per judgment of the Exchequer Court.
"			Release as per judgment of Exchequer Ct.
"	3·22 / 21·61 acres	20,000 00 And interest from July 27, 1895.	
"	5·42 "	180 00	
Victoria	30·61 "	368 60	
"	3 28 "	40 00	
Peterborough	1·36 "	50 00 And interest.	
		899 12	Release for damages to Schr. 'Wawanosh.'
Haldimand	0·75 / 0·53 acre	118 00	" "
Grenville	0·050 "	780 00	
"	0·131 "	1,300 00	
		17,370 00 Int. 1,436 23	Right of water power and flume and whatever lands not conveyed by deed, March 26, 1898, granted them by Letters Patent, July 20, 1858.
Dundas		350 00 Int. 21 40	Release for damages as tenant.
Grenville	0·94 "	1,125 00	
"	0·155 "	800 00	
"	0·038 "	800 00	
"	0 079 "	475 00	
"	0·06 "	55 00	
"	0 117 "	950 00	
		50 00	Receipt for rent of building in Farran's Point, and damages.
Grenville	0·55 "	625 00	
		13,500 00	Release for damages caused by the pollution of the water of Riv. St. Lawrence.
		38 00	Release of dower in property conveyed by deed No. 13,321.
Grenville	0·074 "	875 00	
Dundas		225 00	Release, damages.
"		175 00	" " as tenant.
"		125 00	" " "
"	0·0121 / 0·051 "	800 00	

GERARD RUEL,
Law Clerk.

PART V

CANAL STATISTICS

CANAL STATISTICS

FOR

SEASON OF NAVIGATION 1899.

REVENUE.

The total revenue, exclusive of hydraulic rents for two years, is as follows :—

For 1898.	$341,679.23
For 1899.	291,652.37

By comparing the statistics of 1898 with 1899, it will be seen that the gross revenue has decreased $50,026.86.

The increases and decreases are as follows :—

	Increase.	Decrease.
On the Welland Canal		$ 50,605 28
" St. Lawrence Canals		6,111 21
" Chambly Canal	$ 6,674 04	
" Ottawa Canals		1,545 22
" Rideau Canal	1,127 21	
" St. Peters Canal	267 01	
" Trent Valley Canals	136 11	
" Murray Canal	30 48	
" Sault Ste. Marie Canal		
Total	$ 8,234 85	$ 58,261 71
Total decrease		50,026 86

STATEMENT of the Revenue, together with the increases and decreases of all the Canals for the seasons of Navigation from 1890 to 1899, inclusive.

Years.	Revenue.	Increase.	Decrease.
1890	$ 338,059 51		$ 33,049 80
1891	350,351 97	$ 2,292 46	
1892	358,711 04	8,359 07	
1893	348,012 00		10,699 04
1894	307,824 67		40,187 33
1895	283,211 41		24,613 26
1896	350,061 03	66,849 62	
1897	346,758 87		3,302 16
1898	341,679 23		5,079 64
1899	291,652 37		50,026 86

In compliance with the renewed request of forwarders and shippers of Montreal and the management of the Canada Atlantic Railway Co., for a reduction of tolls on certain agricultural products, His Excellency the Governor General in Council on April 24, 1899, authorized a reduction of canal tolls, as follows :—

For the season of 1899 the canal tolls for the passage of the following food products, wheat, indian corn, pease, barley, rye, oats, flax-seed and buckwheat for through passage

eastward through the Welland Canal, shall be 10 cents per ton, and for through passage eastward through the St. Lawrence Canals, only 10 cents per ton, payment of the said tolls of 10 cents per ton for passage through the Welland Canal to entitle these products to free passage through the St. Lawrence Canals, or any portion thereof; further, in the case of any of the above-named products brought down from Parry Sound over the line of the Canada Atlantic Railway Company to their elevator at Coteau Landing, the through rate thereon from that point to Montreal, to be 2½ cents per ton.

In consequence of the reduced rate of tolls, as above, being applicable to the said food products, irrespective of their destination, the reduced rate of 10 and 5 cents a ton respectively only was collected, and therefore no refunds were made on these articles for 1899.

It may be observed, however, that the reduction of tolls from 20 to 10 cents per ton on the articles referred to, for passage through the Welland Canal, amounts to $42,687.70.

The quantity of barley, corn, oats, pease, rye and wheat passed down the Welland Canal, from ports west of Port Colborne for a period of eighteen years is as follows:—

	Quantity Passed Down to Montreal.	Quantity on which full Tolls were Paid.	
		To Ports in Ontario.	Quantity from U.S. Ports to U.S. Ports.
	Tons.	Tons.	Tons.
1882	180,694		63,881
1883	186,814	10,650	121,876
1884	142,194	12,153	104,537
1885	96,569	11,969	117,346
1886	203,940	9,881	151,551
1887	185,034	11,838	134,868
1888	160,358	25,599	169,664
1889	257,769	19,075	213,766
1890	288,513	16,899	245,932
1891	295,509	6,805	202,710
1892	261,954	8,942	201,540
1893	501,806	25,555	222,958
1894	273,651	16,699	203,979
1895	231,491	32,666	133,823
1896	461,049	73,386	160,372
1897	560,254	53,257	157,756
1898	519,532	31,279	144 612
1899	332,746	40,197	68,011

The tolls on grain for passage through the Welland Canal prior to 1884 were 20 cents a ton; since that date, however, reductions have been made by Orders in Council from year to year as follows:—Upon the urgent repuest of forwarders and others interested in the grain trade, a reduction was made of one-half the usual rate of tolls on grain passing down the Welland Canal and the St. Lawrence Canals to Montreal; and in 1885 tolls were reduced to 2 cents a ton, and thereafter from year to year, including 1891.

In 1892 the tolls were reduced to 2 cents a ton on grain passed down the Welland and St. Lawrence Canals and exported, and in such cases only.

In 1893 by Order in Council of February 13, the tolls were reduced to 10 cents a ton on grain passing eastward through the Welland Canal, irrespective of its destination, and the same rate of tolls for 1894 were allowed by O.C., April 16, 1894.

For the year 1895 (O.C., April 1, 1895,) the same rate of tolls was allowed as was granted for the year 1894.

* Of the quantity of grain passed down to Montreal there were transhipped at Ogdensburg in 1891, 17,817 tons; in 1892, 4,341 tons; in 1893, 71,445 tons; in 1894, 23,030 tons; in 1895, 18,987 tons; in 1896, 77,355 tons; in 1897, 89,659 tons; in 1898, 40,257, and in 1899, 48,828 tons.

For the year 1896 (O.C , April 23, 1896,) the same rate of tolls was allowed as was granted for the year 1895.

For the year 1897 (O.C., April 17, 1897,) the same rate of tolls was allowed as was granted for the year 1896.

For the year 1898 (O.C., June 1, 1898,) the same rate of tolls was allowed as was granted for the year 1897.

For the year 1899 (O.C., April 10, 1899,) the same rate of tolls was allowed as was granted for the year 1898.

The rate through the St. Lawrence Canals only, was 10 cents a ton.

It may be remarked that goods having paid full tolls on the Welland Canal are allowed to pass down the St. Lawrence Canals to Montreal free from payment of any further tolls.

During the last decade the quantity of agricultural products as above, passed down the Welland and St. Lawrence Canals to Montreal, has increased from 288,513 tons in 1890 to 332,746 tons in 1899 ; and the quantity passed down the Welland Canal from United States ports to United States, has decreased from 245,932 to 68,011 tons for the same years.

The quantity of barley, buckwheat, corn, oats, pease, rye and wheat, arrived at Montreal via Grand Trunk and Canadian Pacific Railways for a period of 13 years, is reported as follows :—

	Tons.
For 1887	191,760
1888	113,794
1889	94,943
1890	119,208
1891	184,410
1892	291,680
1893	147,610
1894	60,666
1895	51,114
1896	153,717
1897	228,611
1898	293,391
1899	209,170

The quantity of the same articles passed down the whole length of the St. Lawrence Canals to Montreal, for the same period was :—

	Tons.
For 1887	237,881
1888	166,191
1889	275,414
1890	242,571
1891	320,434
1892	302,899
1893	532,084
1894	288,015
1895	247,550
1896	495,898
1897	604,200
1898	575,097
1899	372,291

Comparative shipments of grain by the St. Lawrence route, and rail and water via the state of New York, are as follows:—

QUANTITY OF GRAIN TO SEA-BOARD BY COMPETING ROUTES.

The quantity of grain and pease passed down the whole length of the St. Lawrence Canals to Montreal, is as follows:—

	Tons.
For 1898	575,097
1899	372,291
Showing a decrease of	202,806

The quantity of grain and pease carried to Montreal via Canadian Pacific and Grand Trunk Railways, is reported as follows:—

	Tons.
For 1898	293,391
1899	209,170
Showing a decrease of	84,221

The quantity of grain arrived at tide-water by New York Canals, is reported as follows:—

	Tons.
For 1898	459,404
1899	416,700
Showing a decrease of	42,704

The quantity of grain carried to tide-water by the New York railways, is reported as follows:—

	Tons.
For 1898	5,371,500
1899	4,642,952
Showing a decrease of	728,548

The increases and decreases for 1899 as compared with 1898 on the several routes, competing for the carrying trade to the seaboard, are as follows:—

	Increase.	Decrease.	Increase, per cent.	Decrease.
On the St. Lawrence Canals		202,806		54·48
do Canadian Pacific and Grand Trunk Railways		84,221		40·26
do New York Canals				10·25
do do Railways		728,548		15·69

By reference to Appendix U, it will be seen that the quantity of freight from ports west of Port Colborne to the United States ports, Oswego, Ogdensburg, &c., has decreased from 238,467 tons in 1888 to 172,738 tons in 1899, and the quantity to Ontario ports, between Port Dalhousie and Cornwall, has decreased from 113,801 tons in 1888 to 108,958 tons in 1899. The quantity passed down to Montreal shows an increase from 183,899 tons in 1888 to 354,485 tons 1899.

TRANSHIPMENT OF GRAIN.

The quantity of grains passed down the Welland Canal in Canadian and United States vessels to Kingston and Prescott for fourteen years, is as follows :—

In Canadian vessels there were in—

			Tons.
1886,	244 Cargoes, with an aggregate quantity of		143,330
1887,	284 do	do	178,233
1888,	182 do	do	143,025
1889,	208 do	do	165,117
1890,	203 do	do	184,275
1891,	209 do	do	190,664
1892,	158 do	do	159,018
1893,	146 do	do	148,962
1894,	125 do	do	159,145
1895,	123 do	do	136,617
1896,	196 do	do	227,912
1897,	180 do	do	229,265
1898,	166 do	do	224,021
1899,	162 do	do	221,306

In United States vessels there were in—

			Tons.
1886,	97 Cargoes, with an aggregate quantity of		62,222
1887,	19 do	do	12,477
1888,	60 do	do	43,667
1889,	114 do	do	108,358
1890,	35 do	do	35,560
1891,	77 do	do	90,153
1892,	89 do	do	109,812
1893,	257 do	do	328,269
1894,	84 do	do	106,236
1895,	56 do	do	73,987
1896,	158 do	do	217,978
1897,	197 do	do	285,847
1898,	339 do	do	464,852
1899,	167 do	do	205,571

Two vessels took cargoes of 558 tons through to Montreal intact in 1899, seven of 2,426 in 1898, seven of 2,324 in 1897, three of 1,176 in 1896, four of 1,344 tons in 1895, two cargoes of 810 tons in 1894, none in 1893, two in 1892 of 924 tons, and three in 1891 of 1,441 tons. Twenty-five vessels lightened a portion of their cargoes in 1898, against 11 in 1897, 16 in 1896, 6 in 1895, 19 in 1894, 34 in 1893, 25 in 1892, and 44 in 1891 ; 473 vessels discharged the whole of their cargoes at Kingston in 1898, against 359 in 1897, 335 in 1896, 169 in 1895, 188 in 1894, 369 in 1893, 220 in 1892, and 293 in 1891.

The quantity of grain transhipped at Port Colborne in 1898 and the four previous years is given below.

The total number of grain laden vessels lightened at this port in 1899 was 86, against 58 the previous year.

The quantity of grain lightened was as follows :—

Articles.	1895.	1896.	1897.	1898.	1899.
	Bush.	Bush.	Bush.	Bush.	Bush.
Wheat	322,662	660,190	642,927	239,518	390,162
Corn	870,705	908,833	697,508	313,689	638,143
Rye	Nil	8,197	Nil	37,389	7,065
Oats	71,648	79,585	12,527	Nil	Nil
Barley	21,003	6,377	5,119	5,699	Nil

Welland Canal.

The total quantity of freight passed on the Welland Canal during the season of 1899 was 789,770 tons ; of this quantity 20,152 tons were way or local freight.

There were 637,268 tons of freight passed eastwards, and 152,502 tons passed westwards.

East and west bound through freight.

The total quantity of through freight passed through the whole length of the Welland Canal during the season of 1899 was 769,618 tons.

Of this quantity 622,104 tons were east bound and 147,514 west bound freight.

Of the east bound through freight Canadian vessels carried 297,084 tons and United States vessels carried 325,020 tons ; and of the west bound through freight Canadian vessels carried 12,462 tons, and United States vessels carried 135,052 tons, or a total of 309,546 tons for Canadian and 460,072 tons for American vessels.

St. Lawrence Canals.

The total quantity of freight passed through these canals during 1899 was 1,349,093 tons, of this quantity 1,137,665 tons passed eastward and 211,428 past westward.

East and west bound through freight.

The total quantity of throught freight was 639,264 tons ; of this quantity 609,454 tons were east bound and 29,810 tons were west bound.

Way freight.

Of the total quantity of (way) or local freight 528,211 tons were east bound and 181,618 tons west bound freight.

THROUGH TRAFFIC BETWEEN MONTREAL AND PORTS ON LAKE ERIE, MICHIGAN, ETC.

The total quantity of through freights passed eastward and westward through the Welland and St. Lawrence Canals, from Lake Erie to Montreal, during fifteen years, is as follows :—

	Eastward to Montreal. Tons.	Westward from Montreal. Tons.
1885	152,968	16,115
1886	244,514	16,801
1887	213,834	14,075
1888	183,899	19,310
1889	298,197	25,370
1890	231,746	13,951
1891	309,593	14,060
1892	263,144	9,452
1893	508,016	16,545
1894	292 191	9,439
1895	266,659	10,555
1896	480,077	10,050
1897	584,246	4,542
1898	538,108	4,436
1899	354,933	5,991

FREIGHT FROM UNITED STATES PORTS TO UNITED STATES PORTS.

The total quantity of freight passed eastward and westward through the Welland Canal, from United States ports to United States ports, for a period of fifteen years, is as follows :—

	Eastward. Tons.	Westward. Tons.	Total. Tons.
1885	168,212	216,297	384,509
1886	224,916	239,562	464,478
1887	189,427	151,074	340,501
1888	221,062	213,689	434,751
1889	297,353	266,231	563,584
1890	318,259	215,698	533,957
1891	306,257	247,543	553,800
1892	300,733	240,332	541,065
1893	384,559	247,108	631,667
1894	361,319	230,948	592,267
1895	255,259	214,520	469,779
1896	385,695	267,518	653,213
1897	353,863	210,831	564,694
1898	277,023	210,516	487,539
1899	225,491	135,038	360,529

The total quantity of freight passed through the Welland Canal from United States ports to United States ports shows a decrease of 127,010 tons, as compared with the previous year ; and a decrease of 23,980 tons, as compared with 1885.

The following statement shows the aggregate number of vessels, and the total quantity of freight passed through the Welland Canal, and the quantity passed between United States ports during the years 1867 to 1899, inclusive:

Fiscal Year.	Aggregate number of Vessels.	Total quantity transported on the Welland Canal.	Quantity passed from United States ports to United States ports.
	No.	Tons.	Tons.
1867	5,405	933,260	458,386
1868	6,157	1,161,821	641,711
1869	6,069	1,231,903	688,700
1870	7,356	1,311,956	747,567
1871	7,729	1,478,122	772,756
Season of Navigation.			
1872	6,063	1,333,104	606,627
1873	6,425	1,506,484	656,208
1874	5,814	1,389,173	748,557
1875	4,242	1,038,050	477,809
1876	4,789	1,099,810	488,815
1877	5,129	1,175,398	493,841
1878	4,429	968,758	373,738
1879	3,960	865,664	284,043
1880	4,104	819,934	179,605
1881	3,332	686,506	194,173
1882	3,334	799,643	282,806
1883	3,267	1,005,156	432,611
1884	3,138	837,811	407,079
1885	2,738	784,928	384,509
1886	3,589	980,135	464,478
1887	2,785	777,918	340,501
1888	2,647	878,800	434,753
1889	2,975	1,085,273	553,584
1890	2,883	1,016,165	533,957
1891	2,594	975,013	553,800
1892	2,615	955,554	541,065
1893	2,843	1,294,823	631,667
1894	2,412	1,008,221	592,267
1895	2,222	869,595	469,779
1896	2,766	1,279,987	653,213
1897	2,725	1,274,292	564,694
1898	2,384	1,140,077	487,539
1899	2,202	789,770	360,529

The total quantity of freighn passed through the several divisions of the canals during the season of 1899 is as follows:—

	Farm Stock.	Forest Produce of Wood.	Manufactures.	Merchandise.	Agricultural Products.	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Welland	10	103,589	45,606	178,042	462,523	789,770
St. Lawrence	1,188	81,951	74,211	380,127	811,616	1,349,093
Chambly	273	218,977	13,992	112,338	17,055	362,635
Ottawa	1,283	507,722	308	6,019	4,773	520,105
Rideau	18	37,189	2,623	25,714	1,361	69,905
St. Peters	32	10,673	3,310	47,389	9,400	70,804
Murray	62	1,651	2,448	9,346	3,281	16,788
Trent Valley	180	38,135	223	1,060	562	40,160

The total quantity of freight moved on the Welland Canal was 789,770 tons, of which 462,523 tons were agricultural products.

On the St. Lawrence Canals the total quantity of freight moved was 1,349,093 tons, of which 811,616 were agricultural products, and 380,127 tons were merchandise.

On the Ottawa Canals the total quantity of freight moved was 520,105 tons of this quantity 507,722 tons were the produce of the forest.

STATISTICAL COMPARISON OF VARIOUS UNITED STATES ROUTES.

The statistical comparisons heretofore given in respect to the quantities of the principal articles carried through the Welland Canal, and those carried over routes in the United States, in competition with that work, have been continued to date.

By reference to statement H, as to the quantity of vegetable food carried to tide-water, it will be observed that the quantity carried by the New York Canals was 577,486 in 1899, 653,027 in 1898, 744,575 tons in 1897, 957,182 tons in 1896, 602,505 in 1895, 1,400,129 in 1894, 1,450,116 in 1893, 937,999 in 1892, and 1,092,355 in 1891.

The quantities of vegetable food carried by the New York Central, Erie and New York, West Shore and Buffalo Railways being :—

	Tons.		Tons.
In 1899	6,211,827	In 1887	*3,847,766
1898	7,060,542	1886	*3,802,262
1897	5,673,638	1885	4,105,594
1896	5,183,540	1884	3,639,805
1895	3,798,574	1883	4,422,461
1894	4,281,056	1882	3,885,557
1893	*5,107,426	1880	4,732,385
1892	5,913,013	1869	1,087,809
1891	3,565,381		
1890	4,336,199		
1889	3,654,984		
1888	3,197,734		

The following figures are an abstract of the quantities of vegetable food carried to tide-water by the canals and railways of the state of New York during thirty years :—

——	Canals.	Railways.	Total.	Proportions by Canals.
	Tons.	Tons.	Tons.	Tons.
1869	1,302,613	1,087,809	2,390,342	·545
1870	1,295,010	1,766,457	3,061,467	·423
1871	1,850,198	2,205,589	4,055,787	·456
1872	1,674,320	1,870,614	3,544,934	·472
1873	1,745,171	2,036,992	3,782,163	·461
1874	1,767,598	2,791,517	4,559,115	·387
1875	1,305,550	2,343,241	3,648,791	·357
1876	1,064,293	2,875,803	3,940,096	·270
1877	1,498,984	2,493,683	3,992,667	·375
1878	1,912,734	3,695,764	5,608,498	·341
1879	1,833,399	4,353,617	6,187,016	·296
1880	2,371,090	4,732,385	7,103,475	·333
1881	1,116,561	4,983,722	6,100,283	·183
1882	1,118,776	3,885,557	5,004,333	·223
1883	1,379,000	4,422,461	5,801,461	·237
1884	1,236,986	3,639,805	4,876,791	·253
1885	1,063,310	4,105,594	5,168,904	·205
1886	1,489,886	3,802,262	5,292,148	·281
1887	1,559,403	3,847,766	5,387,169	·285
1888	1,166,958	3,197,734	4,364,692	·267
1889	1,296,896	3,654,984	4,951,880	·262
1890	1,167,901	4,336,199	5,504,100	·212
1891	1,092,355	3,565,381	4,657,736	·234
1892	937,999	5,913,013	6,851,012	·137
1893	1,452,563	5,107,426	6,599,989	·284
1894	1,400,129	4,281,056	5,681,185	·327
1895	602,505	3,798,574	4,401,079	·159
1896	957,182	5,183,540	6,140,722	·156
1897	744,575	5,673,638	6,418,213	·116
1898	653,027	7,060,542	7,713,569	·085
1899	577,486	6,211,827	6,789,313	·086

*Flour and grain only.

COMPARATIVE STATEMENT OF TRAFFIC BY RAILWAYS AND CANALS VIA THE STATE OF NEW YORK.

On reference to the returns made by the railways to the state authorities of New York, and to the canal statistics submitted to the state legislature, I find that of the total tonnage of freight carried by the canals and railways, the state canals carried :—

	Per cent.		Per cent.
In 1859.	68·9	In 1884.	19·0
1869.	47·0	1885.	17·1
1879.	38·9	1886.	16·9
1871.	38 9	1887.	16·3
1872.	40·1	1888.	18·8
1873.	34·9	1889.	15·1
1874.	31·7	1890.	13·9
1875.	28·4	1891.	13·4
1876.	24·6	1892.	9·8
1877.	28·3	1893.	10·1
1878.	27·1	1894.	10·2
1879.	23·7	1895.	9·7
1880.	25·1	1896.	8·5
1881.	18·5	1897.	8·3
1882.	19·0	1898.	6·9
1883.	18·7	1899.	7·2

The quantity of freight carried by the canals and railways was greater in 1899 by 2,391,731 tons than the quantity carried in 1898, and an increase of 46,217,685 tons over 1869.

The quantities carried were as follows:—

	Total Tonnage.	Proportion by canals.
In 1859	5,485,076	·6890
1869	12,453,174	·4705
1870	15,148,274	·3895
1871	15,844,152	·3896
1872	16,631,609	·4012
1873	18,200,208	·3497
1874	18,283,547	·3174
1875	17,101,758	·2841
1876	16,948,627	·2462
1877	17,489,770	·2833
1878	19,017,301	·2719
1879	22,590,766	·2373
1880	25,706,586	·2512
1881	27,857,394	·1859
1882	28,693,054	·1905
1883	30,167,119	·1877
1884	26,293,844	·1905
1885	27,543,948	·1718
1886	31,168,744	·1698
1887	34,029,791	·1632
1888	26,244,610	·1883
1889	35,466,042	·1514
1890	37,624,199	·1394
1891	38,524,179	·1343
1892	43,618,569	·0982
1893	42,953,233	·1009
1894	37,916,412	·1024
1895	36,170,339	·0967
1896	43,756,051	·0849
1897	43,711,512	·0828
1898	49,311,030	·0682
1899	51,702,761	·0713

Average freight rates, grain, Chicago to Buffalo:—(as reported by the Secretary Merchants' Exchange, Buffalo).

Year.	Wheat.	Year.	Wheat.
1880.	5·7	1891.	2·5
1881.	3·2	1892.	2·2
1882.	2·5	1893.	1 6
1883.	3·5	1894.	1 2
1884.	2·1	1895.	1·9
1885.	2·0	1896.	1 7
1886.	3·6	1897.	1·5
1887.	4·1	1898.	1·5
1888.	2·7	1899.	2·5
1889.	2·5		
1890	1 9	Average twenty years	2·8

COMPARATIVE STATEMENT of the Commerce through the United States, St. Mary's Falls Canal and Canadian Sault Ste. Marie Canal, for the Seasons of 1898 and 1899.

		Traffic for 1899.		Total Traffic for		Increase.	Decrease.
		United States Canal.	Canadian Canal.	Season of 1899.	Season of 1898.	Amount.	Amount.
Vessels	Number.	16,480	3,769	20,249	17,733	2,516	
Lockages	"	8,389	2,610	10,999	9,528	1,471	
Tonnage registered	Net tons.	19,021,489	2,918,009	21,969,498	18,629,239	3,330,259	
" freight	"	22,252,139	3,006,664	25,258,803	21,239,438	4,019,365	
Passengers	Number.	33,664	15,697	49,361	44,142	5,219	
Coal (hard)	Net tons.	732,213	110,268	842,481	532,633	309,848	
" (soft)	"	2,543,397	553,855	3,097,252	3,242,971		145,719
Flour	Barrels.	6,113,013	1,078,668	7,191,681	7,764,073		572,392
Wheat	Bushels.	45,512,364	12,759,318	58,301,682	62,439,904		4,138,222
Grain (excluding wheat)	"	28,341,850	1,737,956	30,079,806	26,139,117	3,940,689	
Manufactured and pig iron	Net tons.	210,018	7,538	217,556	250,805		33,249
Salt	Barrels.	271,569	47,737	319,306	304,153	15,353	
Copper	Net tons.	115,643	5,103	120,746	121,918		1,172
Iron ore	"	13,653,225	1,680,064	15,333,289	11,672,855	3,660,434	
Lumber	ft. B.M.	1,024,675,000	7,927,000	1,032,602,000	898,787,580	133,814,420	
Silver ore	Net tons.	487		487		487	
Building stone	"	38,863	1,269	40,132	7,163	32,969	
*Unclassified freight	"	509,335	81,323	590,658	616,956		26,298

*Included in unclassified freight for

	1898. Tons.	1899. Tons.
Wool	2,601	228

SESSIONAL PAPER No. 20

The United States canal was open to navigation during the season of—

1889	234 days.
1890	228 "
1891	225 "
1892	233 "
1893	219 "
1894	234 "
1895	231 "
1896	232 "
1897	234 "
1898	241 "
1899	231 "

The Canadian canal was open to navigation during the season of—

1895	87 days.
1896	218 "
1897	238 "
1898	243 "
1899	239 "

The average number of vessels passing per day through the two canals for the season of 1899 was over eighty-six

R. DEVLIN,
Compiler of Canal Statistics.

OTTAWA, Oct. 1, 1900.

SHIPMENTS of Grain (in Transit through Canada, and Export) by Lake from Chicago, during 1899.

(From Report of Trade, Chicago.)

SHIPPED TO.	BARLEY.		CORN.		OATS.		RYE.		WHEAT.		TOTAL.
	Export.	Transit.	Export.	Transit.	Export.	Transit.	Export.	Transit.	Export.		
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.		Bushels.
Collingwood, Ont.			38,163								38,163
Depot Harbour Ont.	284,140	1,555,991	4,722,734	666,010	391,865			178,000	651,955		8,622,293
Goderich "		509,186	223,346	92,600							825,132
Kingston "			1,919,312		319,800		25,000		160,450		2,424,562
Midland "		1,267,171	1,123,884	165,000				144,000	313,000		2,953,055
Owen Sound "		333,447							150,000		483,447
Prescott "			973,306						24,000		997,306
Sarnia "		39,250		3,012,415							3,051,665
Sault Ste. Marie			895								895
Totals	284,140	3,705,048	9,001,640	3,876,025	711,665		25,000	322,000	1,299,405		19,396,518

SESSIONAL PAPER No. 20

EXPORTS by Lake from Chicago to Canada, during the Season of Navigation of 1999.

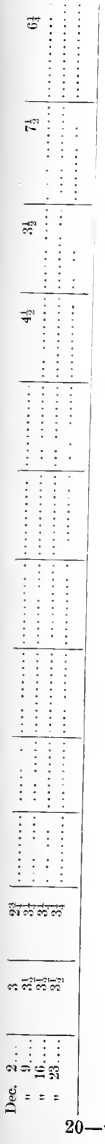
(From report of Board of Trade, Chicago.)

Commodities.	Quantity.	Value.
		$ cts.
Barley ..... Bush.	284,440	114,686 00
Corn ..... "	9,001,640	3,204,807 00
Flaxseed ..... "	171,295	188,936 00
Oats ..... "	711,665	211,296 00
Rye ..... "	25,000	13,750 00
Wheat ..... "	1,299,405	929,388 00
Flour ..... Barrels.	18,772	62,975 00
Corn meal ..... "	1,870	3,660 00
Oat meal ..... "	475	1,261 00
Mill stuffs ..... Sacks.	22,269	15,917 00
Grass seed ..... "	728	2,239 00
Glucose ..... Barrels	540	5,785 00
Gluten meal ..... Sacks.	14,742	15,125 00
Malt ..... "	5,925	2,987 00
Oil cake ..... "	13,406	48,300 00
Starch ..... Barrels	3,620	14,331 00
Sugar ..... "	12,500	20,768 60
Beef ..... "	611	6,045 00
Pork ..... "	13,734	134,410 00
Cured meats ..... Packages.	11	249 00
Lard ..... Tierces.	2,956	56,598 00
Tallow ..... "	1,747	27,409 00
Angle bars ..... Tons.	1,121	22,192 00
Steel rails ..... "	8,468	132,628 00
Wire rods ..... "	2,497	43,588 00
Bolts ..... Kegs.	62	226 00
Spikes ..... "	303	951 00
Manufactured iron ..... Tons.	266	19,310 00
Hardware ..... Packages.	1,305	9,885 00
Lumber ..... M. Feet.	6	137 00
Oils ..... Barrels.	544	7,745 00
Soap ..... Boxes.	12	94 00
Liquors ..... Packages.	1	6 00
Groceries ..... "	3	11 00
Unclassified ..... "	175	1,502 00
Total value	.....	5,319,197 00

GRAIN FREIGHTS BY LAKE, SEASON OF 1899.

The following were the current rates of freight on Wheat and Corn, from Chicago to Buffalo, Kingston, Ogdensburg and Prescott, also to New York by Lake and Erie Canal, for each week, during the Season of Navigation in 1899.

1899.	To Buffalo.		To Ogdensburg.		To Kingston.		To Prescott.		Erie Canal Buffalo to New York.		Chicago to New York, Lake and Canal, Exclusive of Buffalo Charges.	
	Wheat, per bushel.	Corn, per bushel.	Wheat, per bushel.	Corn, per bushel.	Wheat, per bushel.	Corn, per bushel.	Wheat, per bushel.	Corn, per bushel.	Wheat, per bushel.	Corn, per bushel.	Wheat, per bushel.	Corn, per bushel.
	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.
April 29	2½	1½		3½		3½		3½	2½	2½	1½	2½
May 6	2½	2½		3½		3½		3½	2½	2½	1½	2½
" 13	2½	2½	3½	3½	3½	3½	3½	3½	2½	2½	1½	2½
" 20	2½	2½	3½	3½	3½	3½	3½	3½	2½	2½	1½	2½
" 27	2½	2½	3½	3½	3½	3½	3½	3½	2½	2½	1½	2½
June 3	2½	2½	3½	3½	3½	3½	3½	3½	2½	2½	1½	2½
" 10	2½	2½	3½	3½	3½	3½	3½	3½	2½	2½	1½	2½
" 17	2½	2½	3½	3½	3½	3½	3½	3½	2½	2½	1½	2½
" 24	2½	2½	3½	3½	3½	3½	3½	3½	2½	2½	1½	2½
July 1	2½	2½	3½	3½	3½	3½	3½	3½	2½	2½	1½	2½
" 8	2½	2½	3½	3½	3½	3½	3½	3½	2½	2½	1½	2½
" 15	2½	2½	3½	3½	3½	3½	3½	3½	2½	2½	1½	2½
" 22	2½	2½	3½	3½	3½	3½	3½	3½	2½	2½	1½	2½
" 29	2½	2½	3½	3½	3½	3½	3½	3½	2½	2½	1½	2½
Aug. 5	2½	2½	3½	3½	3½	3½	3½	3½	2½	2½	1½	2½
" 12	2½	2½	3½	3½	3½	3½	3½	3½	2½	2½	1½	2½
" 19	2½	2½	3½	3½	3½	3½	3½	3½	2½	2½	1½	2½
" 26	2½	2½	3½	3½	3½	3½	3½	3½	2½	2½	1½	2½
Sept. 2	3	3	4	4	4	4	4	4	3	3	2	3
" 9	3	3	4	4	4	4	4	4	3	3	2	3
" 16	3	3	4	4	4	4	4	4	3	3	2	3
" 23	3	3	4	4	4	4	4	4	3	3	2	3
" 30	3	3	4	4	4	4	4	4	3	3	2	3
Oct. 7	3	3	4	4	4	4	4	4	3	3	2	3
" 14	3	3	4	4	4	4	4	4	3	3	2	3
" 21	3	3	4	4	4	4	4	4	3	3	2	3
" 28	3	3	4	4	4	4	4	4	3	3	2	3
Nov. 4	3	3	4	4	4	4	4	4	3	3	2	3
" 11	3	3	4	4	4	4	4	4	3	3	2	3
" 18	2½	2½	3½	3½	3½	3½	3½	3½	2½	2½	1½	2½
" 25	2½	2½	3½	3½	3½	3½	3½	3½	2½	2½	1½	2½


6¾
7½
3½
4½
2¾
3
3¼
3½
3¾
Dec. 2
9
16
23

LAKE FREIGHTS FROM CHICAGO TO BUFFALO ON WHEAT AND CORN.

STATEMENT showing the dates of the changes of the ruling rates of Lake freights on Wheat and Corn from Chicago to Buffalo, during 1899 (as reported by the Secretary of Merchants' Exchange, Buffalo).

1899.	Wheat, Bushels.	Corn, Bushels.	1899.	Wheat, Bushels.	Corn, Bushels.
Opening.	cts.	cts.	Opening.	cts.	cts.
April 27	1⅝	1⅜	Aug. 16		2⅜ to 2¼
May 3		1¼	" 17		2⅜
" 6	1⅝	1⅜	" 19		2¼ to 2⅜
" 12	2	1¼	" 20		2¼
" 22	1⅞ to 2	1⅜	" 21		2⅜
" 23	2	1⅝	" 23	3	2¾
" 24	2¼	1⅞ to 2	" 30		3
" 27	2½	2	Sept. 2		3¼
June 1	2⅝	2	" 5		3
" 8	2	1⅝	" 9		3¼
" 13		2	" 13		3⅛ to 3⅜
" 17	2⅛	2	" 14		3⅛
July 10		2¼	" 19		3¼
" 12	2	2¼	" 22		3⅜
" 13	2¼	2⅜	Oct. 24		3¼
" 15		2	" 27		3⅛ to 3¼
" 24	2⅛	2	" 28		3¼
" 27		1⅞ to 1⅝	" 31		3
" 28	1⅝	1¾	Nov. 7		2¾
Aug. 1		2	" 8		2¾
" 4	2 to 2¼	2	" 9		2¼
" 5	2¼	2¼	" 10		2
" 9	2⅛ to 2¼	2¼	" 24		2¼
" 10	2¼	2¼	" 28		2⅛ to 2⅜
" 12	2⅛ to 2¼	2¼	" 29		2½
" 15	2¼	2¼	Dec. 1 to close		3

NOTE.—Corn from Chicago to Kingston ranged from 1⅝ to 3⅝ cents, and wheat 3 cents per bushel during the season. Corn to Port Huron, 1⅝ to 2¼ cents.

Rates from Milwaukee about the same as from Chicago.

AVERAGE LAKE FREIGHTS.

The following statement shows the average rates of lake freights on wheat and corn between Chicago and Buffalo during each month in the past ten years, the highest and lowest rate on wheat in each year, and the average rate on wheat each year in cents, per bushel :—

(Per Report of the Secretary of Merchants' Exchange, Buffalo.)

	May.	June.	July.	Aug.	Sept.	Oct.	Nov.
Grain, bushel.	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.
1890 Wheat	1·8	2·2	2·3	1·5	2 0	1·8	2·0
1890 Corn	1·6	2 0	2·0	1·3	1·8	1·6	1·8

Highest rate, wheat, 1890, 2½c.; lowest, 1·5c.; average for the season, 1·9c.

1891 Wheat	1·4	1·2	2·1	2 7	3·3	2·2	4·1
1891 Corn	1·2	1 1	2·0	2·5	3·0	2·1	3·8

Highest rate, wheat, 1891, 5½c.; lowest, 1c.; average for the season, 2·4c.

1892 Wheat	1·9	1·8	2·0	2 3	2·3	2·3	2·6
1892 Corn	1·7	1·6	1·8	2·1	2·1	2 1	2·3

Highest rate, wheat, 1892, 3c.; lowest. 1c.; average for the season, 2·2c.

1893 Wheat	1·3	1·8	1 2	1·3	1·7	2·1	2·0
1893 Corn	1·2	1·6	1·1	1 2	1·5	1·9	1·8

Highest rate, wheat, 1893, 2¾c.; lowest, 1c.; average for the season, 1·6c.

1894 Wheat	1·4	1·2	0·9	1 0	1·4	1 1	1·3
1894 Corn	1·2	1·1	0·9	0·9	1·3	1·0	1·3

Highest rate, wheat, 1894, 3c.; lowest, ⅞c.; average for the season, 1·2c.

1895 Wheat	1·2	1·2	1·1	1·6	2 1	3·0	3·0
1895 Corn	1·1	1·1	1·0	1·4	1 9	2·9	2 7

Highest rate, wheat, 1895, 3c.; lowest, 1c.; average for the season, 1·9c.

1896 Wheat	1·6	1·5	1·2	1·3	1·4	2·0	2·1
1896 Corn	1·4	1·3	1 1	1 2	1·2	1·9	1·9

Highest rate. wheat, 1896, 2⅝c.; lowest, 1¼c.; average for the season, 1·7c.

1897 Wheat	1·3	1·2	1·3	1·5	2·0	1·8	1·5
1897 Corn	1 2	1·1	1·2	1·4	1·8	1·7	1·4

Highest rate, wheat, 1897, 2⅝c.; lowest, 1c.; average for the season, 1·5c.

1898 Wheat	1·3	0·1	0·9	1·2	1·4	2·5	2·3
1898 Corn	1·2	0·8	0·8	1·1	1·3	2·3	2·1

Highest rate, wheat, 1898, 3¼c.; lowest, 1¼c.; average for the season, 1·5c.

1899 Wheat	2·0	2 0	2·2	2 5	3·1	3·5	2·5
1899 Corn	1·8	1·9	2·0	2·3	3·2	3·4	2·3

Highest rate, wheat, 1899, 3⅜c.; lowest, 1⅞c.; average for the season, 2·5c.

Lake Freights from Duluth to Buffalo on Wheat (as reported by the Sec. of the Merchants Exchange, Buffalo, N.Y.).

The following statement shows the Lake Freight rates on Wheat from Duluth to Buffalo, during the season of 1899 :—

1899.	Wheat Bushels.	1899.	Wheat Bushels.
	Cts.		Cts.
April 28	2½	September 24	5
May 22	2⅝	" 26	4½
June 1	2½	October 4.	4¾
" 5	2⅝	" 6.	5
" 12	2½	November 1	4½
" 19	2⅝	" 5	4½
" 26	2½	" 8	4
August 4	3	" 9	3½
" 9	3½	" 10	3
" 16	3½	" 13	2⅝
" 21	3⅝	" 16	2½
" 24	4½	" 17	2¾
" 26	4½	" 18	3
" 30	4½	" 22	3½
September 6	6	" 26	4
" 9	5½	" 28	4½
" 20	5¼	" 30 to Dec. 2	5

In 1885, the range of freights on wheat, Duluth to Buffalo, was 1½ to 5c. ; in 1886, 3¼ to 8c. ; in 1887, 5 to 8c. ; in 1888, 2 to 5c. ; in 1889, 2 to 5c. ; in 1890, 2 to 5c. ; in 1891, 1¾ to 9½c. ; in 1892, 2¼ to 4c. ; in 1893, 1¼ to 3½c. ; in 1894, 1¼ to 3c. ; in 1895, 2 to 6c. ; in 1896, 1¼ to 3c. ; in 1897, 1 to 2½c. ; in 1898, 1 to 3½c. per bushel, and in 1899, 2½ to 6c. per bushel.

The first departure by lake, at Duluth, in 1899, was on April 29 ; in 1898, was on April 16 ; in 1896 on April 22, and in 1895 on April 27. In 1894, season opened on April 19 ; in 1893, on May 8 ; in 1892, on April 21 ; in 1891, on April 30 ; in 1890, on March 26 ; in 1889, on April 20 ; in 1888, on May 12 ; in 1887, on May 4 ; in 1886, on May 7.

Wheat was shipped at Kingston, Canada, per bushel, during the season of 1887, at 6¼ to 7¾c. ; in 1888, at 4 to 5c. ; in 1889, at — ; in 1890, 5¾, 5½, 4½, 4¼, 4c. ; in 1891, during May, 3¾, 3½, 2½c. ; during June, 3c. ; and on July 25, 2½c. ; in 1892, 5c. in April ; 5 to 5¼c. in May ; 4c. in June, 4½c. in July ; 3c. in August ; 6 to 6¼c in October ; in 1893, ranged from 5½ to 4½c. in April ; 4½ to 4¾c. in May ; 4 to 3½c. in June ; 2¾ to 3c. in July ; 3½ to 3¾c. in September ; no figures quoted after that date. In 1894, ranged from 3¼ to 3½c. in May ; 3½c. in June ; 2½c. in July ; 2½ to 3¼c. in August ; 4c. in September, and 4¼c. in October. On August 25 and November 3, 1894, wheat to Ogdensburg at 3¼c. and 4½c. respectively. In 1895, wheat to Kingston from 3c. to 5c. In 1896, wheat to Kingston from 3c. to 5½c. ; and in 1897, wheat to Kingston 3c. to 3⅛c. according to time of year ; 1898 and 1899 not given.

Lake Freights from Toledo to Buffalo on Wheat.

The following statement shows the ruling rates of Lake Freights, on wheat from Toledo to Buffalo, during the season of 1899 on the dates specified, as reported by the Secretary Merchants Exchange Buffalo.

Date, 1899.	Wheat Bushels.	Date, 1899.	Wheat Bushels.
	Cts.		Cts.
Opening to October 24	1	November 1 to close of season	1½
October 24 to November 1	1¼		

The range for 1886 was 1¾ to 3c.; for 1887, 2¼ to 3c.; for 1888, 1½ to 2½c.; for 1889, 1¾ to 2c.; for 1890, 1½ to 2c.; for 1891, 1 to 3c.; for 1892, 1½ to 2½c.; for 1893, 1 to 2c.; for 1894, 1 to 2c.; for 1895, 1 to 2¼c.; for 1896, 1¼ to 1¾c.; for 1897, 1 to 1¼c., and for 1898, 1 to 1½c. per bushel.

From Toledo to Ogdensburg, wheat and corn shipped, at 6 to 7c. in 1887; at 4½ to 6c. for wheat and 5c. for corn in 1888; and 5c. to 5½c. for wheat in 1889 per bushel. From Toledo, on October 8th, 1887, corn shipped to Kingston at 3½c. and on November 12th at 4½c. per bushel. In 1888, corn Toledo to Kingston at 4½c. to 3c.; and wheat at 3½ to 3c. per bushel. In 1889, wheat Toledo to Kingston, 3c.; and in 1891, rye Toledo to Kingston at 3c. per bushel. From Toledo, on June 2nd, 1887, wheat shipped to Montreal by propeller at 6½c.; on June 14th, corn at same price; but on September 26th the rate on corn was only 5c. per bushel. In 1888, corn Toledo to Montreal, at 6 to 5¾c. and wheat at 5½c. per bushel. From 1889 to 1899, no shipments to Montreal or other places in Canada reports.

Canal Freights from Buffalo to New York.

The following shows the changes in the ruling rates of freight to New York from Buffalo, on the days specified in 1899 (as reported by the Secretary, Merchants Exchange, Buffalo).

Date, 1899.	Wheat. Bush.	Corn. Bush.	Date, 1899.	Wheat. Bush.	Corn. Bush.
	Cts.	Cts.		Cts.	Cts.
April 26	—	—	Aug. 3	2½	1⅞
May 5	2½	1⅞	Aug. 4	2¼	2
May 6	2½	—	Aug. 7	2⅝	2⅛
May 25	2½	2¼	Aug. 8	2⅝	2¼
June 5	2⅜	—	Aug. 18	2¼	2⅛
June 13	2¼	2⅛	Sept. 25	2⅜	2⅛
June 21	2⅛	2⅛	Oct. 4	3	2⅝
July 3	2¼	2¼	Oct. 13	3½	3⅛
July 17	2⅜	2	Oct 18	4	3⅛
July 24	2⅝	2	Oct. 25	4½	3⅝
July 31	2⅜	1⅞	Nov. 13 to close	4	3½

The freight on oats varied from 1⅜ to 2½c. per bushel.

Pine lumber per 1,000 feet, was carried from Buffalo and Tonawanda to New York as follows: Opened at $1.75; June and July $1.65; August $1.75; September $2.00; closed at $2.25. Rates to Albany opened at $1.25; June and July $1.15; August $1.25; September $1.50; closed at $2.00.

AVERAGE CANAL FREIGHTS.

BUFFALO TO NEW YORK.

The following statement shows the average rates of canal freights on wheat and corn between Buffalo and New York during each month in the past ten years, and the highest and lowest rates on wheat and average rate on wheat in each :—

(Reported by Sec. Merchants' Exchange, Buffalo.)

	Grain.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.
		Cents.	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.
1890	Wheat	3·9	3·8	3·6	3·8	3·9	4·0	3·5
	Corn	3·5	3·4	3·2	3·4	3·5	3·6	3·1
Highest rate, wheat, 1890, 4·2c.; lowest, 3c.; average for the season, 3·8c.								
1891	Wheat	2·8	2·9	2·8	3·8	4·2	4·6	4·0
	Corn	2·5	2·6	2·5	3·5	3·8	4·2	3·6
Highest rate, wheat, 1891, 3⅞c.; lowest, 2·5c.; average for the season, 3·5c								
1892	Wheat	2·7	2·2	2·4	3·0	3·8	4·7	4·6
	Corn	2·4	2·0	2·2	2·6	3·4	4·4	4·3
Highest rate, wheat, 1892, 6c.; lowest, 2⅛c.; average for the season, 3·5c.								
1893	Wheat	4·8	4·8	4·6	4·6	4·0	4·7	4·8
	Corn	4·4	4·4	4·3	4·2	3·6	4·3	4·5
Highest rate, wheat, 1893, 5c.; lowest, 3·6c.; average for the season, 4·6c.								
1894	Wheat	3·1	2·9	3·3	3·4	3·6	2·9	3·0
	Corn	2·8	2·6	3·0	3·1	3·3	2·6	2·7
Highest rate, wheat, 1894, 4c.; lowest, 2 6c ; average for the season, 3·2c.								
1895	Wheat	1·9	1·7	2·0	2·0	2·1	2·5	2·7
	Corn	1·7	1·5	1·7	1·7	2·0	2·2	2·5
Highest rate, wheat, 1895, 3c.; lowest, 1·9c ; average for the season, 2·2c.								
1896	Wheat	3·7	3·7	3·7	3·7	3·7	3·7	3·8
	Corn	3·5	3·5	3·5	3·5	3·5	3·5	3·6
Highest rate, wheat, 1896, 4c.; lowest, 3·1c.; average for the season, 3·7c.								
1897	Wheat	2·6	2·2	2·3	2·5	3·3	3·1	3·5
	Corn	2·2	1·8	2·0	2·2	2·8	2·6	3·0
Highest rate, wheat, 1897, 3·5c.; lowest, 2c.; average for the season, 2·8c.								
1898	Wheat	3·0	2·9	2·8	2·7	2·6	3·0	3·0
	Corn	2·5	2·3	2·4	2·1	2·2	2·6	2·6
Highest rate, wheat, 1898, 3·4c.; lowest, 2 5c.; average for the season, 2·8c.								
1899	Wheat	2·5	2·7	2·4	2·5	2·5	3·6	4·2
	Corn	2·3	2·3	2·1	2·1	2·2	3·0	3·5
Highest rate, wheat, 1899, 4·5c.; lowest, 2·5c.; average for the season, 3·c.								

NOTE.—Canal free of tolls since 1882.

FREIGHT, TOLLS, ELEVATING AND STORAGE RATES COMPARED.

The following statement shows the receipts of grain and flax seed at Buffalo, the average canal freight on wheat, and the tolls on wheat to New York, and the elevating, and storage rates at Buffalo for a series of years (as reported by Secretary, Merchants' Exchange, Buffalo):

Year.	Grain received.	Average Canal Freight on Wheat.	Tolls on Wheat.	Elevating, including Storage.
	Bush.	Cts.	Cts.	Cts.
1870	32,208,039	11·2	3·1	1¼
1871	61,319,313	12·6	3·1	1¼
1872	58,703,666	13·0	3·1	1¼
1873	65,498,955	11·4	3·1	1¼
1874	55,660,198	10·0	3·1	1¼
1875	52,833,451	7·9	2·0	1
1876	44,297,121	6·6	2·0	1
1877	61,822,292	7·4	1·0	1
1878	78,828,443	6·0	1·0	1
1879	75,089,768	6·8	1·0	1
1880	105,133,009	6·5	1·0	1
1881	56,389,827	4·7	1·0	1
1882	51,501,503	5·4	1·0	1
1883	65,722,080	4·9	None.	½ to 1
1884*	58,011,800	4·2	do	½ to 1
1885*	52,071,090	3·8	do	½ to 1
1886*	75,570,850	5·0	do	½ to 1
1887*	87,073,570	4·6	do	½ to 1
1888*	73,977,390	3·4	do	½ to 1
1889*	92,200,550	4·8	do	½ to 1
1890*	91,994,680	3·8	do	½ to 1
1891*	135,315,510	3·5	do	½ to 1
1892*	138,872,560	3·5	do	½ to 1
1893*	140,796,410	4·6	do	½ to 1
1894*	105,435,577	3·2	do	½ to 1
1895*	121,225,497	2·2	do	½ to 1
1896*	172,474,664	3·7	do	½ to 1
1897*	204,964,103	2·8	do	½ to 1
1898*	221,383,945	2·8	do	½ to 1
1899*	158,396,184	3·0	do	½ to 1 timothi'g ½

NOTE—Prior to 1870 tolls 6·21 cents per bushel, and the elevating charge 2 cents per bushel.
* Including flax seed.

AVERAGE FREIGHT CHARGES PER BUSHEL.

For the transportation of wheat and corn from Chicago to New York for a series of years.

(From Report of Board of Trade, Chicago.)

	Corn.			Wheat.		
	By lake and canal.	By lake and rail.	By all rail.	By lake and canal.	By lake and rail.	By all rail.
1858	127	.....	3619	1550	....	3861
1859	1570	.....	3248	1663	.....	3480
1860	*a* 0833	.....	3248	*a* 095	.....	3480
1861	*a* 1062	.....	3881	*a* 1210	.....	4158
1862	*a* 0957	.....	4480	*a* 1062	.....	4800
1863	*a* 063	.....	4592	*a* 072	.....	4920
1864	*a* 09	.....	5600	*a* 0952	.....	60
1865	*a* 0864	.....	4188	*a* 0894	....	4488
1866	*a* 1075	.....	4312	*a* 1377	.....	4620
1867	*a* 0511	.....	4176	*a* 08	.....	4475
1868	*a* 0604	.....	3532	*a* 0802	.....	3784
1869	*a* 0584	2355	3320	*a* 0651	2520	3557
1870	*a* 16	2220	28	*a* 0677	2250	30
1871	*a* 0754	2372	2068	*a* 0687	2542	3180
1872	*a* 1072	2660	3266	*a* 1110	2950	3499
1873	*a* 0816	2298	2893	*a* 0917	2461	3102
1874	*a* 0382	1388	2450	*a* 0400	1709	2625
1875	*a* 034	1303	2240	*a* 0378	1389	2400
1876	*b* 0875	1079	1574	*b* 0982	1136	1686
1877	*b* 0959	1406	1809	*b* 1109	1546	2050
1878	*b* 0883	1053	1652	*b* 0996	1209	1770
1879	*b* 1049	1220	1456	*b* 1187	1313	1774
1880	*b* 1341	1443	1748	*b* 1313	1580	1980
1881	*b* 0777	0942	1340	*b* 0807	1049	1440
1882	*b* 0672	1028	1350	*b* 0723	1091	1447
1883	*b* 0803	11	1512	*b* 0901	1163	1620
1884	*b* 0655	085	1232	*b* 07	10	1320
1885	*b* 063	0801	1232	*b* 0654	0902	1320
1886	*b* 0845	1120	14	*b* 0910	12	1500
1887	*b* 0850	1120	1470	*b* 0950	12	1575
1888	*b* 0671	1026	1354	*b* 0705	1114	1450
1889	*b* 0632	0819	126	*b* 0692	0897	1500
1890	*b* 0593	0732	1136	*b* 0676	0852	1430
1891	*b* 0632	0753	1400	*b* 0695	0857	1500
1892	*b* 0595	0721	1296	*b* 0645	0759	1380
1893	*b* 0718	0797	1365	*b* 0766	0848	1463
1894	*b* 0493	0650	1232	*b* 0511	0700	1320
1895	*b* 0450	0640	1029	*b* 0486	0696	1189
1896	*b* 0575	0615	1050	*b* 0619	0661	1200
1897	*b* 0453	0692	1143	*b* 0522	0742	1250
1898	‡ 0381	0441	0980	‡ 0445	0491	1200
1899	‡ 0508	0583	1008	‡ 0581	0663	1160

a To Buffalo only. *b* Including Buffalo charges and tolls. ‡ Exclusive of Buffalo charges.

FOREIGN FREIGHT RATES.

ANNUAL average Freight Rates on Grain, Flour and Provisions (per 100 lbs.) from Chicago to European Ports, by all Rail to Sea-board and thence by steamers.

Shipped to	Articles.	1899.	1898.	1897.	1896.	1895.
			$	$	$	$
Liverpool	Grain	·2972	·3435	·3360	·3350	·3200
"	Sacked flour	·3012	·3766	·3681	·3430	·3400
"	Provisions	·4050	·4715	·4440	·4491	·4181
Glasgow	Grain	·3235	·3600	·3523	·3422	·3419
"	Sacked flour	·3125	·3906	·3806	·3650	·3625
"	Provisions	·4469	·5250	·5250	·4997	·4969
London	Grain	·3060	·3500	·3400	·3348	·3329
"	Sacked flour	·3350	·3725	·3612	·3528	·3513
"	Provisions	·4414	·4969	·4814	·4715	·4603
Antwerp	"	·4750	·5250	·5109	·4969	·4828
Hamburg	"	·4600	·5200	·5100	·5100	·5000
Amsterdam	"	·4700	·5250	·5200	·5200	·5000
Rotterdam	"	·4700	·5250	·5200	·5200	·4800
Copenhagen	"	·5172	·5813	·5728	·5812	·5531
Stockholm	"	·6297	·6925	·6853	·6937	·6656
Stettin	"	·5172	·5813	·5728	·5812	·5531
Bordeaux	"	·5912	·6575	·6413	·6413	·6413

LAKE FREIGHTS ON COAL FROM BUFFALO TO CHICAGO AND OTHER PORTS.

The following Statement shows the ruling freight rates on Coal per net ton, in cents, from Buffalo to the Ports named during the Season of 1899, for the week ending on the dates specified.

1899 Week ending	Chicago.	Milwaukee.	Duluth and Superior Ports.	Green Bay.	Gladstone.	Toledo.	Racine.	Saginaw.	Bay City	Marquette.	Sault Ste. Marie.
	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.
April 29	30	30	30	30	30	30	30	30	30	...	...
May 13	40	40	30	40	40	25	40	...	30	...	...
" 27	50	50	30	50	40	25	50	...	30	...	...
June 3	50	50	40	50	40	35	60	40	30	40	40
July 23	60	60	40	60	40	40	70	40	35	40	45
Aug. 12	70	70	50	70	50	40	80	40	50	50	75
" 19	80	80	60	80	60	40	90	60	50	50	...
Sept. 2	90	90	60	90	60	50	90	70	50	65	75
" 16	100	100	60	100	60	50	90	50	50	75	75
Nov. 18	75	75	50	50	60	50	85	50	50	60	85
Dec. 4	100	100	...	...	...	...	...	...	...	...	...

TOTAL VALUES of Merchandise Received from British North America for Immediate Transit across United States Territory, for Immediate Transhipment in Ports of the United States to British North America, and so shipped, during each year from 1873 to 1899 inclusive.

YEAR ENDING JUNE 30.	COUNTRIES FROM WHICH RECEIVED. British North America.					COUNTRIES TO WHICH SHIPPED. British North America.				
	Nova Scotia, New Brunswick, and Prince Edward Island.	Quebec, Ontario, Manitoba and the North-west Territories.	British Columbia.	Newfoundland and Labrador.	Total.	Nova Scotia, New Brunswick and Prince Edward Island.	Quebec, Ontario, Manitoba and the North-west Territories.	British Columbia.	Newfoundland and Labrador.	Total.
	$	$	$	$	$	$	$	$	$	$
1873	495,289	12,894,164	5,240	.....	13,394,693	5,282,290	21,320,174	181,720	.....	26,784,184
1874	449,655	13,616,344	97,691	.....	14,163,690	7,150,036	19,843,169	317,534	.....	27,310,739
1875	443,570	17,342 933	256,074	.....	18,042,577	8,999,596	20,283,639	517,060	.....	29,800,295
1876	261,413	22,134,275	195,047	1,137	22,591,902	9,102,600	14,658,358	658,836	94	24,419,888
1877	160,658	12,092,619	218,418	.....	12,471,695	2,879,422	15,551,238	544,018	2,475	18,977,153
1878	163,978	11,627,114	412,966	.....	12,204,058	951,268	11,436,470	524,013	934	12,912,685
1879	194,129	11,606,832	280,079	55	12,081,095	889,539	11,520,877	476,824	2,347	12,889,587
1880	215,131	16,782,315	137,271	.....	17,134,717	1,643,716	14,866,663	531,436	288	17,042,103
1881	171,383	16,758,108	72,555	.....	17,002,046	1,778,856	20,857,827	719,268	333	23,356,284
1882	164,990	28,265,083	113,018	87	28,543,178	2,732,665	34,005,845	855,784	1,190	37,595,184
1883	561,791	29,204,031	36,973	25	29,802,820	2,455,557	35,878,389	971,307	7,335	39,312,568
1884	656,233	12,574,953	188,041	.....	13,419,227	1,740,900	19,717,466	1,475,833	5,186	22,939,385
1885	933,806	12,280,483	308,691	633	13,523,613	1,635,442	16,448,942	1,615,293	781	19,700,458
1886	1,165,973	9,303,864	359,104	32,079	10,861,020	2,040,208	16,360,123	1,825,178	6,174	20,241,079
1887	1,684,730	9,606,175	213,816	.....	11,504,721	1,621,748	19,930,296	635,841	70	22,187,955
1888	1,525,048	6,417,701	372,934	27,134	8,542,817	1,781,028	13,459,169	370,322	1,137	13,611,656
1889	2,596,233	8,355,178	294,859	89,853	11,336,123	2,484,787	18,993,957	665,527	2,704	22,146,975
1890	3,070,657	12,449,772	306,897	174,584	16,001,910	5,277,210	21,140,198	913,106	4,690	27,335,204
1891	3,859,079	15,310,945	422,806	187,640	19,780,470	5,665,614	21,095,992	547,144	34,273	27,883,023
1892	4,393,062	19,005,704	201,373	328,116	23,928,255	2,079,783	24,189,181	428,188	6,962	26,704,114
1893	1,009,597	16,404,425	89,565	381,986	17,885,573	2,052,357	20,232,400	409,055	26,289	22,720,111
1894	1,070,676	15,649,881	348,069	273,467	17,342,093	1,831,417	17,880,688	463,471	6,640	20,182,216
1895	1,199,782	17,774,108	411,557	236,415	19,621,862	1,834,745	19,320,714	558,991	7,844	21,722,294
1896	1,118,185	18,038,931	582,469	404,020	20,143,605	1,572,783	19,441,279	772,586	1,768	21,788,416
1897	1,118,055	22,497,151	611,322	367,295	24,593,823	1,682,538	17,660,211	1,312,797	8,130	20,663,676
1898	1,440,950	35,596,039	1,744,289	555,706	39,336,984	1,536,413	22,100,622	2,294,356	19,247	26,250,638
1899	1,648,399	30,673,265	3,708,928	561,129	36,561,721	1,215,518	19,605,819	4,686,559	27,147	25,535,043

TOTAL VALUE of Merchandise received from the Principal and other Foreign Countries for Immediate Transit across United States Territory or for Immediate Transhipment in Ports of the United States to other foreign countries, and so shipped, for each Year from 1868 to 1899 inclusive.

Year ending June 30.	Countries from which Received.						Countries to which Shipped.						Total Value of Merchandise received and shipped.
	Great Britain and Ireland.	Germany.	British North American Possessions.	Mexico.	Cuba.	Other Countries.	Great Britain and Ireland.	Germany.	British North American Possessions.	Mexico.	Cuba.	Other Countries.	
	$	$	$	$	$	$	$	$	$	$	$	$	$
1868	10,661,576	132,074	1,864,209	14,967	1,263,621	1,576,157	2,025,023	3,212,123	14,375,419	181,643	116,521	1,304,875	21,516,604
1869	10,891,698	150,382	5,852,678	60,715	2,373,474	1,767,037	2,693,525	1,547,602	15,033,821	448,300	72,875	1,220,861	21,095,984
1870	10,210,455	302,806	7,215,973	103,977	3,309,227	2,019,422	2,916,053	2,116,249	16,689,037	321,331	135,915	983,275	23,191,860
1871	13,473,915	322,110	7,954,060	314,179	1,367,573	1,913,200	4,031,319	1,033,307	18,406,175	346,872	317,224	1,211,840	25,375,037
1872	17,633,231	227,232	9,276,169	174,101	2,227,422	1,847,162	2,743,191	2,263,819	24,012,790	358,151	179,570	1,797,496	31,385,329
1873	19,114,815	250,704	13,391,693	286,607	5,737,904	1,284,162	5,114,175	5,622,325	26,784,184	235,113	319,771	1,993,617	40,009,185
1874	18,832,900	211,907	14,163,690	151,920	1,563,869	926,390	5,391,201	3,866,642	2,310,739	665,214	520,493	1,096,387	38,850,676
1875	18,657,276	325,648	18,042,577	115,527	1,759,308	1,785,917	7,329,912	1,495,285	29,800,295	1,155,004	248,358	757,420	40,686,283
1876	14,304,197	290,489	22,591,902	226,315	2,962,963	1,686,780	11,791,200	2,958,558	24,119,888	1,129,440	600,071	1,163,508	42,062,655
1877	13,732,085	337,397	12,471,695	158,852	1,095,451	1,160,793	7,758,501	1,108,208	18,977,153	324,577	306,311	776,933	29,256,773
1878	10,084,510	378,768	12,204,058	146,822	3,041,957	1,481,033	9,577,050	2,905,230	12,942,685	316,661	319,611	1,305,908	27,337,148
1879	8,795,340	521,917	12,081,095	222,320	1,954,042	1,524,153	8,175,951	2,252,572	12,880,587	330,068	174,757	1,272,032	25,095,867
1880	10,311,139	620,704	17,134,747	239,655	3,606,099	1,942,405	10,856,579	3,658,477	17,042,103	300,118	221,848	1,775,591	33,857,749
1881	14,898,052	721,444	17,002,016	217,441	2,612,550	2,222,122	9,122,079	2,729,246	23,356,264	671,008	177,340	1,648,121	37,704,048
1882	18,911,637	755,560	28,513,178	380,100	5,662,926	3,812,058	11,592,806	5,336,361	37,595,484	800,025	319,257	2,421,526	58,065,159
1883	20,242,222	1,149,195	29,802,820	281,309	3,126,069	4,276,712	11,089,865	2,758,994	39,312,568	2,282,173	352,552	3,081,875	58,878,327
1884	14,038,694	948,901	13,119,227	108,124	3,655,568	1,345,878	5,288,389	2,960,188	22,933,385	2,748,434	221,061	2,656,645	36,814,392
1885	11,064,186	1,140,548	13,523,613	308,293	1,853,354	3,545,541	7,235,519	3,771,524	19,700,458	1,262,515	119,376	2,246,146	34,145,538
1886	13,142,641	1,162,411	10,561,020	216,078	6,797,879	1,558,229	8,510,037	3,803,566	20,241,079	1,279,399	452,700	2,751,423	37,038,264
1887	17,977,203	1,670,952	11,504,721	111,635	6,780,853	1,720,760	10,052,219	4,353,992	22,187,955	2,002,176	608,121	3,561,358	42,766,121
1888	13,707,240	1,817,511	8,342,817	120,497	1,820,816	4,531,208	6,854,195	2,551,043	15,611,656	3,766,180	563,539	3,897,596	33,343,209
1889	19,080,647	2,582,456	11,336,123	236,651	9,051,736	5,052,610	9,233,659	4,581,064	22,116,975	4,781,110	892,158	5,768,287	47,103,253
1890	20,664,427	2,735,546	16,002,384	639,050	9,759,256	5,898,763	10,656,165	5,097,434	27,334,678	4,944,149	1,215,399	6,150,301	55,699,425
1891	24,879,851	2,819,238	19,780,470	565,358	6,977,901	6,475,119	11,968,808	3,640,949	27,883,023	5,052,518	966,851	7,985,977	57,497,917
1892	21,334,783	2,930,571	24,928,255	1,383,455	11,054,115	8,936,228	20,141,862	6,995,419	26,704,114	4,953,911	1,472,980	9,299,451	69,567,737
1893	20,387,339	3,466,885	17,885,573	1,052,200	10,131,171	11,126,669	18,511,287	7,986,637	22,720,111	4,607,549	2,031,761	12,089,192	67,949,837
1894	19,641,622	3,717,740	17,342,093	1,858,367	9,916,742	19,031,011	18,391,865	11,154,933	20,182,216	4,543,155	2,586,919	16,645,187	71,507,575
1895	18,531,083	4,122,899	19,621,862	2,415,091	10,420,277	10,465,981	20,562,325	6,684,735	21,722,291	4,512,293	1,951,985	10,243,561	65,677,193
1896	19,420,751	3,460,489	20,143,605	1,797,161	11,668,243	13,272,521	20,022,263	7,912,844	21,788,416	5,210,607	1,890,705	12,907,932	69,762,770
1897	17,513,324	3,183,390	24,593,823	1,903,924	9,589,820	13,275,822	24,809,259	5,333,860	20,663,676	5,320,563	2,058,454	11,874,291	70,060,103
1898	18,931,226	3,775,038	39,336,984	2,625,521	4,763,587	11,587,069	33,276,696	3,807,811	26,250,638	5,543,843	1,728,789	10,111,607	81,019,375
1899	16 594,043	4,069,828	36,561,721	3,519,942	8,372,450	10,910,462	29,695,600	5,711,338	25,535,043	5,669,214	2,760,086	10,657,165	80,028,146

FOREIGN CARRYING TRADE.

VALUE of the Imports and Exports of the United States carried respectively in cars and other land vehicles, in American vessels and in foreign vessels during each Fiscal Year, from 1857 to 1899 inclusive, with the percentage carried in American vessels (coin and bullion are included from 1857 to 1879 inclusive,) as method of transportation of specie and merchandise cannot be separately stated.

Year ending June 30.	Imports.			Exports.			Imports and Exports.				Percentage carried in American vessels.
	In cars and other land vehicles	In American vessels.	In Foreign vessels.	In cars and other land vehicles	In American vessels.	In Foreign vessels.	In cars and other land vehicles	In American vessels.	In Foreign vessels.	Total.	
	$	$	$	$	$	$	$	$	$	$	
1857		259,116,170	101,773,971		251,214,857	111,745,825		510,331,027	213,519,796	723,850,823	70·5
1858		203,700,016	78,913,134		243,491,288	81,153,133		447,191,304	160,066,267	607,257,571	73·7
1859		216,123,428	122,644,702		249,617,953	107,171,509		465,741,381	229,816,211	695,557,592	66·9
1860		228,164,855	134,001,399		279,082,902	121,039,304		507,247,757	255,040,703	762,288,550	66·5
1861		201,544,055	134,106,098		179,972,733	69,372,180		381,516,788	203,478,278	584,995,066	65·2
1862		92,274,100	113,497,629		125,421,318	104,517,667		217,695,418	218,015,296	435,710,714	50·0
1863		109,744,580	143,175,340		132,127,891	109,880,691		241,872,471	343,056,031	584,928,502	41·4
1864		81,212,077	248,350,818		102,849,409	237,442,730		184,061,486	485,793,548	669,855,034	27·5
1865		74,385,116	174,170,336		95,017,756	262,839,588		167,402,872	437,010,124	604,412,996	27·7
1866		112,040,395	333,471,763		213,671,466	351,754,928		325,711,861	685,226,691	1,010,938,552	32·2
1867		117,209,536	300,622,035		180,625,368	280,708,368		297,834,904	581,330,403	879,165,307	33·9
1868		122,965,225	248,659,583		175,106,348	301,886,491		297,981,573	550,546,074	848,527,647	35·1
1869		136,802,024	304,512,231		153,154,748	285,979,781		289,956,772	586,492,012	876,448,784	33·1
1870		153,237,077	309,140,510		190,732,324	329,786,978		352,969,401	638,927,488	991,896,889	35·6
1871	15,187,354	163,285,710	363,020,644	7,798,156	190,378,462	392,801,932	22,985,510	353,664,172	755,822,576	1,132,472,258	31·2
1872	17,635,681	177,286,302	145,416,783	10,015,089	168,044,709	393,920,579	27,650,770	345,341,101	839,346,362	1,212,328,233	28·5
1873	17,070,548	174,739,831	471,806,765	10,799,430	171,566,758	494,915,886	27,869,978	346,306,592	966,723,651	1,340,899,221	25·8
1874	14,513,335	176,027,778	495,320,135	8,504,205	174,424,216	533,885,971	23,022,540	350,451,994	939,206,106	1,312,680,640	26·7
1875	13,083,859	157,872,726	382,949,568	7,304,356	156,385,066	501,838,949	20,388,235	314,257,792	884,788,517	1,119,434,544	25·8
1876	12,148,667	143,389,704	321,139,500	6,324,487	167,686,467	492,215,487	18,473,154	311,076,171	813,354,987	1,142,904,312	24·2
1877	10,697,640	151,834,067	329,565,833	6,767,170	164,826,214	530,354,703	17,464,810	316,660,281	859,920,536	1,194,045,627	26·5
1878	12,965,999	146,493,282	307,407,565	7,511,365	166,551,624	569,583,564	20,477,364	313,050,906	876,991,129	1,210,519,399	25·9
1879	11,983,823	143,590,353	310,499,599	7,439,862	128,425,339	600,769,633	19,423,685	272,015,692	911,269,232	1,202,708,609	22·6
1880	15,142,465	149,317,368	503,494,913	5,838,928	109,029,209	720,770,521	20,981,393	258,346,577	1,224,265,434	1,503,593,404	17·18
1881	17,193,213	133,631,146	491,840,269	8,259,308	116,955,324	777,162,714	25,452,521	250,586,470	1,269,002,983	1,545,041,974	16·22
1882	22,854,946	130,266,826	571,517,802	12,118,371	96,962,919	641,460,967	34,973,317	227,229,745	1,212,978,769	1,475,181,831	15·40
1883	23,003,048	136,001,290	564,175,576	25,089,844	104,418,210	694,331,348	48,092,892	240,420,500	1,258,506,924	1,547,020,316	15·54
1884	20,140,294	135,046,207	512,511,192	26,573,774	98,652,828	615,287,007	46,714,068	233,699,035	1,127,798,199	1,408,211,302	16·60
1885	21,149,476	112,864,652	443,513,801	24,183,299	82,001,691	636,004,765	45,332,775	194,865,743	1,079,518,566	1,319,717,084	14·76
1886	24,555,683	118,942,817	491,937,636	19,144,667	78,406,680	581,973,477	43,700,350	197,349,563	1,073,911,113	1,314,960,966	15·01
1887	27,562,059	121,365,493	543,392,216	21,389,666	72,991,253	621,802,292	48,951,725	194,356,746	1,165,194,508	1,408,502,979	13·80

VALUE of the Imports and Exports of the United States carried respectively in cars and other land vehicles, etc.—*Concluded.*

Year ending June 30.	IMPORTS.			EXPORTS.			TOTAL IMPORTS AND EXPORTS.				Percentage carried in American vessels.
	In cars and other land vehicles	In American vessels.	In Foreign vessels.	In cars and other land vehicles	In American vessels.	In Foreign vessels.	In cars and other land vehicles	In American vessels.	In Foreign vessels.	Total.	
	$	$	$	$	$	$	$	$	$	$	
1888	32,209,459	123,525,298	568,222,357	22,147,368	67,332,175	606,474,964	54,356,827	190,857,473	1,174,697,321	1,419,911,621	13·44
1889	38,227,861	120,782,910	586,120,881	28,436,517	83,022,198	630,912,660	66,664,378	203,805,108	1,217,063,541	1,487,533,027	13·70
1890	40,621,361	124,048,948	623,740,100	32,949,902	77,502,138	747,376,644	73,576,263	202,451,086	1,371,116,744	1,647,139,093	12·29
1891	40,932,755	127,471,678	676,541,763	31,923,439	78,968,047	773,589,324	72,856,194	206,439,725	1,450,101,087	1,729,397,006	11·94
1892	39,726,505	130,139,891	648,535,976	33,220,629	81,033,844	916,023,675	72,947,224	220,173,735	1,564,559,651	1,857,680,610	11·85
1893	44,121,004	127,095,434	695,181,304	43,862,947	70,670,073	733,152,174	87,984,011	197,765,507	1,428,316,568	1,714,066,116	12·2
1894	29,623,095	121,561,193	503,810,334	49,221,427	73,707,023	769,212,122	78,844,522	195,268,216	1,273,022,456	1,547,135,194	13·3
1895	33,201,988	108,229,615	590,538,362	49,902,754	62,277,581	695,357,830	83,104,742	170,507,196	1,285,896,192	1,589,508,130	11·7
1896	35,535,079	117,269,071	626,890,521	61,131,125	70,392,813	751,083,000	96,666,204	187,661,887	1,377,973,521	1,662,331,612	12·06
1897	35,812,620	109,133,154	619,781,338	65,084,305	79,441,823	905,969,428	100,891,925	189,075,277	1,525,753,766	1,815,723,968	11·00
1898	30,127,781	93,535,867	492,086,003	73,283,704	67,792,150	1,090,106,476	103,711,488	161,328,017	1,582,192,479	1,847,561,984	9·30
1899	33,424,821	82,050,118	581,673,550	83,870,907	78,562,088	1,064,590,307	117,295,728	160,612,206	1,646,263,857	1,924,171,791	8·9

NOTES.—1. The amounts carried in cars and other land vehicles, were not separately stated prior to July 1, 1870. 2. Exports are stated in mixed gold and currency values from 1862 to 1879, inclusive.

SESSIONAL PAPER No. 20

STATEMENT showing the Total Values of Foreign Merchandise transported in the In-Transit and Transhipment Trade of the United States with the British North American Possessions during each year from 1871 to 1899.

Year ending June 30.	Received for transit and transhipment from British North American Possessions.			Shipped in transit to or transhipment for British North American Possessions.		
	By Land.	By Water.	Total	By Land.	By Water.	Total.
	$	$	$	$	$	$
1871	6,035,585	1,918,475	7,954,060	15,624,591	2,781,884	18,406,475
1872	8,237,859	1,038,310	9,276,169	19,357,342	4,685,448	24,042,790
1873	11,700,787	1,693,906	13,394,693	20,178,666	6,605,518	26,784,184
1874	12,695,590	1,468,100	14,163,690	20,572,200	6,938,430	27,510,730
1875	16,800,022	1,152,555	18,042,577	23,794,129	6,006,166	29,800,295
1876	21,301,262	1,290,640	22,591,902	19,569,958	5,049,930	24,419,888
1877	10,835,642	1,636,053	12,471,695	17,066,855	1,910,208	18,977,153
1878	10,314,534	1,889,524	12,204,058	11,914,321	998,364	12,912,685
1879	10,098,998	1,982,097	12,081,095	12,050,635	858,032	12,889,587
1880	15,265,177	1,869,570	17,134,747	16,388,673	653,430	17,042,103
1881	15,200,967	1,801,079	17,002,046	22,828,270	527,994	23,356,264
1882	24,665,029	3,878,149	28,543,178	36,613,465	482,949	37,505,484
1883	26,382,370	3,420,450	29,802,820	38,389,318	923,250	39,312,568
1884	13,043,498	375,729	13,419,227	23,120,587	818,798	22,939,385
1885	12,755,686	767,927	13,523,613	19,105,476	594,082	19,700,458
1886	9,593,344	1,267,676	10,861,020	19,428,867	812,212	20,241,079
1887	9,377,041	2,127,680	11,504,721	20,178,365	2,009,590	22,187,955
1888	6,309,024	2,033,793	8,342,817	13,347,876	2,063,780	15,611,656
1889	8,303,171	3,032,952	11,336,123	19,299,966	2,849,263	22,149,229
1890	13,524,298	2,477,612	16,001,910	24,788,152	2,547,052	27,335,201
1891	18,065,925	1,714,545	19,780,470	25,185,706	2,697,317	27,883,023
1892	21,346,413	2,581,842	23,928,255	23,980,746	2,714,368	26,704,114
1893	13,807,662	4,077,911	17,885,573	20,151,432	2,568,679	22,720,111
1894	13,501,664	3,840,429	17,342,093	17,974,332	2,207,884	20,182,216
1895	14,068,922	5,552,940	19,621,862	18,752,226	2,970,068	21,722,294
1896	13,408,578	6,735 027	20,143,605	18,335,373	3,453,043	21,788,416
1897	17,665,422	6,928,401	24,593,823	18,430,841	2,232,835	90 663,676
1898	27,277,049	12,059,935	39,336,984	22,792,971	3,457,667	26,250,638
1899	22,248,759	14,312,962	36,561,721	22,503,761	2,941,282	25,535,043

NOTE.—This movement forms no part of the import and export trade.

C.—TABLE showing the Tonnage of the undermentioned Articles moved

Years.	Vegetable Food.						
	Flour.	Wheat.	Corn.	Barley.	Oats.	Rye.	Other Vegetable Food.*
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1869.....	71,051	670,534	256,475	99,012	92,309	13,489	99,743
1870.....	54,978	658,524	193,129	123,191	117,941	19,520	127,727
1871.....	41,211	748,549	672,057	113,932	129,891	34,563	109,935
1872.....	20,534	403,903	962,753	120,061	92,959	13,357	120,753
1873.....	19,307	803,064	637,296	70,586	70,023	30,160	114,735
1874.....	29,134	772,163	519,203	98,654	59,408	8,215	280,821
1875.....	17,635	744,293	282,031	104,475	62,717	8,309	86,090
1876.....	9,290	416,376	365,254	96,494	52,147	19,949	104,783
1877.....	8,923	448,043	723,458	139,453	66,045	35,948	77,114
1878.....	5,904	844,555	734,993	89,534	85,029	64,613	88,106
1879.....	7,164	949,466	621,180	96,144	23,164	59,210	77,071
1880.....	8,266	966,052	1,156,619	106,247	20,893	26,340	86,673
1881.....	6,926	444,832	475,823	81,587	30,321	15,484	61,588
1882.....	9,372	642,215	251,687	96,650	22,180	43,372	53,300
1883.....	9,047	573,740	522,978	58,787	54,607	95,246	67,595
1884.....	7,251	790,409	198,216	65,008	52,696	71,462	51,944
1885.....	6,869	565,922	359,982	64,587	8,234	10,211	47,505
1886.....	9,005	993,129	354,765	62,854	7,278	3,073	59,782
1887.....	4,089	936,840	446,617	75,458	35,365	6,717	47,678
1888.....	3,287	491,419	499,218	41,100	70,315	12,532	49,087
1889.....	4,429	484,141	592,550	66,110	63,674	36,329	49,663
1890.....	3,489	353,738	616,702	90,754	48,438	21,657	33,123
1891.....	3,126	756,101	142,141	71,903	16,362	68,771	33,951
1892.....	4,879	620,768	156,269	51,596	72,444	4,236	33,807
1893.....	2,367	1,093,927	252,283	49,651	24,714	6,518	20,656
1894.....	2,909	903,361	275,377	89,700	100,874	5,288	22,620
1895.....	2,240	280,550	94,403	77,868	87,839	205	59,400
1896.....	7,963	408,872	100,227	109,967	197,713	77,210	55,230
1897.....	3,206	180,035	312,776	100,337	50,345	66,387	31,489
1898.....	1,854	69,986	364,248	89,906	76,244	7,745	43,044
1899.....	1,247	282,422	92,670	78,627	93,733	5,931	22,856

*Apples, meal, all kinds, pease, potatoes.

on all Canals in the State of New York, during a serious of thirty-one years.

	Heavy Goods.					
Total.	Railway Iron	Other Iron.	Salt.	Coal.	Ores.	Total.
Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1,302,613	137,677	79,652	263,333	1,324,408	183,992	1,989,062
1,295,010	135,930	89,708	266,740	1,558,185	238,802	2,289,365
1,850,198	178,269	100,310	248,709	1,194,037	289,952	2,011,277
1,674,320	161,667	96,996	248,558	1,462,590	377,592	2,347,403
1,745,171	53,363	62,581	216,706	1,625,859	415,968	2,374,477
1,767,598	24,511	82,955	173,590	1,413,162	232,544	1,926,762
1,305,550	36,603	95,305	186,785	1,217,091	283,219	1,819,003
1,064,293	11,691	69,450	114,070	1,036,698	173,530	1,405,439
1,498,984	10,311	58,828	156,918	1,286,881	250,573	1,763,541
1,912,734	8,385	65,642	139,927	889,873	210,078	1,313,905
1,833,399	27,634	99,568	136,021	971,074	314,411	1,548,708
2,371,090	93,613	139,993	144,487	959,342	370,884	1,709,319
1,116,561	78,650	205,005	113,756	1,092,003	337,873	1,827,287
1,118,776	58,921	122,786	108,040	1,228,435	364,361	1,882,543
1,379,000	46,553	47,412	190,392	1,152,849	293,892	1,731,098
1,236,986	28,513	54,471	161,788	954,288	210,610	1,409,670
1,063,310	12,215	38,726	161,272	1,025,941	195,750	1,433,904
1,489,886	10,878	152,030	112,002	857,884	269,914	1,402,708
1,552,764	21,368	224,979	124,054	905,424	243,578	1,539,403
1,166,958	2,596	43,881	106 344	1,219,680	259,269	1,631,770
1,296,896	3,278	78,135	112,100	1,094,897	234,948	1,523,358
1,167,901	5,800	26,804	93,181	830,154	202,072	1,157,291
1,092,355	1,960	36,770	81,232	881,502	215,686	1,217,150
937,999	524	40,073	93,216	832,397	136,612	1,102,822
1,450,116	536	25,204	52,094	741,934	102,275	922,043
1,400,129	267	22,614	70,353	609,368	37,641	740,243
602,505	4,263	59,402	71,334	766,723	144,076	1,045,798
957,182	1,568	74,651	83,309	682,167	89,998	931,693
744,575	5,080	71,117	66,879	646,803	76,311	866,190
653,027	6,288	101,216	85,525	626,616	73,199	892,844
577,486	2,725	69,106	91,068	777,743	205,234	1,145,876

D.—TABLE showing the total Tonnage of the undermentioned Articles moved Up and Down

VEGETABLE FOOD.

YEAR.	Flour.	Wheat.	Corn.	Barley.	Oats.	Rye.	Other Articles. †
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1869	45,674	313,825	129,599	20,951		904	1,937
1872	26,651	239,998	254,902	6,035	7,752	64	2,745
1873	30,665	355,847	180,160	8,225	1,194	3	3,777
1874	24,019	413,212	181,151	18,871	5,954	513	8,677
1875	13,964	253,835	103,749	35,751	3,383	917	6,337
1876	15,778	201,906	144,501	18,455	24,496	1,454	3,198
1877	13,558	253,953	169,196	19,870	2,810	2,430	2,355
1878	9,121	191,982	185,931	10,979	3,088		2,302
1879	10,710	274,570	144,506	4,655	1,239	440	2,444
1880	12,679	242,020	163,738	17,772	477	1,016	1,480
1881	9,959	127,882	101,075	24,509		1,844	2,086
1882	12,261	215,056	54,799	20,126	611	3,226	403
1883	13,471	152,794	182,269	10,436	731	1,642	10,983
1884	13,683	144,851	118,811	7,155	10,746	1,320	9,168
1885	13,334	124,206	117,536	15,801	1,116		1,912
1886	19,474	154,169	219,442	1,595	4,911	564	14,657
1887	23,949	221,927	114,938	9,574	12,050		12,533
1888	16,983	160,963	194,886	5,906	26,629	811	13,608
1889	7,931	126,664	353,595	4,272	28,356	2,673	18,552
1890	14,461	118,002	327,394	10,830	27,728	1,549	20,876
1891	13,517	198,658	185,180	8,113	52,959	65,888	28,042
1892	17,046	232,019	192,548	6,433	37,173	9,392	32,815
1893	15,235	258,392	441,662	18,599	31,283	3,671	36,981
1894	33,628	270,993	169,233	28,353	27,962	567	60,673
1895	44,044	203,688	164,894	8,689	18,236	1,007	46,463
1896	42,425	320,563	320,444	11,368	28,178	9,405	56,591
1897	9,065	324,743	390,615	14,173	25,161	8,483	44,674
1898	5,578	207,647	437,861	12,286	17,502	16,127	23,182
1899	11,625	197,732	204,004	2,907	24,037	923	18,460

* Fiscal

† Apples, meal, all kinds, pease, potatoes.

through the Welland Canal, during a period of Twenty-nine years, ended Dec. 31, 1899.

	Heavy Goods.						
Total.	Railway Iron.	Other Iron.	Salt.	Iron and salt having paid full tolls on St. Lawrence Canals.	Coal.	Ores.	Total.
Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
503,860	68,064	16,924	91,575	37,153	103,126	58,781	275,623
538,147	26,217	17,141	50,540	44,243	186,932	98,605	423,678
579,880	6,923	20,754	40,850	17,157	339,016	118,685	543,387
647,397	6,032	12,068	23,309	9,579	323,703	56,825	431,316
417,936	1,517	7,588	13,509	9,962	321,306	43,683	397,565
409,788	51	7,997	30,360	20,327	288,211	81,654	378,540
464,181	9,630	9,696	9,173	3,983	323,869	42,758	399,109
403,403	10	11,518	3,980	12,686	295,318	15,229	338,741
438,564	2,782	5,797	7,174	17,796	192,957	19,164	245,670
442,182	5,360	4,812	413	22,273	109,986	34,139	176,983
269,395	4,585	7,013	10	30,682	128,113	18,785	189,188
306,482	.....	5,348	50	17,327	237,559	23,700	283,984
373,326	1,237	7,922	66	17,037	307,058	31,785	365,105
305,734	698	652	461	3,242	274,471	53,205	332,729
273,905	78	2,055	597	14,243	248,272	26,728	291,973
414,812	166	6,123	48	12,324	271,356	27,447	317,464
394,971	1,351	5,636	.....	6,715	145,193	13,866	172,761
419,786	93	3,220	316	13,617	223,871	16,872	257,989
542,043	47	2,479	1,254	20,269	268,305	2,435	294,789
519,291	.....	753	1,027	28,047	202,384	8,138	240,349
367,177	127	1,610	2,567	7,953	224,644	3,415	240,316
527,426	163	1,567	878	3,666	211,616	355	218,245
805,253	6	2,075	374	8,139	233,096	.....	243,690
591,409	.....	3,072	159	977	203,608	.....	207,816
486,421	185	6,245	54	2,819	158,866	1,140	169,309
788,974	1,192	6,332	82	3,264	223,445	1,158	235,473
816,914	7,206	17,012	227	590	176,226	.....	201,261
720,183	1,444	11,722	799	734	162,336	13,433	190,468
459,688	567	6,361	1,282	1,318	97,732	26,125	133,385

E.—Table showing the tonnages of the undermentioned Articles Cleared at Buffalo and Tonawanda, for transit through the Erie Canal, for a series of thirty-one years.

VEGETABLE FOOD.

Year.	Flour.	Wheat.	Corn.	Barley.	Oats.	Rye.	Other Articles *	Total.	Increase.	Decrease.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.		
1869.	5,609	490,904	219,874	1,978	63,728	2,150	2,193	786,436	.....	.....
1870.	8,258	502,158	165,577	19,944	89,156	10,593	6,906	802,592	2·05	.....
1871.	5,607	570,849	579,709	19,810	106,391	27,622	5,705	1,315,693	67·59	.....
1872.	.....	330,032	866,169	41,515	73,572	5,960	88	1,317,276	67·50	.....
1873.	6	737,167	611,675	8,636	51,615	22,441	634	1,432,174	82·10	.....
1874.	.....	650,161	459,728	3,192	44,079	112	237	1,157,509	47·18	.....
1875.	5,859	695,315	273,006	1,156	36,609	2,242	3,372	1,017,559	29·38	.....
1876.	231	377,317	356,064	6,334	24,488	12,205	4,691	783,331	.....	0·39
1877.	1,710	398,416	709,723	26,351	52,559	27,365	4,976	1,223,100	55·52	.....
1878.	987	775,953	718,714	21,365	69,256	51,064	6,662	1,644,301	109·08	.....
1879.	1,239	892,404	602,171	7,193	14,537	40,471	7,328	1,565,343	99·07	.....
1880.	2,743	897,603	131,857	434	16,154	12,137	4,256	2,065,184	162·06	.....
1881.	1,491	386,605	458,318	86	24,751	107	7,484	878,842	11·75	.....
1882.	1,123	586,019	241,406	1,858	9,046	19,158	6,216	864,826	9·96	.....
1883.	538	535,150	517,219	6,816	47,190	79,010	6,051	1,191,974	51·06	.....
1884.	520	767,784	194,368	4,910	47,060	57,856	4,411	1,078,909	37·18	.....
1885.	323	540,533	356,737	3,317	5,610	6,405	5,427	918,352	14·36	.....
1886.	488	955,851	351,272	6,799	5,180	.....	4,061	1,353,591	72·11	.....
1887.	334	914,152	438,069	15,207	32,907	4,612	44,693	1,449,984	85·64	.....
1888.	534	469,965	494,110	6,589	68,922	10,997	1,717	1,052,834	33·87	.....
1889.	845	457,922	579,526	16,380	61,175	34,167	5,160	1,155,175	46·88	.....
1890.	195	329,531	498,641	58,563	45,202	16,903	4,362	953,397	21·23	.....
1891.	1,071	733,967	137,679	43,779	14,803	66,278	2,594	1,000,171	27·18	.....
1892.	2,485	611,177	141,506	37,570	70,363	3,997	3,472	870,570	10·69	.....
1893.	424	1,086,834	240,767	38,986	21,981	6,156	243	1,395,391	77·43	.....
1894.	327	887,908	265,947	69,707	99,898	5,191	2,123	1,331,101	69·26	.....
1895.	98	271,957	83,611	71,185	85,507	205	15	508,596	.....	35·32
1896.	6,971	402,114	89,726	101,154	194,442	77,162	5,575	877,144	11·53	.....
1897.	1,665	168,870	303,761	88,293	48,591	65,490	11,965	688,635	.....	12·44
1898.	.....	64,760	354,917	85,359	74,336	7,367	20,818	607,557	.....	22·74
1899.	.....	271,848	84,370	72,892	92,919	5,830	.....	527,868	.....	13·12

*Apples, meals all kinds, pease, potatoes.

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STATEMENT to Table E showing the shipment at Oswego during the same period.

VEGETABLE FOOD.

Year.	Flour.	Wheat.	Corn.	Barley.	Oats.	Rye.	Other Articles *	Total.	Increase.	Decrease.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.		
1869	7,361	141,360	28,585	66,794	1,113	8,569	14,033	267,815	..	.. ..
1870	11,440	115,732	10,120	77,906	3,953	7,402	11,628	238,181	...	11·06
1871	10,043	123,173	70,218	72,675	1,806	6,250	13,259	297,424	11·05	.....
1872	4,773	57,865	27,148	62,172	684	6,751	10,425	169,818	..	36·59
1873	4,061	53,361	10,578	46,337	670	6,019	10,739	131,765	.....	50·80
1874	.....	108,288	46,127	77,007	1,103	7,053	3,747	243,325	.....	9·14
1875	1,728	32,690	3,034	75,083	3,308	4,989	5,931	126,763	.....	52·67
1876	957	21,890	1,324	63,336	117	5,703	6,638	99,975	....	62·67
1877	855	28,955	3,308	80,306	316	6,603	6,556	126,899	.....	52·61
1878	1,394	24,171	1,383	50,381	.....	10,598	5,222	93,149	....	65·21
1879	734	25,740	9,268	71,693	...	16,623	3,110	127,168	.....	52·51
1880	951	17,466	15,656	82,743	.....	12,508	5,996	135,410	...	49·43
1881	758	25,352	8,064	62,793	206	14,444	4,027	115,638	.....	56·82
1882	813	20,274	4,401	70,862	416	22,265	7,773	126,804	.....	52·65
1883	432	22,634	535	32,557	...	14,384	1,967	72,507	.....	73·00
1884	404	5,932	413	48,391	...	12,173	2,819	70,132	....	73·43
1885	519	6,484	22	45,264	.....	4,613	2,945	59,847	....	77·62
1886	737	9,579	154	42,261	...	1,671	4,814	59,216	...	77·88
1887	790	675	2	44,580	...	716	1,370	48,133	....	82·02
1888	584	2,206	168	6,237	.....	...	2,196	11,191	....	95·82
1889	473	8,002	8,950	40,096	16	1,405	1,003	59,945	....	77·61
1890	545	10,378	10,408	26,639	8	4,635	2,356	54,969	.....	79·47
1891	292	4,298	1,652	27,418	.....	2,130	3,620	39,410	....	85·28
1892	273	4,806	5,657	5,283	...	199	2,340	18,558	....	93·07
1893	119	2,036	3,968	8,476	.....	237	2,784	17,620	.....	93·43
1894	8	10,293	10,514	17,160	.....	...	2,609	40,584	.....	84·84
1895	66	3,073	7,352	1,900	1,816	...	258	14,465	...	94·23
1896	.....	1,825	7,778	7,552	.....	.....	2,468	19,623	..	93·01
1897	..	6,588	5,550	7,349	498	219	245	20,449	.....	92·37
1898	160	2,111	5,886	1,450	16	.....	784	10,407	....	96·12
1899	216	3,166	4,478	2,400	.....	.....	2,346	12,546	20·56	...

* Apples, meal all kinds, potatoes.

F.—TABLE showing the Total Way and Through Tonnage of the undermentioned Articles cleared downward on the Welland Canal, during a series of Twenty-nine Years, ended December 31, 1899.

VEGETABLE FOOD.

Year.	Flour.	Wheat.	Corn.	Barley.	Oats.	Rye.	Other Articles. †	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1869*	44,110	310,090	119,541	3,920	....	680	1,541	479,882
1872	26,648	231,056	254,534	693	7,594	64	2,309	524,889
1873	30,660	345,720	180,042	643	1,188	3	3,557	563,813
1874	24,017	406,157	181,128	377	5,553	....	3,301	620,933
1875	13,930	248,555	103,477	813	3,383	500	4,304	374,962
1876	15,735	194,559	144,501	1,110	24,496	1,454	2,949	384,807
1877	13,588	248,894	169,185	10,216	2,810	2,405	1,833	448,931
1878	8,854	188,106	185,931	1,217	3,088	....	2,100	389,296
1879	10,588	271,545	114,276	803	1,196	..	2,387	430,795
1880	12,467	240,601	162,891	....	477	....	1,418	417,853
1881	9,655	121,393	103,075	252	....	6	1,371	235,752
1882	12,205	205,876	54,797	537	....	1,954	225	275,594
1883	13,256	143,741	182,143	975	731	518	10,971	355,335
1884	13,626	135,804	118,811	270	10,716	477	9,018	288,752
1885	13,322	114,090	117,536	618	1,116		1,628	248,310
1886	19,418	146,151	218,897	....	4,891	....	14,581	403,928
1887	23,940	210,735	114,938	1,711	12,050	..	12,149	375,543
1888	16,973	150,833	194,886	555	26,629	811	13,358	404,045
1889	7,922	120,498	353,595	197	28,356	1,918	18,273	530,759
1890	14,461	114,924	327,304	6,519	27,728	1,121	20,836	512,983
1891	13,517	196,326	185,177	8,113	52,959	65,071	27,895	549,058
1892	17,046	229,569	192,548	6,433	37,173	9,392	32,548	524,709
1893	15,232	257,203	441,092	18,461	31,283	3,671	36,981	803,923
1894	33,628	270,514	169,233	28,353	27,962	....	60,587	590,277
1895	43,895	202,636	161,894	8,689	18,236	..	46,435	484,785
1896	42,159	319,388	320,444	11,368	28,178	8,970	54,031	784,538
1897	9,025	322,893	390,615	14,173	25,127	8,483	44,651	815,067
1898	5,578	206,313	437,849	12,286	17,491	16,127	23,170	718,814
1899	16,215	197,732	204,004	2,424	23,541	923	18,440	463,278

* Fiscal. † Apples, meal all kinds, pease, potatoes.

G.—Table showing the Tonnage of the undermentioned Articles passed through the Welland Canal in transit between Ports in the United States during a series of Twenty nine Years, ended 31st December, 1899.

Year.	Vegetable Food.								Heavy Goods.					
	Flour.	Wheat.	Corn.	Barley.	Oats.	Rye.	Other Articles.*	Total	Railway Iron.	Other Iron.	Salt.	Coal.	Ores.	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1869	30,681	211,085	91,149	2,942	...	667	1,006	337,530	68,064	14,354	89,086	28,566	35,912	235,962
1872	10,482	124,695	89,761	1,391	7,100	...	608	231,337	24,040	13,239	19,843	95,741	50,401	242,264
1873	10,805	127,727	101,329	1,920	1,188	3	592	243,366	4,659	13,826	40,507	170,242	62,912	292,176
1874	8,230	229,053	125,627	...	5,948	...	5,368	374,226	5,742	8,941	22,888	203,673	19,651	260,895
1875	1,881	113,832	54,188	2,641	2,916	500	1,920	177,908	11	1,123	12,931	192,767	34,616	244,451
1876	5,187	96,247	58,138	...	1,905	525	403	162,405	...	5,551	29,395	167,110	25,808	227,844
1877	3,342	107,396	65,269	1,603	2,314	258	413	180,586	8,976	8,688	8,336	172,868	41,107	239,975
1878	1,316	65,542	60,026	859	277	...	341	128,361	...	10,713	3,892	150,583	13,535	178,723
1879	159	53,791	33,401	...	464	...	11	87,826	2,405	3,648	6,318	118,573	17,797	148,741
1880	...	30,611	16,122	1,551	296	...	...	48,580	4,743	3,515	371	65,915	18,380	92,954
1881	...	34,320	30,031	121	...	...	10	65,285	1,313	5,570	...	83,858	6,464	97,205
1882	107	30,227	32,433	537	...	684	14	64,002	...	4,076	...	158,552	14,533	177,161
1883	2,041	54,382	66,128	735	731	...	8,579	132,496	1,209	6,901	8	196,462	24,891	229,471
1884	1,717	40,956	53,707	...	9,874	...	8,170	114,122	698	590	...	210,790	15,100	227,187
1885	124	53,235	63,229	732	882	...	1	118,203	...	1,591	...	198,416	15,029	215,039
1886	7,591	53,258	94,048	...	4,790	...	13,201	172,888	156	5,328	1	189,964	11,364	206,813
1887	11,780	37,678	83,431	1,732	12,050	...	10,859	157,530	15	4,406	...	82,780	6 7	87,828
1888	8,563	39,999	102,974	2	26,510	179	11,598	189,825	65	4,601	56	173,259	2,309	177,288
1889	5,017	39,229	147,045	...	27,492	...	17,225	236,208	...	1,587	896	227,176	1,204	231,163
1890	9,204	31,527	180,842	6,519	27,030	...	20,497	275,619	...	504	208	162,231	1,620	164,563
1891	6,802	32,097	127,494	8,113	52,823	...	26,115	253,444	...	202	705	186,572	1,773	189,312
1892	11,018	26,950	131,222	6,433	36,935	...	31,992	244,550	...	576	2	183,895	...	184,473
1893	6,588	28,187	198,777	16,751	23,870	864	36,352	311,389	...	344	...	206,827	...	207,171
1894	17,795	53,846	10,539	28,095	27,621	...	60,462	198,358	...	297	...	188,521	...	188,818
1895	10,169	27,881	100,512	7,301	17,020	...	46,316	209,802	181	246	...	149,490	...	149,917
1896	16,224	34,878	175,094	11,128	16,137	190	46,456	300,407	...	146	...	207,348	...	207,494
1897	7,237	28,919	169,057	14,173	14,969	...	41,887	276,242	965	15	...	165,143	...	166,123
1898	4,212	11,268	150,667	6,909	12,732	1,197	22,671	209,656	770	339	1	156,814	...	157,927
1899	6,118	12,926	81,777	2,424	19,526	923	18,198	141,892	351	1,646	553	88,931	...	91,481

* Apples, meals all kinds, pease, potatoes.

H.—TABLE showing the Tonnage of Vegetable Food carried on each of the Lines of Canals and the two principal Railways, competing for the Carrying Trade between Lake Erie and Tidewater, for a series of Twenty-nine years, ended 31st December, 1899.

Year.	Total on New York Canals.	Total on Welland Canal.	Total on New York Central and Erie Railways.	Quantity charged at Buffalo and Tonawanda by Erie Canal.	Quantity cleared at Oswego by Canal.	Quantity cleared through the Welland Canal in transit between ports, in the United States.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1869	1,302,613	503,860	1,087,809	786,436	267,815	337,530
1872	1,674,320	538,147	1,870,614	1,317,276	169,818	234,337
1873	1,745,171	579,880	2,036,392	1,432,174	131,765	243,366
1874	1,767,598	647,397	2,791,517	1,557,509	243,325	374,226
1875	1,305,550	417,936	2,343,241	1,017,559	126,763	177,908
1876	1,064,293	409,788	2,875,803	783,331	99,975	162,405
1877	1,498,984	464,181	2,493,683	1,223,100	126,899	180,586
1878	1,912,734	403,403	3,695,764	1,644,301	93,149	128,361
1879	1,833,399	438,564	4,353,617	1,565,543	127,168	87,826
1880	2,371,090	442,182	4,732,385	2,065,184	135,410	48,580
1881	1,116,561	269,395	4,983,722	878,842	115,638	65,285
1882	1,118,776	306,482	3,885,557	864,826	126,804	64,002
1883	1,379,000	372,236	4,422,461	1,191,974	72,507	132,496
1884	1,236,986	305,734	3,639,805	1,078,909	70,132	114,422
1885	1,063,310	273,905	4,105,594	918,352	59,847	118,203
1886	1,489,886	414,812	3,802,262	1,353,591	59,216	172,888
1887	1,552,764	394,971	3,847,766	1,449,984	48,133	157,530
1888	1,166,958	419,786	3,197,734	1,052,834	11,191	189,825
1889	1,296,896	542,043	3,654,984	1,155,175	59,945	236,208
1890	1,167,901	519,291	4,236,199	953,307	54,969	275,619
1891	1,092,355	367,177	3,565,381	1,090,171	39,410	253,444
1892	937,999	527,426	5,918,013	870,579	18,558	244,550
1893	1,452,563	805,273	5,107,426	1,305,391	17,620	311,389
1894	1,400,129	591,409	4,281,056	1,331,101	40,584	293,148
1895	602,505	486,421	3,798,574	508,596	14,465	209,802
1896	957,182	788,974	5,183,540	877,144	19,623	300,407
1897	744,575	816,914	5,673,638	688,635	20,449	276,242
1898	653,027	720,183	7,060,542	607,557	10,407	209,656
1899	577,486	459,688	6,211,827	527,868	12,546	141,892

*Fiscal.

SESSIONAL PAPER No. 20

I.—STATEMENT showing the Quantity of Through Freight passed DOWN the Welland Canal in Canadian and United States Vessels entering the Canal at Port Colborne during the season of Navigation in 1888, 1889, 1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898 and 1899.

ARTICLES.	CANADIAN VESSELS.				AMERICAN VESSELS.				TOTAL.	
	Steam.		Sail.		Steam.		Sail.		Steam and Sail	
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
	242	86,838	239	93,450	114	104,505	219	60,500	914	345,293
1888.	Tons.		Tons.		Tons.		Tons.		Tons.	
Wheat		45,481		60,379		1,353		40,779		147,992
Corn		38,620		14,251		71,988		71,175		196,024
Barley										
Oats		672				24,967		1,311		26,950
Pease				54		57				111
Rye						71		632		703
Coal		1,603		20,664				4,208		25,897
Miscellaneous merchandise		2,165		3,291		22,719		3,722		31,875
Shingles, woodenware, &c		66		84		141		6		297
Sawed Lumber....Ft. B.&M.		5,262,700		11,977,905		4,451,360		12,539,672		34,230,637
Square timber.....Cub. ft.		687,728		1,555,307		19,000				2,262,035
Staves.....No		106,972		211,436				34,600		352,408
Firewood.....Cords		179		201						380
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
	317	106,048	427	118,071	208	172,873	268	92,442	1220	489,434
1889.	Tons.		Tons.		Tons.		Tons.		Tons.	
Wheat		38,127		28,054		1,679		46,767		114,627
Corn		60,218		42,819		152,858		96,700		353,595
Barley										
Oats		320				25,347		2,145		27,812
Pease										
Rye		948		634		336				1,918
Coal		3,976		21,148		712		1,664		27,500
Miscellaneous merchandise		6,339		5,749		25,082		3,030		40,200
Shingles, woodenware, &c				1				51		52
Sawed lumber..... Ft.B.M.		5,789,226		11,632,330		11,792,850		21,026,211		50,240,617
Square timber .....Cub. ft.		924,645		2,934,989						3,859,634
Staves.....No.		35,700		174,649						220,349
Firewood.....Cords				46						46
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
	342	110,056	443	117,400	202	204,542	142	50,622	1129	482,620
1890.	Tons.		Tons.		Tons.		Tons.		Tons.	
Wheat		43,308		35,633		7,514		32,239		118,694
Corn		63,095		51,439		172,756		40,104		327,394
Barley						3,304		3,215		6,519
Oats		479		73		27,030				27,582
Pease						14				14
Rye		1,121								1,121
Coal		1,049		21,732				615		23,396
Miscellaneous merchandise		3,146		5,683		32,194		2,510		43,533
Shingles, woodenware, &c		15		1,266		8				1,289
Sawed lumber.....Ft.B.M		5,921,240		5,167,201		10,274,335		14,290,800		35,653,576
Square timber.....Cub. ft.		1,141,194		3,395,832						4,537,026
Staves.....No.		12,255		19,947						32,202
Firewood.....Cords		15		566						581

1.—STATEMENT showing the Quantity of Through Freight passed Down the Welland Canal in Canadian and United States Vessels, &c.—*Continued.*

ARTICLES.	CANADIAN VESSELS.				UNITED STATES VESSELS.				TOTAL.
	Steam.		Sail.		Steam.		Sail.		Steam and Sail
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
	256	107,575	173	68,061	241	241,317	130	50,063	800	467,016
1891.	Tons.		Tons.		Tons.		Tons.		Tons.
Wheat	62,859		56,953		36,425		33,853		190,090
Corn	20,510		9,550		137,852		17,039		184,951
Barley					5,444		4,061		9,505
Oats					50,212		1,076		51,288
Pease	390								390
Rye	29,581		11,296		16,361		7,343		64,581
Coal	158		20,388				3,851		24,397
Miscellaneous merchandise	8,369		6,007		37,537		2,578		54,491
Shingles, woodenware, &c							4		4
Sawed lumber Ft. B.M.	4,268,874		4,648,824		8,067,351		18,745,628		35,730,677
Square timber Cub. ft.	439,406		566,109						1,015,515
Staves No.	1,000								1,000
Firewood Cords									
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage	No.	Tonnage.	No.	Tonnage.
	239	100,324	186	73,140	245	248,837	134	52,087	804	474,388
1892.	Tons.		Tons.		Tons.		Tons.		Tons.
Wheat	74,578		54,764		60,364		36,898		226,604
Corn	17,477		7,369		146,080		21,631		192,548
Barley					3,995		2,438		6,433
Oats					36,935				36,935
Pease	524								524
Rye	5,066				3,718		608		9,392
Coal	775		13,350				1,365		15,490
Miscellaneous merchandise	2,139		2,786		14,117				49,042
Shingles, woodenware, &c	1				45		9		55
Sawed lumber Ft. B.M.	6,278,253		7,504,256		10,494,692		26,832,564		51,109,765
Square timber Cub. ft.	754,213		1,421,260		2,601		1,310		2,179,384
Staves No.	46,800		32,838						79,638
Firewood Cords									
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
	193	100,107	143	58,652	390	375,682	236	122,326	962	656,767
1893.	Tons.		Tons.		Tons.		Tons.		Tons.
Wheat	83,447		31,185		72,671		68,628		255,931
Corn	23,817		12,946		313,246		91,083		441,092
Barley	1,527		183		16,189		562		18,461
Oats	223				27,903		3,038		31,164
Pease									
Rye					3,216		455		3,671
Coal	638		13,580				5,849		20,067
Miscellaneous merchandise	6,179		286		14,976		1,647		53,088
Shingles, woodenware, &c			15		22				37
Sawed lumber Ft. B.M.	13,750,267		2,748,941		17,359,573		41,863,852		75,722,633
Square timber Cub. ft.	836,048		1,437,893		5,133				2,279,074
Staves No.			18,484						18,484
Firewood Cords									

I.—STATEMENT showing the Quantity of Through Freight passed Down the Welland Canal in Canadian and United States Vessels, &c.—*Continued.*

ARTICLES.	CANADIAN VESSELS.				UNITED STATES VESSELS.				TOTAL.	
	Steam.		Sail.		Steam.		Sail.		Steam and Sail	
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
	199	104,649	112	57,668	287	279,621	144	63,770	742	505,708
1894.	Tons.		Tons.		Tons.		Tons.		Tons.	
Wheat		98,586		54,144		79,715		37,695		268,840
Corn		10,368		5,614		122,211		31,040		169,233
Barley		258				28,095				28,353
Oats		175		107		27,021				27,903
Pease										
Rye										
Coal		1,483		1,892		61		11,109		14,545
Miscellaneous merchandise		16,949		664		83,198		1,977		102,788
Shingles, woodenware, &c		22								22
Sawed lumber ... Ft. B.M.		8,423,205		279,330		11,719,664		31,891,456		52,313,745
Square timber. . . Cub. ft.		771,328		1,578,981						2,350,309
Staves..... No.										
Firewood . . . . Cords										
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
	209	108,776	151	73,895	205	223,743	101	41,327	666	447,741
1895.	Tons.		Tons.		Tons.		Tons.		Tons.	
Wheat		72,895		68,935		29,345		30,723		201,898
Corn		16,854		3,724		126,943		17,369		164,890
Barley		798		162		7,729				8,689
Oats		1,531		246		16,442				18,219
Pease										
Rye										
Coal		2		3,984				4,426		8,412
Miscellaneous merchandise		37,356		2,361		67,705		1,324		108,746
Shingles, woodenware, &c		20				863		1,079		1,962
Sawed lumber... Ft. B.M.		1,057,146		248,071		9,385,890		14,929,734		25,620,841
Square timber.....Cub. ft.		1,027,913		2,049,368				35,000		3,112,281
Staves.....No.										
Firewood..... Cords										
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
	224	122,521	181	82,543	343	337,983	163	96,506	911	639,553
1896.	Tons.		Tons.		Tons.		Tons.		Tons.	
Wheat		113,331		90,979		78,741		34,476		317,527
Corn		9,360		3,855		218,315		88,914		320,440
Barley		240				11,128				11,368
Oats		441		1,270		24,847		1,620		28,178
Pease		1,403		1,354				273		3,030
Rye		5,035		644		2,837		454		8,970
Coal		7		11,106		1,255		629		11,997
Miscellaneous merchandise		29,820		1,452		82,319		4,374		117,965
Shingles, woodenware, &c		134				22				156
Sawed lumber..... Ft. B.M.		2,123,213				18,259,810		27,796,146		48,179,169
Square timber. .....Cub. ft.		942,923		1,649,145				246,024		2,838,092
Staves..... No.										
Firewood.....Cords.								55		55

I.—STATEMENT showing the Quantity of Through Freight passed Down the Welland Canal in Canadian and United States Vessels, &c.—*Concluded.*

ARTICLES.	CANADIAN VESSELS.				UNITED STATES VESSELS.				TOTAL.	
	Steam.		Sail.		Steam.		Sail.		Steam and Sail	
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
	225	131,907	163	76,760	388	382,231	144	86,675	920	677,573
1897.	Tons.		Tons.		Tons.		Tons.		Tons.	
Wheat		121,762		55,724		106,064		37,891		321,441
Corn		33,694		15,244		274,855		66,822		390,615
Barley						14,173				14,173
Oats		223				23,515		1,168		24,906
Pease		1,851								1,851
Rye		2,047		919		5,517				8,483
Coal		3,873		3,947		368		1,615		9,803
Miscellaneous merchandise		15,739		3,290		70,968		4,174		94,071
Shingles, woodenware, &c.		1,268		5		404				1,677
Sawed lumber.....Ft. B.M.		1,573,447				20,284,446		20,673,202		42,531,095
Square timber..... Cub. ft		1,327,823		2,217,629				616,093		4,161,545
Staves.....No.		2,577,160								2,577,160
Firewood.....Cords.		4								4
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
	216	126,398	104	59,532	354	355,702	195	108,720	869	650,352
1898.	Tons.		Tons.		Tons.		Tons.		Tons.	
Wheat		95,567		36,157		54,934		18,355		205,013
Corn		56,538		30,455		284,059		66,761		437,813
Barley						9,465		2,821		12,286
Oats						17,329				17,329
Pease		260				45				305
Rye		3,504		1,480		9,135		1,948		16,127
Coal		575		1,916		759		2,620		5,870
Miscellaneous merchandise		19,385		4,104		47,271		8,758		79,518
Shingles, woodenware, &c.		2		9						11
Sawed lumber.... Ft. B.M.		4,910,669		1,641,783		16,220,972		24,484,283		47,257,707
Square timber..... Cub. ft.		825,545		1,183,821				388,410		2,397,776
Staves.....No.										
Firewood.....Cords.		249								249
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
	191	100,242	129	75,777	201	212,027	78	36,962	599	425,008
1899.	Tons.		Tons		Tons.		Tons.		Tons.	
Wheat		91,901		80,928		16,250		7,244		196,323
Corn		28,015		18,905		138,834		18,250		204,004
Barley						2,424				2,424
Oats		1,557				21,646				23,203
Pease										
Rye						923				923
Coal		435		6,736				3,398		10,569
Miscellaneous merchandise		25,203		18,651		49,522		1,567		94,943
Shingles, woodenware, &c.		485		916				100		1,501
Sawed lumber.....Ft. B.M.		2,077,748		772,739		14,855,338		19,949,079		37,654,904
Square timber.....Cub. ft.		322,138		585,780		20,802		328,806		1,257,526
Firewood.....Cords				9						9
Staves.....No.										

SESSIONAL PAPER No. 20

STATEMENT showing the Quantity of through Freight passed up the Welland Canal in Canadian and United States Vessels during the Season of 1899.

ARTICLES.	CANADIAN VESSELS.				UNITED STATES VESSELS.				TOTAL.	
	Steam.		Sail.		Steam.		Sail.		Steam & Sail.	
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
	187	99,235	133	75,748	199	209,897	83	39,326	602	424,206
1899.	Tons.		Tons.		Tons.		Tons.		Tons.	
Class 3.										
Cement and water lime	1,001		4							1,005
Fish	10				2,232					2,242
Iron railway					351					351
" pig										
" all other	1,392				636					2,028
Salt	1				4					5
Steel	20				75					95
Articles not enumerated	963		603		58					1,624
Class 4.										
Crockery and earthenware	13				7					20
Marble					211					211
Manilla					129					129
Nails	556									556
Paint	2				12					14
Pitch and tar	6									6
Sugar	1,627				7,626					9,253
Tin	231									231
Merchandise not enumerated	1,805				35,190					36,995
Class 5.										
Produce of wood	3,318		385		21					3,724
Special Class.										
Coal	525				61,517		25,121			87,163
Unenumerated articles					1,243		619			1,862
Total	11,470		992		109,312		25,740			147,514

	Tons.
Canadian Steam Vessels carried	11,470
" Sailing "	992
United States Steam "	109,312
" Sailing "	25,740

WELLAND CANAL THROUGH FREIGHT RECAPITULATION.

Welland Canal—West Bound Freight.

The total quantity of Through Freight passed Up the Welland Canal in Canadian and United States vessels, during the season of navigation in 1899, is as follows :—

Summary.	Tons.	Tons.
In Canadian steam vessels	11,470	
" sail "	992	
Total quantity in Canadian vessels		12,462
In United States steam vessels	109,312	
" sail "	25,740	
Total in United States vessels		135,052
Grand total freight passed up the Welland Canal in Canada and United States vessels		147,514

Statement of the Quantity of Through Freight passed Up and Down on the Welland Canal during the Season of Navigation in 1899.

Summary.	Tons.	Tons.
In Canadian steam vessels up	11,470	
" " down	157,889	
Total in Canadian steam vessels		169,359
In Canadian sail vessels up	992	
" " down	139,195	
Total in Canadian sail vessels		140,187
Total quantity in Canadian vessels		309,546
In United States steam vessels up	109,312	
" " down	254,784	
Total in United States steam vessels		364,096
In United States sail vessels up	25,740	
" " down	70,236	
Total in United States sail vessels		95,976
Total quantity in United States vessels		460,072
Total in Canadian and United States vessels		769,618

	Down or East bound.	Up or West bound.
In Canadian vessels	297,084	12,462
In United States vessels	325,020	135,052
Total	622,104	147,514

Crockery	118	68	107	70	40	17	23	19	34	94 5	133	73	3 55

J.—STATEMENT of Large Class of Vessels Lightened at the Welland Railway Elevator at Port Colborne, showing the Tonnage, Dimensions, Depth of Water, Number of Cargoes passed through the enlarged Welland Canal during the Season of Navigation in 1899.

Date of Arrival (1899)	No. and Vessel	Registered Tonnage (Tons)	Dimensions: Length over all (Ft.)	Width of Beam (Ft. in.)	Depth of Hold (Ft. in.)	Depth of Water on Arrival: Forward (Ft. in.)	Aft (Ft. in.)	Original Cargo to the Welland Canal: Wheat (Bush.)	Wheat (Tons)	Corn (Bush.)	Corn (Tons)	Barley (Bush.)	Barley (Tons)	Rye (Bush.)	Rye (Tons)	Oats (Tons)	Rolling Freight (Tons)	Lighterage over Welland Railway: Wheat (Bush.)	Corn (Bush.)	Barley (Bush.)	Rye (Bush.)	Lighterage over Welland Railway in Tons: Wheat	Corn	Barley	Rye	Oats	Rolling Freight	Grain Cargo and Rolling Freight through Welland Canal: Wheat (Bush.)	Corn (Bush.)	Barley (Bush.)	Rye (Bush.)	Wheat (Tons)	Corn (Tons)	Barley (Tons)	Rye (Tons)	Oats (Tons)	Rolling Freight (Tons)	Total Cargo through Canal (Tons)	Depth Water Midship through Canal (Ft. in.)	Destination: From	To	Cost of Lighterage per bushel ($ cts.)	Time occupied in Lighterage (Hrs. Mins.)
CANADIAN STEAM VESSELS.																																											
May	16 [illegible]	1,065	245	40	18 4	16 6	16 7	[illegible]	2,192									21,358				641						59,677				1,791						1,791	14	Ft. William	Kingston	0 02	14 30
	23 [illegible]	980	253	41	24 3	16 5	16 4	[illegible]	2,100									18,345				550						61,655				1,850						1,850	14			0 02	4 40
June	[illegible]	1,065	245	40	18 4	16 [illegible]	16 6	[illegible]	2,130									19,704				592						61,265				1,838						1,838	14			0 02	5 00
	9 [illegible]	980	[illegible]	41	24 3	16 3	16 7	[illegible]	2,490									19,738				593						63,262				1,897						1,897	14			0 02	5 10
Aug.	16 [illegible]	980	253	41	24 3	16	15 10	[illegible]	2,400									15,567				468						64,433				1,932						1,932	14			0 02	5 50
	21 [illegible]	1,065	24[illegible]	40	18 3	15	15 10	[illegible]	2,281									16,034				482						59,966				1,799						1,799	14			0 02	5 15
Sept.	[illegible]	980	253	41	24 3	16	15 9	[illegible]	2,401									16,762				503						63,238				1,898						1,898	14 11	Superior		0 02	1 25
	[illegible]	1,065	24[illegible]	40	18 4	15 10	15 10	[illegible]	2,281									16,214				487						59,786				1,794						1,794	14	Duluth		0 02	4 05
	[illegible]	980	[illegible]	41	24 3	14 10	15 6	[illegible]	2,222									9,267				228						61,793				1,994						1,994	14			0 02	3 00
Oct.	[illegible]	1,065	245	40	18 4	15 7	15 8	[illegible]	2,221									16,140				485						57,860				1,736						1,736	13 9			0 02	3 35
	[illegible]	980	243	41	24 3	15 7	15 7	[illegible]	2,224									12,930				388						61,171				1,836						1,836	13 9	Ft. William	"	0 02	3 40
	[illegible]	1,065	24[illegible]	40	18 4	15 5	15 2	[illegible]	2,130									13,890				417						57,101				1,713						1,713	13 9			0 02	3 25
	[illegible]	980	[illegible]	41	21 [illegible]	14 8	15 5	[illegible]	2,160									12,354				371						59,647				1,789						1,789	13 6			0 02	3 25
Nov.	[illegible]	1,065	245	40	18 4	[illegible]	15 4	[illegible]	2,117									12,549				377						58,014				1,740						1,740	13 10			0 02	3 20
	[illegible]	980	253	41	24 3	15 1	15 2	[illegible]	2,161									10,804				325						61,199				1,836						1,836	13 10			0 02	3 00
	[illegible]	1,065	245	40	18 4	[illegible] 4	15 4	[illegible]	2,131									14,280				429						56,720				1,702						1,702	13 10			0 02	[illegible] 25
	20 [illegible]	980	253	41	24 [illegible]	14 10	15 5	[illegible]	2,160									10,971				330						61,029				1,830						1,830	13 10			0 02	1 45
Dec.	4 [illegible]	1,065	245	40	18 4	15 1	15 4	[illegible]	2,131									13,482				405						57,518				1,726						1,726	13 10			0 02	3 00
								1,3[illegible]	40,772									270,39[illegible]				8,071						1,088,364				32,701						32,701					
CANADIAN VESSELS SAIL.																																											
Aug.	2[illegible] [illegible]	1,041	240	36 3	15 2	[illegible]	15 2	[illegible]	2,101									9,812				295						60,188				1,806						1,806	14	Ft. William	Kingston	0 02	[illegible] 15
Sept.	[illegible]	1,031	240	36 3	15 2	[illegible]	15 6	[illegible]	2,161									12,654				380						59,346				1,781						1,781	13 10	Duluth		0 02	3 45
Oct.	[illegible]	1,041	240	36 3	15 2	[illegible]	15 [illegible]	[illegible]	2,199									14,71[illegible]				442						58,586				1,757						1,757	13 8	Ft. William		0 02	[illegible] 00
	[illegible]	1,041	240	36 3	15 2	1[illegible] 2	15 2	[illegible]	2,100									13,3[illegible]				400						56,670				1,700						1,700	13 6			0 02	[illegible] 20
	[illegible]	1,041	240	36 3	15 2	15 2	14 9	[illegible]	2,041									11,519				347						56,451				1,694						1,694	13 7			0 02	3 10
								35[illegible]	10,602									62,0[illegible]8				1,864						291,241				8,738						8,738					
UNITED STATES STEAM VESSELS.																																											
May	1 [illegible]	837	207	34 5	17 7	1[illegible] 7	15 5			64,000	1,513								9,267				261						44,707				1,252					1,252	14	Chicago	Kingston	0 02	[illegible] 05
	4 [illegible]	968	176	[illegible]	1[illegible] 5					57,207	1,602								16,295				1,296						10,912				306					306	9 2	"		0 02	11 00
	14 [illegible]	904	219	36 2	17	1[illegible] 3	15			60,000	1,680								9,625				269						50,37[illegible]				1,411					1,411	14	Duluth	Prescott	0 02	[illegible] 10
	21 [illegible]	837	205	34 5	17 7	15 8	14 [illegible]			51,000	1,428								6,958				194						44,042				1,234					1,234	14	Chicago	Kingston	0 02	1 40
	21 W. A. Haskell	1,441	265	37	25 6	14 4	15			55,000	1,540						213		6,675				186						48,32[illegible]				1,354				213	1,567	13 11		Ogdensburg	0 02	1 4[illegible]
	2[illegible] A. McVittie	1,553	240	42	23 4	14 10	15 1			60,000	1,680						315		10,193				285						49,807				1,395				315	1,710	13 11			0 02	2 20
	30 Gov. Smith	1,547	240	42	23 4	11 8	15 8			60,000	1,680						350		12,529				350						47,471				1,330				350	1,680	13 11			0 02	1 25
June	1 Germanic	862	216	36 2	18 6	14 10	14 7			56,800	1,593								5,922				165						50,908				1,428					1,428	13 10	Duluth	Prescott	0 02	1 45
	1[illegible] H. E. Jones	1,5[illegible]	240	42	23 4	14 10	14 11			55,000	1,540						328		9,323				261						45,677				1,279				328	1,607	13 11	Chicago	Ogdensburg	0 02	2 10
	20 H. E. Jones	1,553	240	42	23 4	15 6	15 6			60,000	1,680						372		14,023				392						45,977				1,288				372	1,660	14			0 02	1 00
July	3 F. H. Prince	1,548	240	42	23 4	14 [illegible]	15 6			45,000	1,260						737		8,522				238						36,478				1,022				737	1,759	14		Prescott	0 02	2 10
	[illegible] A. McVittie	1,553	240	42	23 4	14 8	15 3	[illegible]	1,500								199	10,7[illegible]				323						39,212				1,117					499	1,676	14			0 02	3 1[illegible]
	[illegible] Gov. Smith	1,547	240	42	23 4	14 10	15 3	[illegible]	1,650								417	12,9[illegible]				387						42,082				1,263					417	1,680	14			0 02	[illegible] 40
	11 W. J. Averill	1,425	265	36 7	25 5	15	15 3			65,000	1,821								9,155				257						55,84[illegible]				1,564					1,564	14	"	Ogdensburg	0 02	2 30
	12 H. B. James	1,553	240	42	23 4	14 2	15 1			40,000	1,121					400	306		5,586				157						34,41[illegible]				964			400	306	1,670	14			0 02	1 30
	18 W. A. Haskell	1,441	265	37	25 6	15 2	15 4	47,000	1,411	15,000	421						23	6,14[illegible]	1,626			185	130					40,860	10,374			1,226	[illegible]				23	1,510	14			0 02	2 [illegible]
	1[illegible] J. R. Langdon	1,550	240	42	23 4	14 10	15 2			65,000	1,821						201		12,604				353						52,39[illegible]				1,468				201	1,669	13 10			0 02	1[illegible]
	[illegible] F. H. Prince	1,548	240	42	23 4	14 3	15 4			55,000	1,541						404		7,678				215						47,[illegible]				1,326				404	1,730	14			0 02	2 00
	24 A. McVittie	1,553	240	42	23 4	15 1	15 4			60,000	1,681						397		12,579				353						47,[illegible]				1,328				397	1,725	14			0 02	3 10
	2[illegible] Gov. Smith	1,547	240	42	23 4	15 1	15 7			45,000	1,261			15,000	421		394		6,204		7,065		174		198				38,[illegible]		7,935		1,087		223		394	1,704	14			0 02	3 [illegible]
	2[illegible] W. J. Averill	1,425	265	36 7	25 5	14 9	15 1			30,000	841			25,000	700		221		8,204				230						21,[illegible]		25,000		611		700		221	1,532	14			0 02	2 00
Aug.	6 W. A. Haskell	1,441	265	37	25 6	15 5	14 10			46,804	1,311						151		9,988				280						36,[illegible]				1,031				451	1,182	14			0 02	3 20
	[illegible] J. R. Langdon	1,550	240	42	23 4	14	15 8			60,000	1,681						255		9,087				255						50,[illegible]				1,426				255	1,681	13 5			0 02	2 50
	12 A. McVittie	1,553	240	42	23 4	14 6	15 6			60,000	1,681						327		10,483				294						49,[illegible]				1,387				327	1,714	13 11			0 02	[illegible] 10
	1[illegible] F. H. Prince	1,548	240	42	23 4	14 11	15 6			70,000	1,961						116		11,951				335						58,[illegible]				1,626				116	1,742	13 10			0 02	4 00
	16 Gov. Smith	1,547	240	42	23 4	14 10	15 9			65,000	1,821						299		13,709				386						51,[illegible]				1,435				299	1,734	14			0 02	4 10
	2[illegible] W. A. Haskell	1,441	265	37	25 6	15 2	15 3			40,000	1,121						761		10,502				297						29,[illegible]				824				761	1,585	14			0 02	2 [illegible]
	27 J. R. Langdon	1,550	240	42	23 4	14 6	15 2			55,000	1,541						479		10,919				306						44,[illegible]				1,235				479	1,714	13 8			0 02	3 20
	2[illegible] A. McVittie	1,553	240	42	23 4	15 2	15 8			69,403	1,944						143		14,355				402						55,[illegible]				1,542				143	1,685	13 11			0 02	4 50
Sept.	2 F. H. Prince	1,548	240	42	23 4	14 9	15 2			45,000	1,261	Fl'xseed 8,000	Fl'xseed 200				505		10,592				297						34,[illegible]	Fl'xseed 8,000			961	Fl'xseed 200			505	1,669	14			0 02	2 20
	7 W. J. Averill	1,425	265	36 7	25 5	15 3	15 2			45,000	1,261						551		11,538				321						33,[illegible]				937				551	1,488	13 11			0 02	2 5[illegible]
	9 H. B. James	1,553	240	42	23 4	15	15 7			65,000	1,821						188		13,347				374						51,[illegible]				1,447				188	1,635	14			0 02	[illegible] 00
	1[illegible] W. A. Haskell	1,441	265	37	25 6	15	15 6			50,000	1,401						458		10,523				295						39,[illegible]				1,106				458	1,564	14			0 02	2 35
	19 A. McVittie	1,553	240	42	23 4	14 9	15 2	25,000	751	29,650	832						425	4,80[illegible]	6,360			145	179					20,196	23,[illegible]			606	653				425	1,684	13 9			0 02	3 20
	21 F. H. Prince	1,548	240	42	23 4	14	15 6			50,000	1,401						529		7,347				206						42,[illegible]				1,195				529	1,724	13 11			0 02	2 00
	28 W. J. Averill	1,425	265	36 7	25 5	15 7	15			30,000	841						957		8,934				252						21,[illegible]				589				957	1,546	13 11			0 02	2 10
Oct.	[illegible] W. A. Haskell	1,441	265	37	25 6	14 6	15 1			50,000	1,401						392		8,711				241						41,[illegible]				1,157				392	1,549	13 9			0 02	[illegible] 5
	[illegible] J. R. Langdon	1,550	240	42	23 4	14 3	14 8			50,000	1,401						520		8,477				238						41,[illegible]				1,163				520	1,683	13 6			0 02	2 35
	22 H. B. James	1,553	240	42	23 4	15 2	14 9			50,006	1,400						548		10,760				302						39,[illegible]				1,060				548	1,647	13 10			0 02	2 50
	22 Walter Vail	642	200	35	13 3	15 3	15 6			57,500	1,611								12,072				339						45,[illegible]				1,272					1,272	13 7	"	Prescott	0 02	3 00
	25 J. R. Langdon	1,550	240	42	23 4	14 4	15 2			40,000	1,121						889		11,114				312						28,[illegible]				809				889	1,698	13 9	"	Ogdensburg	0 02	1 [illegible]5
	27 A. McVittie	1,553	240	42	23 4	14 7	15 2	30,018	901	13,834	388						713	10,396				312						19,622	13,[illegible]			589	388				713	1,690	13 8			0 02	3 05
	29 F. H. Prince	1,548	240	42	23 4	14	15			40,000	1,121						744		5,930				167						34,0[illegible]				954				744	1,698	13 11			0 02	1 15
Nov.	2 Gov. Smith	1,547	240	42	23 4	14 10	15 5			55,000	1,541						506		19,363				543						35,6[illegible]				998				506	1,504	13 3			0 02	6 15
	8 Samson	837	205	34 5	17 7	15 01	15 6			52,000	1,457								11,142				312						40,[illegible]				1,145					1,145	13 9		Prescott	0 02	2 55
	8 W. J. Averill	1,425	265	36 7	25 5	15	15 1	35,000	1,051								775	9,989				300						25,011				751					775	1,526	13 10		Ogdensburg	0 02	3 30
	9 H. B. James	1,553	240	42	23 4	14 9	15 1			49,184	1,378						598		11,168				313						38,0[illegible]				1,065				598	1,663	13 11			0 02	3 00
	[illegible] J. R. Langdon	1,550	240	42	23 4	14 4	15 2			[illegible]	1,401						595		12,984				364						37,0[illegible]				1,037				595	1,632	13 5			0 02	3 30
Nov.	12 W. A. Haskell	1,441	265	37	25 6	14 7	14 10			55,000	1,541						187		9,454				265						[illegible]				1,276				187	1,463	13 8	"	"	0 02	2 10
"	16 A. McVittie	1,553	240	42	23 4	14 7	15 2			50,000	1,401						606		15,283				428						34,717				973				606	1,579	13 4			0 02	4 30
"	19 F. H. Prince	1,548	240	42	23 4	14 2	15 5	25,000	751	28,500	799						430	2,673	5,754			81	162					22,327	22,7[illegible]			670	637				430	1,737	13 11			0 02	2 20
"	21 Gov. Smith	1,547	240	42	23 4	14 8	15 4			50,000	1,401						601		15,200				426						34,800				975				601	1,576	13 7			0 02	4 15
	24 Samson	837	205	34 5	17 7	15 1	14 9			50,143	1,405								8,630				242						41,513				1,163					1,163	13 9		Prescott	0 02	2 00
"	26 W. J. Averill	1,425	265	36 7	25 5	14 6	14 10			50,000	1,401						319		9,417				261						40,58[illegible]				1,137				319	1,456	13 8		Ogdensburg	0 02	2 20
Dec.	1 J. R. Langdon	1,550	240	42	23 4	14 6	15 3			52,410	1,469						540		12,295				345						40,115				1,124				540	1,664	13 7			0 02	3 30
"	3 H. B. James	1,553	240	42	23 4	14 6	14 9			50,000	1,401						473		8,764				246						41,236				1,155				473	1,628	13 9			0 02	4 25
"	3 Elfin Mere	796	190	34	21	16	16 3			54,000	1,513								14,845				416						39,155				1,097					1,097	13 9	Toledo	Oswego	0 02	3 05
"	4 Monteagle	1,035	237	35	10 8	15 1	15 3			58,000	1,625								10,456				293						47,544				1,332					1,332	13 10	Chicago		0 02	2 55
"	6 A. McVittie	1,553	240	42	23 4	14 6	14 11			62,000	1,737						197		13,831				388						48,169				1,349				197	1,546	13 5	"		0 02	3 05
"	9 F. R. Prince	1,548	240	42	23 4	13 11	14 9			65,646	1,839								10,761				302						54,885				1,537					1,537	13 2			0 02	2 45
"	9 Gov. Smith	1,547	240	42	23 4	14 6	15 2			70,000	1,960								13,658				382						56,342				1,578					1,578	13 6			00 2	4 10
								267,018	8,015	2,973,174	83,296	8,000	200	40,000	1,121	400	21,254	57,708	625,911	...	7,065	1,733	17,541	...	198	...	...	209,310	2,347,263	8,000	32,935	6,282	65,155	200	923	400	21,254	94,814					
UNITED STATES VESSELS SAIL.																																											
May	18 Lizzie A. Law	710	196	33 9	13 9	14 10	14 8	......	......	53,000	1,484					...			4,059	......	......	...	113						48,941				1,371					1,371	14	Duluth	Kingston	0 02	1 10
Oct.	22 Baltic	870	202	34 7	16 6	15 3	14 9	......	......	68,775	1,926					...			8,173	......	......	...	229						60,602				1,697					1,697	13 9	Chicago	"	0 02	12 40
								......	......	121,775	3,410					...			12,232	......	......	......	342						109,543				3,068					3,068					

RECAPITULATION.

	Number	Original Cargo: Wheat (Bush.)	Wheat (Tons)	Corn (Bush.)	Corn (Tons)	Barley (Bush.)	Barley (Tons)	Rye (Bush.)	Rye (Tons)	Oats (Tons)	Rolling Freight (Tons)	Lighterage: Wheat (Bush.)	Corn (Bush.)	Barley (Bush.)	Rye (Bush.)	Lighterage in Tons: Wheat	Corn	Barley	Rye	Oats	Rolling Freight	Through Canal: Wheat (Bush.)	Corn (Bush.)	Barley (Bush.)	Rye (Bush.)	Wheat (Tons)	Corn (Tons)	Barley (Tons)	Rye (Tons)	Oats (Tons)	Rolling Freight (Tons)	Total Cargo through Canal
Canadian Vessels Steam	18	1,358,760	40,772	......	......	......	......	......	......	......	......	270,396	......	......	......	8,071	......	......	......	......	......	1,088,364	......	......	......	32,701	......	......	......	......	......	32,701
" Sail	5	353,299	10,602	......	......	......	......	......	......	......	......	62,058	......	......	......	1,864	......	......	......	......	......	294,241	......	......	......	8,738	......	......	......	......	......	8,738
Total Canadian	23	1,712,059	51,374	......	......	......	......	......	......	......	......	232,454	......	......	......	9,935	......	......	......	......	......	1,379,605	......	......	......	41,439	......	......	......	......	......	41,439
United States Vessels Steam	61	267,018	8,015	2,973,174	83,296	Fl'xseed 8,000	Fl'xseed 200	40,000	1,121	400	21,254	57,708	625,911	......	7,065	1,733	17,541	......	198	......	......	209,310	2,347,263	Fl'xseed 8,000	32,935	6,282	65,755	Fl'xseed 200	923	400	21,254	94,814
" Sail	2	......	......	121,775	3,410	......	......	......	......	......	......	......	12,232	......	......	......	342	......	......	......	......	......	109,543	......	......	......	3,068	......	......	......	......	3,068
Total United States	63	267,018	8,015	3,094,949	86,706	8,000	200	40,000	1,121	400	21,254	57,708	638,143	......	7,065	1,733	17,883	......	198	......	......	209,310	2,456,806	8,000	32,935	6,282	68,823	200	923	400	21,254	97,882
Total, Canadian and United States	86	1,979,079	59,389	3,094,949	86,706	8,000	200	40,000	1,121	400	21,254	390,162	638,143	......	7,065	11,668	17,883	......	198	......	......	1,588,915	2,456,806	8,000	32,935	47,721	68,823	200	923	400	21,254	139,321

K.—STATEMENT showing the Quantity of Freight passed Eastward, from Lake Erie, through the whole length of the Welland and St. Lawrence Canals, to Montreal, during the Seasons of Navigation in 1887, 1888, 1889, 1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898 and 1899.

Articles.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Class 3.													
Cement and water lime										12			
Clay, lime and seed											38	52	15
Iron, pig					371			195	79	5			
do all other		418						1	1,766	2,020	7,564	6,217	5,063
Steel									394	542	375	1,351	3,000
Stone for cutting										200			
Apples	33					54		50	28	1,263			
Barley							600	258	959	240		3,960	596
Corn	24,609	66,413	195,356	139,798	52,539	53,689	278,564	60,661	70,235	182,330	267,583	310,498	150,999
Flaxseed											3,293	5,687	
Flour	6,140	3,865	6,841	3,065	3,324	2,874	5,514	16,503	30,916	11,964	1,029	653	4,229
Meal, all kinds	87	100	148	222	67	16		4	65				
Oats			320	479			9,761	175	1,654	12,373	6,847	3,975	10,250
Pease	362				390	524				3,020	2,078	260	
Rye			1,284	1,120	64,978	9,119	3,669			8,323	8,435	15,488	923
Salt											216	141	183
Seeds, all kinds		12	3	2	2	75				20			200
Tobacco, raw					1						51		
Wheat	160,663	93,915	70,815	75,515	159,785	194,281	209,212	212,557	158,643	255,198	278,498	184,154	169,978
All other agricultural products, vegetable	17		798	3	2			29		29		56	32
Hides, skins, horns and hoofs						20							
Horses	1	2	2	3	2	2	1	1	1	1	1	4	1
Lard and lard oil		54			100								
Pork	418	265	1,220	221	201			717		1			
All other agricultural products, animal	29	39	32	117		103							
Total, Class 3	191,759	165,113	276,813	220,545	281,762	260,757	507,321	201,151	264,740	477,541	576,008	532,499	345,469
Class 4.													
Agricultural Implements													3
Ashes	113	85	107	70	40	17	23	19	34	94	133	73	55
Crockery										5			

K.—STATEMENT showing the Quantity of Freight passed Eastward, from Lake Erie, through the whole length of the Welland and St. Lawrence Canals, to Montreal, &c.—*Concluded.*

Articles.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Class 4—Con.													
Furniture	9	2	.....	1	2	1	.....	2	.....	.....	1	.....	.....
Glass, all kinds	.....	3	.....	1	1	.....	.....	.....	.....	9	53	75	16
Molasses	.....	.....	.....	.....	.....	.....	.....	.....	100	167	9	56	159
Nails	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Oil	14	.....	4	6	.....	.....	.....	.....	6	23	112	1,141	7,143
Paint	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....
Pitch and tar	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rags	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	.....	.....	.....
Sugar	15	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....
Stone, wrought	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tobacco	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	96
Turpentine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Whisky, beer, and other spirits	.....	3	20	26	165	6	1	.....	101	.....	46	4	74
Merchandise, not enumerated	72	105	193	112	278	36	4	330	558	376	1,226	866	518
Total, Class 4	236	198	321	246	426	60	28	351	801	679	1,580	2,215	8,065
Class 5.													
Barrels, empty	88	40	.....	.....	.....	1	.....	.....	1	.....	.....	.....	1
Hoops	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	257	.....	.....
Sawed lumber	7,001	5,175	6,118	3,579	3,908	1,678	667	683	1,117	657	478	3,065	924
Staves, pipe and barrel	184	139	.....	.....	.....	8	.....	.....	.....	.....	4,716	.....	.....
" West India and pipe	131	1,623	270	.....	.....	200	.....	.....	.....	.....	.....	.....	.....
Timber, square, in vessels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" in rafts	14,390	11,586	9,302	.....	5,680	400	.....	.....	.....	1,200	1,207	329	26
Woollenware	45	25	.....	1	.....	.....	.....	6	.....	.....	.....	.....	.....
Total, Class 5	21,839	18,588	15,690	3,580	9,588	2,327	667	689	1,118	1,857	6,658	3,394	951
Special Class.													
Coal	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Grand total	213,834	183,899	292,827	224,371	291,776	263,144	508,016	292,191	266,659	480,077	584,246	538,108	354,485

L.—STATEMENT showing the Quantity of Freight passed Westward from Montreal, through the whole length of the St. Lawrence and Welland Canal to Lake Erie, during the Seasons of Navigation in 1887, 1888, 1889, 1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898 and 1899.

Articles.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Class 3.													
Bricks	3	187	84	252	469			1	24	15	70	70	24
Cement and water lime	1,740	1,177	823	62	2,380	1,570	3,169	2,281	1,859	1,686	837	996	997
Clay, lime and sand	134	95	3	8	206	240		253			4	144	8
Fish	95	1	80	26	7	426	465	512		11	10	9	10
Gypsum													4
Iron, railway	153	9,148	15,513	20,003	2,855	1,171	6,576	20		1,687			
" pig	368	573	250	20	112	74	25		56	28	6		
" all other	1,997	297	290	584	595	387	543	114	1,831	727	559	699	1,318
Salt	4,197	3,599	4,216	7,440	4,391	2,034	995	843	932	822	25	35	
Steel	423	3	3	1		269	426	248	528			19	18
Stone for cutting				12		145				4	62		
Flour				48			3						
Hay									124				
Meals		31						15					
Oats													
Potatoes	4												
Seeds, all kinds		24	215	100				33	25	99	121	56	121
Agricultural products not enumerated, vegetables		35	19		52			5	26		4		
Hides and skins									26				
Horses			2							1		1	
Lard and rapeseed oil	3			72		16			1			2	
Pork				33									
Wool	4			13	2	13							
All other articles not enumerated	4	77		1	2			10					
Total, class 3	9,125	15,247	21,498	28,675	11,071	6,345	12,202	4,335	5,432	5,080	1,698	2,031	2,500
Class 4.													
Ashes, pot and pearl				10	31	88					1		
Crockery and earthenware	164	336	112	11	251	8	98	107	12	83	4	33	3
Dye woods, &c.	4												
Furniture	1	1			1	3					2		

L.—STATEMENT showing the Quantity of Freight passed Westward from Montreal, through the whole length of the St. Lawrence and Welland Canals to Lake Erie, &c.—*Concluded.*

Articles.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons	Tons
Class 4 Con.													
Glass, all kinds	53	77	71	23	30	152	365	175	394	612	799	150	299
Manilla	5	1						11					
Molasses	1	7	56			32	43	42	20	1			
Nails	147	578	736	453	560	276	472	500	1,149	109	129	229	518
Oil, in barrels	28	22	9	11	64	2	41	8	31	33	12	15	21
Paint	80	59	49	24	61	15	70	8	75	49	20	35	2
Pitch and tar	1			13	22	15	26	152	67	69	20	37	6
Rags													14
Resin				1									15
Soda, ash	1,116	1,196	766	554	377	352	68	94	84	74	219	88	108
Stone, wrought							14			17	25	31	
Sugar	207	98	7	551	412	1,320	2,218	2,724	1,430	1,873	311	566	1,596
Tin	2,225	198	480	40	23	27	31	327	396	395	359	257	159
Turpentine	1	1	1	2									
White lead	4	2	4	19	3	6	35	2	7	10	5		1
Whiting	7		33	34	50	71	31	1	113	56	104	93	89
Whisky, beer, &c	287	228	124	350	291	220	26	53	77	51	93	98	178
Merchandise not enumerated	619	1,259	1,422	1,180	810	538	799	900	1,268	1,247	711	793	482
Total, class 4	4,950	4,063	3,870	3,276	2,989	3,125	4,343	5,104	5,123	4,970	2,841	2,405	3,491
Class 5.													
Barrels, empty			2										
Lumber, sawn, in vessels													
Woodenware													
Total, class 5			2										
Special Class.													
Coal													
Grand total	14,075	19,310	25,370	31,951	14,060	9,470	16,545	9,439	10,555	10,050	4,542	4,436	5,991

M.—STATEMENT showing the Quantity of Freight passed Eastward through the Welland Canal, from United States Ports to United States Ports, during the Season of Navigation from 1887 to 1899, inclusive.

Articles.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Class 3.													
Bricks				4							845		
Cement and water lime		4										300	
Fish	2				1		5	5					
Iron, railway									181		965	770	
" all other			520	1	10	1	102		214			324	1,408
Salt					494								549
Steel		3				1				198		2,951	13,522
Stone for cutting													
Apples													
Barley	1,709	2		6,519	8,113	6,433	16,751	28,095	7,904	11,128	14,173	6,909	2,424
Corn	83,431	102,974	147,045	180,842	127,494	131,222	198,777	105,329	100,512	175,094	169,057	150,667	81,777
Flour	11,780	8,563	5,017	9,204	6,802	11,018	6,588	17,795	10,169	16,224	7,237	4,212	6,118
Hay, pressed											301		
Meal, all kinds	10,726	11,598	17,224	20,482	26,096	31,724	36,352	60,390	46,316	46,456	41,644	22,626	18,198
Oil cake								29					
Oats	12,050	26,510	27,492	27,030	52,823	36,935	23,870	27,621	16,442	16,137	14,969	12,729	19,526
Pease												45	
Potatoes			1	1									
Rye		179					864			490		1,197	923
Flax seed													200
Seeds, all kinds	44	48	151	135	256	50	16		14	78	299	44	11
Wheat	37,678	39,999	39,229	31,527	32,097	26,950	28,187	53,846	27,881	34,878	28,919	11,268	12,926
Agricultural products, vegetables	2			14	42								
Hides and skins, &c	170	39							8	41	23		
Horses	2		1	1	3		2	4		3	3	2	
Lard and lard oil, &c	14	19	32	30	10		1		6	1,348	1,444	3,671	864
Meats, other than pork	18	14	3	15	2	29			30				
Pork	108	19	21	88	73	1	52	56	87	390	243	1,271	343
Sheep													
Tallow												359	201
Wool	86	18	452		1,237	70	80	1,484	1,536	900	197	89	130
Total, class 3	157,820	189,989	237,188	275,893	255,553	244,434	311,647	294,654	211,300	303,665	280,319	219,434	158,720
Class 4.													
Agricultural implements	9												
Crockery and earthenware		1	1										
Furniture	24	30	30	21	7		6		2			2	7

M.—STATEMENT showing the Quantity of Freight passed Eastward through the Welland Canal, from United States Ports to United States Ports, during the Season of Navigation from 1887 to 1899, inclusive—*Concluded.*

Articles.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Class 4 Con.													
Glass, all kinds					1								
Molasses													8
Nails								57					11
Oil, in barrels	8				1				30	1,005	198	119	367
Paint				3		44						3	21
Rags													1
Soda, ash													
Stone, wrought			2										
Sugar									59	165	31		
White lead				1									
Whisky, beer and all other spirits	63	151	190	228	167	46	83		15			34	168
Merchandise	469	1,453	1,679	1,822	1,865	1,331	1,693	2,976	7,656	3,990	3,591	3,828	6,219
Total, Class 4	573	1,635	1,902	2,075	2,041	1,421	1,782	3,033	7,762	5,160	3,820	3,986	6,783
Class 5.													
Empty barrels							9			10			
Firewood in vessels										165			
Lumber, sawn, in vessels	29,845	28,333	55,074	38,030	45,504	54,173	68,985	62,905	41,974	75,515	68,280	52,844	57,695
Masts and spars, in vessels											403		
Hoops													
Railway ties, in vessels									446				
Shingles		6	51				13						
Staves, barrel		82											
Timber, square, in vessels									500		1,040		
Woodenware, &c	26	141	333	8	4	54				12	1		
Total, Class 5	29,871	28,562	55,458	38,038	45,508	54,227	69,007	62,905	42,920	75,702	69,724	52,844	57,695
Special Class.													
Coal	1,163	878	1,124	615	1,382	651	2,123	727	603	1,255		759	2,293
Stone, not suitable for cutting			1,681	18									
Kryolite				1,620	1,773								
Total, Special Class	1,163	878	2,805	2,253	3,155	651	2,123	727	603	1,255		759	2,293
Grand total	189,427	221,064	297,353	318,259	306,257	300,733	384,559	361,319	262,585	385,782	353,863	277,023	225,491

N.—STATEMENT showing the number of Vessels which took their Cargoes of Wheat through the Welland Canal from ports west of Port Colborne, the quantity transhipped at Kingston and Prescott, and the quantity of each Cargo through the St. Lawrence Canals to Montreal, during the Season of Navigation in 1899.

Names of Vessels.	Original quantity through the Welland Canal.	Quantity transhipped at Kingston and Prescott.	Cargo through the St. Lawrence Canals to Montreal.
	Tons.	Tons.	Tons.
Canadian Steamer Arabian	1,230	706	524
" " "	1,232	714	518
" " "	1,230	733	497
" " "	1,215	688	527
" " Myles	1,200	751	449
" " Sir S. L. Tilley	1,200	811	389
Total	7,307	4,403	2,904

No of cargoes of wheat	6	
Quantity through Welland Canal to Kingston and Prescott	7,307	tons.
" transhipped at Kingston and Prescott	4,403	"
" taken to Montreal in vessels in which it arrived at Kingston and Prescott	2,904	"

N.—STATEMENT showing the number of Vessels which took their Cargoes of Corn through the Welland Canal from ports west of Port Colborne, the quantity transhipped at Kingston and Prescott, and the quantity of each cargo through the St. Lawrence Canals to Montreal, during the Season of Navigation in 1899.

Name of Vessels.	Original quantity through the Welland Canal.	Quantity transhipped at Kingston and Prescott.	Cargo through the St. Lawrence Canals to Montreal
	Tons.	Tons.	Tons.
Canadian Steamer Arabian	1,164	643	521
" " "	1,204	680	524
" " Lake Michigan	420	231	189
" " "	252		252
" " "	350	109	241
" " Myles	1,190	798	392
" Schooner Melbourne	336		336
Total	4,916	2,461	2,455

No. of cargoes of corn	7	
Quantity through Welland Canal to Kingston and Prescott	4,916	tons.
" transhipped at Kingston and Prescott	2,461	"
" taken to Montreal in vessels in which it arrived at Kingston and Prescott	2,455	"

RECAPITULATION of the number of Vessels passed down the Welland Canal with cargoes of grain for Montreal, the quantity transhipped at Kingston and Prescott, and the quantity taken to Montreal, for the season of 1899.

	Number of Cargoes.	Total Number.
Wheat	6	
Corn	7	
Total		13
	Tons.	Tons.
Quantity of Wheat, through the Welland Canal, bound for Montreal	7,307	
Quantity of Corn " " " "	4,916	
Total through Welland Canal		12,223
Quantity of the above transhipped at Kingston and Prescott:—		
Wheat	4,403	
Corn	2,461	
Total transhipped		6,864
Quantity of the above cargoes taken to Montreal in vessels in which it arrived at Kingston and Prescott:—		
Wheat	2,904	
Corn	2,455	
Total quantity to Montreal		5,359
Grand total		12,223

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O—STATEMENT showing the quantity of Grain passed Down the Welland Canal to Kingston, Prescott, Ogdensburg and other ports, in Canadian and United States vessels, entering the Canal at Port Colborne, during the season of navigation in 1899.

	CANADIAN VESSELS.				UNITED STATES VESSELS.				TOTAL.	
	Steam.		Sail.		Steam.		Sail.		Steam & Sail.	
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
	94	68,571	68	50,769	146	179,738	21	12,156	329	311,234
	Tons.		Tons.		Tons.		Tons.		Tons.	
Barley					2,424					2,424
Corn		28,015		18,905		138,834		18,250		204,004
Oats		1,557				21,646				23,203
Pease										
Rye						923				923
Wheat		91,901		80,928		16,250		7,244		196,323
Total		121,473		99,833		180,077		25,494		426,877

94 Cargoes in Canadian vessels, steam, total quantity ..... 121,473 tons.
68 " " " sail, " ..... 99,833 "
146 " United States vessels, steam, total quantity ..... 180,077 "
21 " " " sail, " ..... 25,494 "

P.—STATEMENT of the Quantity of Grain arrived at Kingston, Prescott and Ogdensburg which passed Down the Welland Canal during the season of navigation in 1899.

Summary.	Tons.	Tons.
Canadian steam vessels—94 cargoes of grain	121,473	
" sail " 68 "	99,833	
Total in Canadian vessels		221,306
United States steam vessels—146 cargoes of grain	180,077	
" sail " 21 "	25,494	
Total in United States vessels		205,571
Total in Canadian and United States vessels		426,877
Distributed as follows:—		
13 cargoes arrived at Kingston and Prescott in Canadian vessels, with an aggregate quantity of	12,223	
Transhipped at Kingston and Prescott	6,864	
Quantity taken to Montreal in vessels in which it arrived at Kingston and Prescott		5,359
Vessels arrived at Kingston and Prescott and discharged all their cargoes as follows:—		
149 cargoes in Canadian vessels 209,083		
167 " United States vessels 205,571		
Quantity discharged	414,654	
Quantity transhipped to Montreal	306,633	
Total quantity transhipped from Kingston, Prescott and Ogdensburg to Montreal		*313,497
" " " " Cardinal		3,107
" remaining at Kingston, Prescott and Ogdensburg		104,914
Total		426,877

*Of this quantity 49,564 tons were transhipped from Ogdensburg to Montreal.

Q.—COMPARATIVE STATEMENT of the Quantity of Grain passed Down the Welland Canal to Kingston, Prescott and Ogdensburg, for the seasons of navigation in 1898 and 1899.

	1898.		1899.	
	No. of Cargoes.	Tons.	No. of Cargoes.	Tons.
Quantity arrived at Kingston and Prescott in Canadian vessels	166	224,021	162	221,306
Quantity arrived at Kingston, Prescott and Ogdensburg in United States vessels	339	464,852	167	205,571
	505	688,873	329	426,877
Quantity transhipped at Kingston, Prescott and Ogdensburg in Canadian vessels for Montreal		496,638		313,497
Quantity taken to Montreal in vessels in which it arrived at Kingston and Prescott		16,344		5,359
Quantity remaining at Kingston, Prescott, Ogdensburg and Cardinal		*175,891		108,021
Total		688,873		426,877

*Of this quantity 13,610 tons were transhipped to Montreal in 1899.
2 vessels took their cargoes through to Montreal intact in 1899 against 7 in 1898.
11 " discharged part of their cargo in 1899 against 25 in 1898.
316 " " all their cargoes in 1899 " 473 "

R.—STATEMENT showing the Number of Vessels, their Tonnage, Number of Passengers, and Tons of Freight passed down the Rapids of the St. Lawrence Canals, during the season of navigation in 1899.

Destination.	Number of Sections.	Number of Vessels.	Tonnage of Vessels.	Number of passengers.	Class Three.	Class Four.	Class Five.	Tolls.
			Tons.		Tons.	Tons.	Tons.	
Prescott to Montreal	4	120	66,981	13,118	119	1,335	.....	2,099 54
" Lachine	3	29	14,969	1,455	1,329	429	.....	407 51
Dickinson's Landing to Montreal	3	7	4,837	643	.....	36	....	80 88
Valleyfield to Lachine	1	150	25,081	4,431	1,198	361	30	223 41
Lachine to Montreal	1	305	62,224	20,874	737	499	.....	617 01
Total	..	611	175,092	40,521[2]	3,383	2,660	30	3,428 35

S.—The quantity of Coal passed through the Welland Canal during a series of years from 1885 to 1899, inclusive, and the amount of Tolls collected thereon, is as follows:—

Year.	From Canadian Ports to Canadian Ports.	From Canadian Ports to Canadian Ports.	From United States Ports to United States Ports.		From United States Ports to Canadian Ports.		Total Tons.	Amount of Tolls Paid — Rate 20 cents a ton.
	Up.	Down.	Up.	Down.	Up.	Down.		
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.		$ c.
1885			193,442	4,974	10,321	31,350	240,087	48,017 40
1886			184,564	5,400	22,187	49,724	261,875	52,375 00
1887			81,617	1,163	26,775	25,968	135,523	27,104 60
1888			172,381	878	17,365	27,183	217,807	43,561 40
1889			226,352	1,124	12,036	25,931	265,443	53,188 60
1890	80		116,616	615	17,280	22,781	202,372	38,222 30
1891			185,190	1,382	17,374	20,698	224,644	44,928 20
1892			183,244	651	12,391	15,330	211,616	42,284 13
1893			204,704	2,123	8,325	17,944	233,096	46,619 20
1894			187,794	727	1,269	13,947	203,737	40,789 93
1895	4		148,887	603	1,565	7,807	158,866	31,773 05
1896	20	210	206,093	1,255	4,127	11,740	223,445	44,668 20
1897		4	165,143		1,277	9,799	176,223	35,244 60
1898			156,055	759	986	4,536	162,336	32,467 20
1899			86,638	2,293	525	8,276	97,732	19,546 40

NOTE.—Tolls on soft coal passed down the Welland Canal, during the season of 1890, were reduced from 20 to 10 cents a ton, per O.C. 11th May, 1890, for the season of 1890 only, the rate for 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898 and 1899 being 20 cents a ton for passage either eastward or westward.

T.—STATEMENT showing the quantity of Coal passed through the whole length of the St. Lawrence Canals during the seasons of 1885 to 1899, inclusive.

Year.	Quantity passed up Free of Tolls.	Quantity passed down to Montreal.	Total Quantity passed up and down.	Amount of tolls on Quantity passed down to Montreal.
	Tons.	Tons.	Tons.	$ c.
1885	5,035	122,829	127,864	18,424 35
1886	3,301	118,802	122,103	17,820 70
1887	7,579	121,618	129,197	18,242 70
1888	8,341	123,050	131,391	18,423 90
1889	5,360	124,290	129,650	18,604 90
1890	6,538	135,168	141,706	20,275 20
1891	7,951	141,701	149,652	21,255 15
1892	7,543	157,134	164,677	23,570 10
1893	2,285	147,139	149,424	22,070 85
1894	16,213	169,552	185,765	25,432 80
1895		165,151	165,151	24,772 65
1896	689	161,551	162,240	24,232 65
1897	40	164,963	165,003	24,722 37
1898	400	175,609	176,009	26,341 05
1899	448	201,546	201,994	30,231 80

NOTE—Coal is allowed to pass free up the St. Lawrence Canals.

SESSIONAL PAPER No. 20

U.—Comparative Statement of the Quantity of Through Freight passed Down the Welland Canal, showing the Quantity to Montreal, the Quantity to Canadian Ports between Port Dalhousie and Cornwall, and the Quantity to United States Ports, Oswego, Ogdensburg, &c., on the south side of Lake Ontario, for the years 1888 to 1899, inclusive.

Articles.	Quantity passed down to Montreal.	Quantity passed down to Canadian Ports between Port Dalhousie and Cornwall.	Quantity passed down to United States Ports.
1888.	Tons.	Tons.	Tons.
Ashes, pot and pearl	85		
Apples		45	
Barley			2
Cement and water lime			4
Coal		27,183	878
Corn	66,443	25,469	102,974
Crockery and earthenware		4	1
Flour	3,865		8,563
Furniture	2	*1	30
Glass, all kinds	3	2	
Hay, pressed		20	
Horses	2		
Hides and skins			39
Iron, pig		549	
" all other	418	490	
Lard and lard oil	54	12	18
Meal, all kinds	100		11,598
Meats, other than pork	39	6	14
Oats			26,510
Oil		3	
Pease		54	
Pork	265	61	19
Rags			14
Rye		632	179
Stone, for cutting		6,535	
" wrought		126	
Seeds, all kinds	12	1	48
Steel			3
Sugar		2	4
Spirits	3	2	151
Tallow			1
Wheat	93,915	14,365	39,999
Wool			18
All other goods and merchandise not enumerated	105	34	1,435
Barrels, empty	40		133
Lumber, sawn	5,174	4,515	45,818
Staves and headings, barrel	15	7	
" " pipe	124		
" " West Indies	1,623	13	
" " salt barrel	1	1	
Shingles			6
Timber, square, in vessels	11,586	33,669	
Woodenware	25		8
Total	183,899	113,801	238,467

A refund of 18 cents per ton was allowed on wheat, corn, pease, barley and rye passed down Montreal, per O. C. 20th April, 1888.

U.—Comparative Statement of the Quantity of Through Freight passed Down the Welland Canal, &c.—*Continued.*

Articles.	Quantity passed down to Montreal.	Quantity passed down to Canadian Ports between Port Dalhousie and Cornwall.	Quantity passed down to United States Ports.
1889.	Tons.	Tons.	Tons.
Ashes, pot and pearl	107	5	
Coal		25,911	1,124
Corn	195,350	11,200	147,045
Crockery and earthenware		1	1
Fish		5	
Flour	6,841		5,017
Furniture		4	30
Horses	2		1
Iron, pig		613	
" all other			520
Lard and lard oil		5	19
Meal, all kinds	148		17,224
Meats, other than pork	32	2	3
Molasses			88
Oats	320		27,492
Oil, in barrels	4	2	
Oil cake	798		
Potatoes			1
Pork	1,220	114	21
Rye	1,284	634	
Salt		316	
Stone, for cutting		6,754	
" wrought		11	2
" not suitable for cutting		375	1,681
Seeds, all kinds	3		151
Spirits, beer, &c	20	8	190
Tallow			13
Wheat	70,815	7,241	39,229
Wool			452
Merchandise	193	129	1,591
Barrels, empty			173
Lumber, sawn	6,118	4,669	71,055
Masts, spars, &c		220	
Railway ties		852	
Saw logs			158
Staves and headings, barrel		4	
" " pipe	202	304	
" " West India	68	559	
Shingles			51
Split posts, &c		17	
Timber, square	9,302	70,579	240
Woodenware, &c			2
Total	292,827	130,584	313,574

A refund of 18 cents per ton was allowed on wheat, corn, pease, barley and rye, passed down to Montreal, per Order in Council 18th March, 1839.

U.—Comparative Statement of the Quantity of Through Freight passed Down the Welland Canal, &c.—*Continued.*

Articles.	Quantity passed down to Montreal.	Quantity passed down to Canadian Ports between Port Dalhousie and Cornwall.	Quantity passed down to United States Ports.
1890.	Tons.	Tons.	Tons.
Ashes	70		
All other products, animal	14		
" vegetable	1		
Barley			6,519
Bricks			4
Coal		22,781	615
Corn	134,966	11,584	180,842
Fish	49		
Flour	3,065		9,204
Furniture	1	1	21
Glass, all kinds	1		
Horses	3		1
Iron, all other			1
Kryolite		1,280	1,620
Lard and lard oil		5	30
Meat	222		20,482
Meats			15
Oats	479	73	27,030
Oil, in barrels	6		
Oil cake	2		
Paint			3
Pease			14
Pork	221	19	88
Potatoes			1
Rye	1,120	1	
Salt		701	
Stone, for cutting		5,761	
" wrought		639	18
Seeds, all kinds	2		135
Spirits, &c	26		228
Tallow	54		
Wheat	75,515	5,241	31,527
White lead			1
Merchandise	142	32	1,822
Barrels, empty			7
Firewood, in vessels		1,398	
Lumber, sawn, in vessels	3,195	3,767	47,590
" " rafts	384		
Staves and headings, pipe		187	
" " West Indies		36	
Shingles			14
Square timber, in vessels		73,112	
" rafts		17,683	
Woodenware	1		1
	219,539	144,301	327,833
Corn 16,033			
Oats 400			
	16,433		*16,433
Total	235,972	144,301	311,400

* This quantity of grain was transhipped at Ogdensburg and passed down the St. Lawrence canals to Montreal.

A refund of 18 cents Welland Canal tolls was allowed on wheat, Indian corn, pease, barley, rye (and oats for export), when shipped for Montreal or some port east of that point, per Orders in Council 26th February and 5th May, 1890.

U.—Comparative Statement of the Quantity of Through Freight passed Down the Welland Canal, &c.—*Continued.*

Articles.		Quantity passed down to Montreal.	Quantity passed down to Canadian ports between Port Dalhousie and Cornwall.	Quantity passed down to United States ports.
1891.		Tons.	Tons.	Tons.
Ashes		40		
Agricultural products		2		42
Barley				8,113
Corn		52,539	5,144	127,494
Coal			20,698	1,382
Flour		3,324		6,802
Fish				1
Furniture		2	2	7
Glass		1		1
Horses		2	2	3
Hay			21	
Iron, pig		371	128	
" all other			1,036	10
Lard and lard oil		100	16	10
Meal, all kinds		67		26,096
Meats, other than pork			1	2
Molasses			20	18
Oats				52,823
Oil				1
Pease		390		
Pork		201		73
Rags				60
Rye		64,978	969	
Seeds, all kinds		2		256
Salt			1,861	494
Stone for cutting			6,602	
" wrought			7	
Tobacco		1		
Tallow			9	8
Wheat		159,785	692	32,097
Staves, pipe			8	
Whisky and all other liquors		105	57	167
Wool				1,237
Merchandise		278	6	1,779
Kryolite			1,098	1,773
Lumber, in vessels		2,991	1,300	56,456
" in rafts		917		
Timber, square, in rafts		5,680	14,638	
Barrels				4
		291,776	54,315	317,209
Corn	12,169			
Wheat	5,648			
		17,817		*17,817
Total		309,593	54,315	299,392

*This quantity of grain was transhipped at Ogdensburg and passed down the St. Lawrence Canals to Montreal.

A refund of 18 cents a ton, Welland Canal tolls, on wheat, Indian corn, pease, barley, rye and (for export) oats, originally shipped for Montreal or some port east of Montreal, per Order in Council, 25th March, 1891.

U.—Comparative Statement of the Quantity of Through Freight passed down the Welland Canal, &c.—*Continued.*

Articles.	Quantity passed down to Montreal.	Quantity passed down to Canadian ports between Port Dalhousie and Cornwall.	Quantity passed down to United States ports.
1892.	Tons.	Tons.	Tons.
Ashes, pot and pearl	17	2	
Apples	54		
Barley			6,433
Corn	53,689	7,637	131,222
Coal		14,839	651
Flour	2,874		11,018
Fish	9		
Furniture	1		7
Hides	20		
Horses	2		
Iron, railway		100	
" all other		765	1
Meal, all kinds	16		31,724
Meats, other than pork	94		20
Oats			36,935
Oil		7	
Pease	524		
Potatoes			1
Pork			44
Rye	9,119	273	
Salt		865	
Seeds, all kinds	75		50
Steel			1
Stone for cutting		1,264	
Sugar			20
Wheat	194,281	5,373	26,950
Whisky, beer, spirits, &c	6	15	46
Wool			70
Merchandise not enumerated	36	13	1,304
Barrels, empty	1		29
Lumber, sawn, in vessels	1,678	150	83,403
Square timber	440	42,768	440
Staves and headings, pipe	8	80	
" " West India	200	76	
Shingles			25
Total	263,144	74,227	330,403
*Wheat	+4,341	−4,341	
Total	267,485	69,886	330,403

*This quantity of wheat was taken from Kingston to Ogdensburg and stored in elevators, and subsequently transhipped to Montreal.

A refund of 18 cents a ton, Welland Canal tolls, was allowed on wheat, Indian corn, pease, barley, rye, oats, flaxseed and buckwheat which passed down the whole length of the Welland and St. Lawrence Canals, to Montreal, or any port east of Montreal, and such products exported out of the country, and in such cases only.

U.—Comparative Statement of the Quantity of Through Freight passed down the Welland Canals, &c.—*Continued.*

Articles.	Quantity passed down to Montreal.	Quantity passed down to Canadian Ports between Port Dalhousie and Cornwall.	Quantity passed down to United States Ports.
1893.	Tons.	Tons.	Tons.
Ashes, pot and pearl	23		
Barley	600	1,110	16,751
Brick		1,251	
Corn	278,564	5,752	156,776
Coal		17,944	2,123
Flour	5,514		6,588
Fish			5
Furniture			6
Horses	1	1	2
Iron, pig			100
" all other			2
Meal, all kinds		1,025	36,352
Meats, other than pork			1
Oats	9,761	1,090	20,313
Pork			52
Rye	3,669	1	1
Salt		286	
Seeds, all kinds			16
Wheat	209,212	17,602	29,117
Whisky, beer, &c	1		83
Wool			80
Merchandise not enumerated	4	2	1,693
Barrels empty			9
Firewood (in rafts)		15	
Lumber, sawn, in vessels	667	1,981	123,665
Shingles			13
Square timber		45,605	
Staves and headings, barrel		12	
" pipe		7	
" West India		53	
Total	508,016	93,737	393,748

There was no rebate allowed of the Welland Canal toll on grain passed down to Montreal during the season of navigation in 1893.

The tolls were, however, reduced by Order in Council of 13th February, 1893, as follows:—"For the season of 1893, the canal toll for the passage of the following food products: wheat, Indian corn, pease, barley, rye, oats, flaxseed and buckwheat, for passage eastward through the Welland Canal be ten cents per ton; and for passage eastward through the St. Lawrence Canals only, ten cents per ton, payment of the said toll of ten cents a ton for passage through the Welland Canal to entitle these products to free passage through the St. Lawrence Canals."

U.—COMPARATIVE STATEMENT of the Quantity of Through Freight passed down the Welland Canal, &c.—*Continued.*

Articles.	Quantity passed down to Montreal.	Quantity passed down to Canadian Ports between Port Dalhousie and Cornwall.	Quantity passed down to United States Ports.
1894.	Tons.	Tons.	Tons.
Apples	50		
Ashes	19		
Barley	258		28,095
Bricks		552	
Coal		13,818	727
Corn	60,661	3,243	105,329
Dye woods and dye stuffs		4	2
Fish			5
Flour	16,503	41	16,880
Furniture	2	3	
Horses	1	2	4
Iron, pig	195	2,170	
" all other	1	183	
Meals	4		60,390
Nails			57
Oats	175	107	27,621
Oil cake	29		
" in barrels		27	
Pork	717		56
Salt		133	
Spirits, beer, &c		3	
Sugar			52
Wheat	212,557	13,349	42,934
White lead	16		
Wool			1,484
Merchandise not enumerated	314		2,889
Barrels, empty		16	
Sawn lumber, in vessels	683		86,545
Square timber "		47,030	
Woodenware	6		
Total	292,191	80,681	373,070

There was no rebate allowed of the Welland Canal toll on grain passed down to Montreal during the season of navigation in 1894.

The tolls were, however, reduced by Order in Council of 16th April, 1894, as follows:—For the season of 1894, the canal tolls for the passage of the following food products: wheat, Indian corn, pease, barley, rye, oats, flaxseed and buckwheat, for passage eastward through the Welland Canal be ten cents per ton; and for passage eastward through the St. Lawrence Canals only, ten cents per ton, payment of the said toll of ten cents a ton for passage through the Welland Canal to entitle these products to free passage through the St. Lawrence Canals.

U.—Comparative Statement of the Quantity of Through Freight passed down the Welland Canal, &c.—*Continued.*

Articles.	Quantity passed down to Montreal.	Quantity passed down to Canadian Ports between Port Dalhousie and Cornwall.	Quantity passed down to United States Ports.
1895.	Tons.	Tons.	Tons.
Apples	28		
Ashes	34	15	
Barley	959		7,730
Bricks		651	
Coal		7,809	603
Corn	70,235	2,912	91,743
Flour	30,916	1,824	10,265
Furniture		12	2
Glass		1	
Horses	1	1	
Hides, skins, &c			8
Iron, railway			181
" pig	79	1,994	
" all other	1,766	1,408	214
Lard and lard oil			6
Meal, all kinds	65		46,316
Meats other than pork			30
Molasses	100		
Oats	1,654	123	16,442
Oil, in barrels	6	41	30
Pork			87
Paint	2		
Salt		36	
Stone for cutting		430	
Seeds, all kinds			14
Steel	394		462
Sugar			59
Spirits, beer, &c	101	84	15
Tobacco		16	
Wheat	*158,643	29,061	17,908
Wool			1,536
Merchandise not enumerated	558	1,302	7,656
Barrels, empty	1		
Sawn lumber in vessels	1,117	492	43,286
Railway ties "			1,942
Shingles		19	
Square timber in vessels		63,715	500
Total	266,659	111,946	247,035

* Of this amount 3,469 tons came down to Kingston in 1894—was stored there and taken to Montreal in 1895 and 245 tons came down to Ogdensburg in 1894, stored there and transhipped to Montreal in 1895.

U.—Comparative Statement of the Quantity of Through Freight passed Down the Welland Canal, &c.—*Continued.*

Articles.	Quantity passed down to Montreal.	Quantity passed down to Canadian Ports between Fort Dalhousie and Cornwall.	Quantity passed down to United States Ports.
1896.	Tons.	Tons.	Tons.
All other (vegetable)	29		
Apples	†1,263		
Ashes	94		
Barley	240		11,128
Cement and water lime	12		
Coal		11,742	1,255
Corn	182,330	19,688	118,426
Crockery	5		
Fish		2	
Flour	11,964	13,846	16,224
Furniture		3	
Glass	9	3	
Hay pressed		563	
Hides, skins, &c			41
Horses	1	1	3
Iron, railway		1,192	
" pig	5	1,559	
" all other	2,020	1,725	
Lard and lard oil			1,348
Meal, all kinds		500	46,456
Molasses	167		
Oats	12,373	1,454	14,351
Oil, in barrels	23		1,005
Pease	3,020	10	
Pork	1		300
Rags	4		
Rye	8,323	647	
Salt		80	
Seeds, all kinds	20		78
Steel	542	11,317	498
Sugar	1		165
Tobacco		1	
Wheat	*254,763	51,587	16,467
Wool		8	900
Merchandise, not enumerated	376	54	3,990
Barrels, empty			10
Firewood in vessels			165
Sawn lumber "	657	1,286	78,397
Shingles		94	40
Square timber in vessels		55,588	
" rafts	1,200		
Woodenware			12
Total	479,442	172,950	311,349

†523 tons of this quantity of apples paid full tolls by sections on the Welland Canal, and consequently does not appear on the Welland Through Statement.

*Of this amount 5,290 tons came down to Kingston in 1895, was stored there, and transhipped to Montreal in 1896.

U.—Comparative Statement of the Quantities of Through Freight passed Down the Welland Canal—*Continued.*

Articles.	Quantity passed down to Montreal.	Quantity passed down to Canadian Ports, between Port Dalhousie and Cornwall.	Quantity passed down to United States Ports.
1897.	Tons.	Tons.	Tons.
Agricultural products, vegetable			32
Ashes	133		
Barley			14,173
Bricks		739	845
Clay, lime and sand	38	430	
Coal		9,803	
Corn	*264,396	11,103	115,689
Flax seed	3,293	169	
Flour	1,029	211	7,237
Furniture	1	5	
Glass	53	9	
Hay, pressed			301
Horses	1	1	3
Hides and skins, &c			23
Iron, railway		6,241	965
" pig		2,828	
" all other	7,564	6,143	
Lard and lard oil			1,444
Meal, all kinds		699	41,644
Molasses	9		
Oats	*6,847	3,046	15,233
Oil, in barrels	112	51	198
Pease	*2,078	3	
Pork			243
Rye	8,135	48	
Salt	216		
Stone for cutting		330	
Seeds, all kinds			299
Steel	375	4,680	
Sugar			31
Spirits, beer, &c	46		
Tobacco	51		
Wheat	*278,498	†39,057	12,661
Wool			197
Merchandise not enumerated	1,214	347	3,591
Firewood, in vessels		12	
Hoops	257	8	
Lumber, sawn, in vessels	478	1,158	69,710
Masts " "		5	403
" " rafts			
Railway ties, in vessels		999	
Split posts "		4	
Timber, square "	1,207	84,117	1,040
Staves and headings salt barrel	4,716		
Woodenware			1
Total	581,047	169,246	285,963

*Of this quantity of corn 573 tons came down to Ogdensburg and Prescott in 1896, were stored there and transhipped to Montreal in 1897.

*Of this quantity of oats, 50 tons came down to Prescott in 1896 and passed down to Montreal in 1897, and 170 tons passed through on St. Catharines Reports; 136 tons of which passed down to Montreal.

*Of this quantity of pease 230 tons were transhipped and passed through on St. Catharines Reports.

†Of this quantity of wheat 624 tons were transhipped and passed through on St. Catharines Reports, and 7,072 tons came down to Kingston and Prescott in 1896, and passed down to Montreal in 1897.

†Of this quantity, 1,079 tons were transhipped and passed through on St. Catharines Reports.

U.—Comparative Statement of the Quantity of Through Freight passed Down the Welland Canal, &c.—*Concluded.*

Articles.	Quantity passed down to Montreal.	Quantity passed down to Canadian Ports between Port Dalhousie and Cornwall.	Quantity passed down to United States Ports.
1898.	Tons.	Tons.	Tons.
Agricultural products, vegetable	56		
Ashes	73		
Barley	3,960	1,417	6,909
Cement and water lime			360
Clay, lime and sand	52	1	
Coal		4,536	759
Corn	*310,498	13,338	116,317
Flax seed	5,687	9	
Flour	653		4,212
Furniture			2
Glass	75		
Horses	4		
Iron, railway		674	770
" pig		4,187	
" all other	6,217	257	324
" ore		13,433	
Lard and lard oil			3,671
Meal, all kinds			22,626
Molasses	56		
Oats	3,975	625	12,729
Oil, in barrels	1,141	15	119
Paint			3
Pease	260		45
Pork			1,271
Rye	*16,133	39	
Salt	144	644	
Seeds, all kinds			44
Spirits, beer, &c	4		34
Steel	1,351	3,122	2,951
Stone for cutting		554	
Tallow			330
Wheat	*184,706	15,860	8,612
Wool			89
Merchandise, not enumerated	866	25	3,828
Firewood, in vessels		747	
Lumber, sawn, in vessels	3,065	2,840	72,897
Railway ties		190	
Shingles		11	
Square timber	329	48,369	
Total	539,305	110,893	258,871

* Of this quantity of corn 2,340 tons came down to Ogdensburg and Prescott in 1897, were stored there and transhipped to Montreal in 1898.

* Of this quantity of rye 45 tons came down to Prescott in 1897, were stored there and transhipped to Montreal in 1898.

* Of this quantity of wheat 4,165 tons came down to Kingston in 1897, were stored there and transhipped to Montreal in 1898.

U.—Comparative Statement of the Quantity of the Through Freight passed down the Welland Canal, &c.—*Concluded.*

Articles.	Quantity passed down to Montreal.	Quantity passed down to Canadian Ports between Port Dalhousie and Cornwall.	Quantity passed down to United States Ports.
1899.	Tons.	Tons.	Tons.
Agricultural Products, vegetable	32		
Ashes	58		
Barley	596		1,828
Clay, lime and sand	15		
Coal		8,276	2,293
Corn	*150,989	16,594	43,854
Flax Seed	200		
Flour	4,229	1,889	4,404
Furniture		2	7
Glass	16		
Horses	1		
Iron, all other	5,063		294
" Ore		26,125	
Lard and lard oil		3	864
Meal, all kinds			18,198
Molasses	159		8
Nails	1	1	11
Oats	*10,250	1	13,139
Oil in barrels	7,143	2	254
Paint			2
Pork			343
Rags			1
Rye	923		
Salt	183	479	549
Seeds, all kinds			11
Spirits, beer, &c	74	71	168
Steel	3,000	1,562	11,802
Stone for cutting		429	
Tallow			201
Tobacco	96		
Wheat	*169,978	23,602	9,190
Wool			130
Merchandise, not enumerated	518	126	6,219
Barrels, empty	1		
Firewood in Vessels		27	
Hop Poles		100	
Lumber sawn in vessels	924	4,583	57,695
Mast and spars "		3	
Railway ties "		74	1,273
Shingles		50	
Square timber in vessels	26	24,959	
Total	354,485	108,958	172,738

* Of this quadtity of corn, 7,443 tons came down to Ogdensburg and Prescott in 1898, were stored there and transhipped to Montreal in 1899.

* Of this quantity of oats, 187 tons passed down on Dunville pass to Montreal.

* Of this quantity of wheat, 6,447 tons passed down to Kingston in 1898, were stored there, and transhipped to Montreal in 1899.

U.—STATEMENT showing the quantity of Through Freight passed down the Welland Canal to Canadian Ports, &c.—*Continued.*

RECAPITULATION.

Articles.	Quantity passed down to Montreal.	Quantity passed down to Canadian Ports between Port Dalhousie and Cornwall.	Quantity passed down to United States Ports on the south side of Lake Ontario.
1888.	Tons.	Tons.	Tons.
Barley			2
Corn	66,443	25,469	102,974
*Oats			26,510
Peas		54	
Rye		632	179
Wheat	93,915	14,365	39,999
Total grain	160,358	+40,520	169,664
Other articles	23,541	73,281	68,803
Total	183,899	113,801	238,467
1889.			
Barley			
Corn	196,350	11,280	147,045
*Oats	320		27,492
Peas			
Rye	1,284	634	
Wheat	70,815	7,241	39,229
Total grain	267,769	19,075	213,766
Other articles	25,158	111,509	99,808
Total	292,927	130,584	313,574
1890.			
Barley			6,519
Corn	150,999	11,584	180,842
Oats	879	73	27,030
Peas			14
Rye	1,120	1	
Wheat	75,515	5,241	31,527
Total grain	228,513	16,899	‡245,932
Other articles	7,459	127,502	81,901
Total	235,972	144,301	327,833
1891			
Barley			8,113
Corn	52,539	5,144	127,494
Oats			52,823
Peas	390		
Rye	64,978	969	
Wheat	159,785	692	32,097
Total grain	277,692	6,805	220,527
Transhipped at Ogdensburg to Montreal	+17,817		−17,817
Total	295,509		202,710
Other articles	14,084	47,510	96,682
Total	309,593	54,315	299,392

*There was no rebate on oats for 1888 or 1889.

†Owing to a break in the Cornwall Canal 14,921 tons of the above quantity of grain were transhipped to Montreal *via* Canadian Pacific and Grand Trunk Railways, and the refund of 18 cents per ton allowed.

‡Of this quantity of grain 16,433 tons were transhipped at Ogdensburg to Montreal.

U.—STATEMENT showing the quantity of Through Freight passed down the Welland Canal to Canadian Ports, &c.—*Continued.*

RECAPITULATION—*Continued.*

Articles.	Quantity passed down to Montreal.	Quantity passed down to Canadian Ports between Port Dalhousie and Cornwall.	Quantity passed down to United States Ports on the south side of Lake Ontrrio.
1892.	Tons.	Tons.	Tons.
Barley			6,433
Corn	53,689	7,637	131,222
Oats			36,935
Peas	524		
Rye	9,119	273	
Wheat	194,281	5,373	26,950
Total grain	257,613	13,283	201,540
Quantity taken to Ogdensburg and transhipped to Montreal	* 4,341	4,341	
Total	261,954	8,942	201,540
Other articles	5,531	60,944	128,863
Total	267,485	69,886	330,403
1893.			
Barley	600	1,110	16,751
Corn	278,764	5,752	156,776
Oats	9,761	1,090	20,313
Pease			
Rye	3,669	1	1
Wheat	209,212	17,602	29,117
Total grain	501,806	25,555	222,958
Other articles	6,210	68,182	170,790
Total	508,016	93,737	393,748
1894.			
Barley	258		28,695
Corn	60,661	3,243	105,329
Oats	175	107	27,621
Pease			
Rye			
Wheat	212,557	13,349	42,934
Total grain	273,651	16,699	203,979
Other articles	18,540	63,982	169,091
Total	292,191	80,681	373,070
1895.			
Barley	959		7,730
Corn	70,265	2,912	91,743
Oats	1,654	123	16,442
Rye			
Wheat	†158,643	29,061	17,908
Total grain	231,491	32,096	133,823
Other articles	35,168	79,850	113,212
Total	266,659	111,946	247,035

*This quantity of wheat was taken from Kingston to Ogdensburg, stored in elevators and subsequently transhipped to Montreal.

†Of this amount, 3,469 tons came down to Kingston in 1894, was stored there, and taken to Montreal in 1895, and 245 tons came down to Ogdensburg in 1894, was stored there and transhiped to Montreal in 1895.

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U.—STATEMENT showing the quantity of Through Freight passed down the Welland Canal to Canadian Ports, &c.—*Concluded.*

RECAPITULATION—*Concluded.*

Articles.	Quantity passed down to Montreal.	Quantity passed down to Canadian Ports between Ports Dalhousie and Cornwall.	Quantity passed down to United States Ports on the south side of Lake Ontario.
1896.	Tons.	Ton.	Tons.
Barley	240	.....	11,128
Corn	182,330	19,688	118,426
Oats	12,373	1,454	14,351
Pease	3,020	10	.....
Rye	8,323	647	.....
Wheat	254,763	51,587	16,467
Total grain	†461,049	73,386	160,372
Other articles	18,393	99,564	150,977
Total	479,442	172,950	311,349
1897.			
Barley	.....	.....	14,173
Corn	264,396	11,103	115,689
Oats	6,847	3,046	15,234
Pease	2,078	3	.....
Rye	8,435	48	.....
Wheat	278,498	39,057	12,661
Total grain	‡560,254	53,257	157,756
Other articles	20,793	115,989	128,207
Total	581,047	169,246	285,963
1898.			
Barley	3,960	1,417	6,909
Corn	310,498	13,338	116,317
Oats	3,975	625	12,729
Pease	260	.....	45
Rye	16,133	39	.....
Wheat	184,706	15,860	8,612
Total grain	**519,532	31,279	144,612
Other articles	19,773	79,614	114,259
Total	539,305	110,893	258,871
1899.			
Barley	596	.....	1,828
Corn	150,999	16,594	43,854
Oats	10,250	1	13,139
Pease	.....	.....	.....
Rye	923	.....	.....
Wheat	169,978	23,602	9,190
Total grain	***332,746	40,197	68,011
Other articles	21,739	68,761	104,727
Total	354,485	108,958	172,732

†Of this amount, 5,290 tons came down to Kingston in 1895, was stored there, and transhipped to Montreal in 1896.
‡Of this quantity, 7,695 tons came down in 1896 and were transhiped to Montreal in 1897.
** Of this quantity, 6,550 tons came down in 1897 and were transhipped to Montreal in 1898.
***Of this quantity, 14,077 tons came down in 1898 and were transhipped to Montreal in 1899.

COMPARATIVE STATEMENT showing the quantity of Vegetable Food and Lumber passed through the Canals during the Years ended December 31, 1898 and 1899.

	VEGETABLE FOOD.									
	Flour.	Wheat.	Corn.	Barley.	Oats.	Rye.	Buck-wheat.	All other	Lumber.	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Welland Canal, 1898	5,578	207,647	437,861	12,286	17,502	16,127	.....	23,182	80,574	800,757
" 1899	11,625	197,732	204,004	2,907	24,037	923	4	18,460	67,850	527,542
Increase	6,047	.....	.....	.....	6,535	.....	4	.....	.....	.....
Decrease	.....	9,915	233,857	9,379	.....	15,204	.....	4,722	12,724	273,215
St. Lawrence Canals, 1898	26,094	274,335	501,836	6,496	53,048	25,976	3,051	25,036	21,744	937,616
" 1899	27,833	299,567	350,110	25,230	43,068	6,522	1,296	17,020	26,860	797,506
Increase	1,739	25,232	.....	18,734	.....	.....	.....	.....	5,116	.....
Decrease	.....	.....	151,726	.....	9,980	19,454	1,755	8,016	.....	140,110
Chambly Canal, 1898	460	1	.....	.....	3,894	.....	.....	1,292	26,606	32,253
" 1899	409	.....	.....	30	4,342	.....	.....	274	56,833	61,888
Increase	.....	.....	.....	30	448	.....	.....	.....	30,227	29,635
Decrease	51	1	.....	.....	.....	.....	.....	1,018	.....	.....
Ottawa Canals, 1898	41	225	.....	40	2,158	10	59	602	142,382	145,517
" 1899	125	.....	.....	.....	1,441	10	40	508	406,378	408,502
Increase	84	.....	.....	.....	.....	.....	.....	.....	.....	.....
Decrease	.....	225	.....	40	717	.....	19	94	36,004	37,015
Rideau Canal, 1898	335	264	93	4	1,393	8	110	204	21,556	23,967
" 1899	788	213	110	.....	823	7	33	336	28,534	30,844

Increase	453		17					132	6,978	6,877
Decrease		51		4	570	1	77			
St. Peter's Canal, 1898	2,177				894			1,888	4,955	9,914
" 1899	2,460		21	7	2,010			3,190	9,208	16,896
Increase	283		21	7	1,116			1,302	4,253	6,982
Decrease										
Trent Valley Canals, 1898		417			3			2	1,662	2,084
" 1899		437		13	16			26	2,697	3,189
Increase		20		13	13			24	1,035	1,105
Decrease										
Murray Canal, 1898	29	320	12	644	162	215	154	1,370	429	3,335
" 1899	7	1,115	56	762	8	392	79	667	311	3,397
Increase		795	44	118		177				62
Decrease	22				154		75	703	118	
Sault Ste Marie Canal, 1898	94,099	292,398	21,524	6,305	13,869	15,814		15,290	22,701	482,000
do 1899	119,888	382,789	20,812	2,040	3,196	3,528		16,014	13,271	561,568
Increase	25,789	90,391						724		79,568
Decrease			682	4,265	10,673	12,286			9,430	
Total increase	34,322	106,246		5,211				12,371	10,667	326,11
Total decrease			386,183		13,982	46,768	1,922			

Total for year 1898 2,737,443
" 1899 2,411,332

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 1, 1900.

RICHARD DEVLIN,
Compiler of Canal Statistics.

CANAL

COMPARATIVE STATEMENT for years

	January.	February.	March.	April.	May.
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Welland Canal, 1898			0 47	14,721 18	30,259 38
" 1899			2 31	3,731 14	24,339 23
Increase			1 84		
Decrease				10,990 04	5,920 15
St. Lawrence Canals, 1898		75 00		2,857 12	14,427 08
" 1899				712 35	15,762 82
Increase					1,335 74
Decrease		75 00		2,144 77	
Chambly Canal, 1898				30 84	3,125 07
" 1899				9 25	3,932 67
Increase					807 60
Decrease				21 59	
Ottawa Canals, 1898				35 13	5,888 45
" 1899				37 22	6,264 76
Increase				2 09	376 31
Decrease					
Rideau Canal, 1898				20 16	567 63
" 1899				45 00	1,118 65
Increase				24 84	551 02
Decrease					
St. Peter's Canal, 1898	3 32		5 98	92 78	311 29
" 1899	12 30			35 59	271 86
Increase	8 98				
Decrease			5 98	57 19	39 43
Trent Valley Canals, 1898			31 15	66 23	117 30
" 1899				4 33	107 03
Increase					
Decrease			31 15	61 90	10 27
Murray Canal, 1898				38 40	77 39
" 1899				13 06	58 56
Increase					
Decrease				25 34	18 83
Sault Ste. Marie Canal, 1898					
" 1899					
Increase					
Decrease					
Total, increase	8 98				
Total, decrease		75 00	35 29	13,273 90	2,918 01

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, Oct. 1, 1900.

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REVENUE.

ended 31st December, 1898 and 1899.

June.	July.	August.	September.	October.	November.	December.	Total.
$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
22,435 01	20,870 53	24,287 40	19,676 04	20,769 33	12,676 47	3,019 60	168,715 41
20,275 62	15,883 28	14,186 32	12,931 99	12,642 00	11,820 31	2,297 93	118,110 13
.....	.....	.....	.....	.....	.....	.....	.....
2,159 39	4,987 25	10,101 08	6,744 05	8,127 33	856 16	721 67	50,605 28
13,957 50	17,128 92	17,685 67	15,010 03	15,174 10	10,059 43	66 56	107,041 41
15,512 62	16,118 20	15,882 03	11,689 43	12,500 32	12,606 37	146 06	100,030 20
1,555 12	.....	.....	.....	.....	1,946 94	79 50	.....
.....	1,010 72	1,803 64	3,320 60	2,673 78	.....	.....	6,111 21
3,476 53	3,489 03	2,810 83	2,981 09	2,468 06	944 61	.....	19,326 06
3,924 05	4,247 11	4,343 85	2,933 27	4,144 51	2,436 45	8 94	26,000 10
447 52	758 08	1,533 02	.....	1,676 45	1,491 84	8 94	6,674 04
.....	.....	.....	27 82	.....	.....	.....	.....
5,911 00	6,283 53	6,471 90	4,624 60	4,217 60	3,496 11	.....	36,928 62
5,549 08	5,605 08	5,257 66	4,598 24	5,238 43	2,832 93	.....	35,383 40
.....	.....	.....	.....	1,020 83	.....	.....	.....
361 92	678 45	1,214 24	26 36	.....	663 48	.....	1,545 22
782 70	697 14	891 53	668 32	691 61	693 68	.....	4,922 77
736 75	1,104 92	1,124 50	754 58	758 14	400 03	7 41	6,049 98
.....	407 78	232 97	86 26	156 53	.....	7 41	1,127 21
45 95	.....	.....	.....	.....	293 65	.....	.....
352 47	348 71	440 86	457 35	358 66	326 28	186 62	2,884 32
308 92	423 14	516 46	518 30	396 46	380 69	287 61	3,151 33
.....	74 43	75 60	60 95	37 80	54 41	109 99	267 01
43 55	.....	.....	.....	.....	.....	.....	.....
228 67	232 22	214 52	133 16	104 31	49 07	.....	1,176 63
150 63	218 18	241 49	247 37	185 82	157 64	0 25	1,312 74
.....	.....	26 97	114 21	81 51	108 57	0 25	136 11
78 04	14 04	.....	.....	.....	.....	.....	.....
68 61	100 42	148 42	88 67	97 69	64 41	.....	684 01
95 91	142 98	132 40	120 78	89 05	61 25	0 50	714 49
27 30	42 56	.....	32 11	.....	.....	0 50	30 48
.....	.....	16 02	.....	8 64	3 16	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	1,785 31	.....	.....
658 91	5,407 61	11,266 42	9,825 30	7,836 63	.....	524 08	50,026 86

Total for year 1898..... $341,679 23
Total for year 1899..... 291,652 37

RICHARD DEVLIN, *Compiler of Canal Statistics.*

APPENDIX A.

No. (A) 1. GENERAL STATEMENT showing the Quantity of each Article transported on the Welland Canal and the Amount of Revenue collected during the Season of Navigation in 1899.

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Amount of Tolls, Up.	Amount of Tolls, Down.	Total Amount of Tolls.
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.				
												$ cts.	$ cts.	$ cts.
Ashes, pot and pearl		18						40		58	58		11 60	11 60
Apples	2	214			14				16	214	230	2 40	5 35	7 75
Agricultural products not enumerated, vegetables	1			240				32	1	272	273	0 02	30 40	30 42
Agricultural products not enumerated, animal														
Agricultural implements														
Barley			483			2,424			18	2,424	2,907	72 45	242 40	314 85
Bricks	115								115		115	4 99		4 99
Bones														
Buckwheat		4								4	4		0 10	0 10
Cement and water lime	23	19	7						30	19	49	1 68	0 48	2 16
Clay, lime and sand	15	100			20			415	35	515	550	3 29	35 50	38 79
Coal			525		86,638	2,293		8,276	87,163	10,569	97,732	17,432 60	2,113 80	19,546 40
Corn		350				81,777		121,877		204,004	204,004		20,400 40	20,400 40
Cattle														
Cotton (raw)														
Crockery and earthenware	12				7				19		19	2 59		2 59
Dye wood and dye stuffs														
Fish	1				2,232				2,233		2,233	334 82		334 82
Flax and hemp														
Flour		1,103				6,118		4,404		11,625	11,625		2,132 02	2,132 02
Furniture			6		3	7		2	9	9	18	1 35	1 80	3 15
Gypsum														
Glass (all kinds)	33		17		20			16	70	16	86	7 90	3 20	11 10
Hay (pressed)	400								400		400	60 00		60 00
Hogs														
Horses	2	1	5		1			1	8	2	10	0 94	0 23	1 17
Hides and skins, horns and hoofs	1				20				21		21	3 02		3 02

Iron, railway	216				351				567		567	68 85		68 85
" pig														
" all other	214	122	32		636	1,008		4,349	882	5,479	6,361	109 78	1,071 45	1,184 23
Iron ore		269						25,856		26,125	26,125		1,306 25	1,306 25
Kryolite chemical ore and other ore, except iron														
Lard and lard oil	3					864		3	3	867	870	0 45	173 40	173 85
Meal, all kinds	4					18,198			4	18,198	18,202	0 38	3,639 60	3,639 98
Meats, other than pork	9								9		9	0 57		0 57
Marble					211				211		211	31 65		31 65
Manilla	14				115				129		129	19 35		19 35
Molasses	1				81	8		159	82	167	249	12 30	23 40	45 70
Nails	125	1				11		2	125	14	139	7 38	2 63	10 01
Oats	289	338	204		3	19,526		3,677	436	23,511	24,037	71 40	2,358 28	2,432 68
Oil (in barrels	67	6,190			1	254		955	68	7,399	7,467	8 25	1,479 80	1,488 05
Oil cake														
Pease		28								28	28		0 71	0 71
Potatoes														
Pork	14		6			343			20	343	363	3 00	68 60	71 60
Paint	26				12	2			38	2	40	2 32	0 40	2 72
Pitch and tar														
Rags						1				1	1		0 20	0 20
Rye						923				923	923		92 30	92 30
Flax seed						200				200	200		20 00	20 00
Rosin														
Salt	16	66			4	549		649	20	1,262	1,282	1 05	246 78	247 83
Stone intended for cutting								429		429	429		85 80	85 80
" wrought														
" not suitable for cutting, unwrought	302	941			1,862				2,164	941	3,105	196 39	46 88	243 27
Seeds, all kinds						11				11	11		2 20	2 20
Sheep														
Soda ash	30	30							30	30	60	0 57	0 75	1 32
Steel	159				75	13,522		2,842	234	16,364	16,598	14 55	3,272 80	3,287 35
Sugar	54		9		7,626				7,689		7,689	1,149 16		1,149 16
Spirits, beer, &c	191	164	11			168		47	202	379	581	17 34	64 25	81 59
Tobacco, (raw)	7							96	7	96	103	0 14	19 20	19 34
Tallow						201				201	201		40 20	40 20
Tin	1		72						73		73	10 82		10 82
Turpentine														
Wheat		127,397				12,926		57,409		197,732	197,732		19,767 27	19,767 27
White lead	7								7		7	0 14		0 14
Whiting														
Wool						130				130	130		26 00	26 00
All other goods and merchandise not enumerated	1,934	1,582	114		35,085	6,219		922	37,133	8,723	45,856	5,356 84	1,447 74	6,804 58
Bark														
Barrels, empty	42		14		21			1	77	1	78	8 89	0 04	8 93
Boat knees														

No. (A) 1.—GENERAL STATEMENT showing the Quantity of each Article transported on the Welland Canal, &c.—*Concluded.*

Articles.	From Canadian Ports to Canadian Ports.		From Canadian Ports to United States Ports.		From United States Ports to United States Ports.		From United States Ports to Canadian Ports.		Tons.		Total Tons.	Amount of Tolls, Up.	Amount of Tolls, Down.	Total Amount of Tolls.
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.				
												$ cts.	$ cts.	$ cts.
Floats														
Fire wood, in vessels		4,341								4,341	4,341		231 80	231 80
" rafts														
Hoops														
Hop poles								100		100	100		12 00	12 00
Lumber, sawn, in vessels		2,452	3,663	2,366		57,695		1,674	3,663	64,187	67,850	658 82	11,469 74	12,128 56
" rafts														
Masts, spars, and telegraph poles, in vessels														
Masts, spars, and telegraph poles, in rafts	15	4	15						30	4	34	3 50	85	4 35
Railway ties, in vessels	290	74		1,273					290	1,347	1,637	23 17	215 26	238 43
" rafts														
Saw logs	590	1,914	1,064	1,023					1,654	2,937	4,591	29 42	153 99	183 41
Staves and headings, barrel														
" " pipe														
" " West India														
" Salt barrel														
Shingles		50		1					1	50	51	60	35 58	36 18
Split posts and fence rails, in vessels														
Split posts and fence rails, in rafts														
Timber, square, in vessels		500						24,485		24,985	24,985		3,746 21	3,746 21
" " rafts														
Traverses														
Woodenware and wood partly manufactured														
Total freight paying tolls	5,225	148,272	6,248	4,902	135,038	225,378		258,716	146,511	637,268	783,779	25,738 13	76,112 64	101,850 77

Articles having paid full tolls on the St. Lawrence Canals, free:—														
Bricks	4		20						24		24			
Cement and water lime	335		662						997		997			
Clay, lime and sand	6		2						8		8			
Crockery and earthenware	2		1						3		3			
Fish			10						10		10			
Gypsum			4						4		4			
Glass (all kinds)	72		227						299		299			
Iron, all other	62		1,256						1,318		1,318			
Nails	196		322						518		518			
Oils, in barrels			21						21		21			
Paint			2						2		2			
Pitch and tar	1		5						6		6			
Rags			14						14		14			
Rosin			15						15		15			
Seeds, all kinds	6		115						121		121			
Soda ash	3		105						108		108			
Steel			18						18		18			
Sugar	535		1,061						1,596		1,596			
Spirits, beer, &c	16		162						178		178			
Tin			159						159		159			
White lead	1								1		1			
Whiting	24		65						89		89			
All other goods and merchandise not enumerated	69		413						482		482			
Grand total freight	6,557	148,272	10,907	4 902	135,038	225,378		258,716	152,502	637,268	789,770			

Total tolls on vessels		7,676 96	7,728 26	15,405 22
" passengers		379 60	398 34	777 94
" free goods	$898 65			
Total tolls		33,794 69	84,239 24	118,033 93
Fines				30 00
Dommages				
*Harbour dues				52 40
Total revenue, exclusive of hydraulic rents				118,116 33

*Amount of damages, not included in above, $139.46.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 1, 1900.

RICHARD DEVLIN,
Compiler of Canal Statistics.

APPENDIX A—*Continued.*

No. (A) 2.—GENERAL STATEMENT showing the Quantity of each Article of Through Freight transported on the Welland Canal and the Amount of Tolls collected during the Season of Navigation in 1899.

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Amount of Tolls, Up.	Amount of Tolls, Down.	Total Amount of Tolls.
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.				
												$ cts.	$ cts.	$ cts.
Ashes, pot and pearl		18						40		58	58		11 60	11 60
Apples	2				14				16		16	2 40		2 40
Agricultural products not enumerated, vegetable								32		32	32		6 40	6 40
Agricultural products not enumerated, animal														
Agricultural implements														
Barley			483			2,424			483	2,424	2,907	72 45	242 10	314 85
Bricks														
Bones														
Brimstone														
Cement and water lime	1		7						8		8	1 20		1 20
Clay, lime and sand					20			15	20	15	35	3 00	3 00	6 00
Coal			525		86,638	2,293		8,276	87,163	10,569	97,732	17,432 60	2,113 80	19,546 40
Corn		350				81,777		121,877		204,004	204,004		20,400 40	20,400 40
Cattle														
Cotton (raw)														
Crockery and earthenware	10				7				17		17	2 55		2 55
Dye wood and dye stuffs														
Fish					2,232				2,232		2,232	334 80		334 80
Flax and hemp														
Flour						6,118		4,404		10,522	10,522		2,104 40	2,104 40
Furniture			6		3	7		2	9	9	18	1 35	1 80	3 15
Gypsum														
Glass (all kinds)	13		17		20			16	50	16	66	7 50	3 20	10 70
Hay (pressed)	400								400		400	60 00		60 00
Hogs														
Horses			5		1			1	6	1	7	0 90	0 20	1 10
Hides and skins, horns and hoofs					20				20		20	3 00		3 00

Ice														
Iron, railway					351				351		351	52 65		52 65
" pig														
" all other	42		32		636	1,008		4,349	710	5,357	6,067	106 50	1,071 40	1,177 90
Iron ore		269						25,856		26,125	26,125		1,306 25	1,306 25
Kryolite chemical ore and other ore, except iron														
Lard and lard oil	3					864		3	3	867	870	0 45	173 40	173 85
Meal, all kinds						18,198				18,198	18,198		3,639 60	3,639 60
Meats, other than pork	3								3		3	0 45		0 45
Marble					211				211		211	31 65		31 65
Manilla	14				115				129		129	19 35		19 35
Molasses	1				81	8		159	82	167	249	12 30	33 40	45 70
Nails	38					11		2	38	13	51	5 70	2 60	8 30
Oats	289		204		3	19,526		3,677	496	23,203	23,699	74 40	2,320 30	2,394 75
Oil (in barrels)	52	6,190			1	254		955	53	7,399	7,452	7 95	1,479 80	1,487 75
Oil cake														
Pease														
Potatoes														
Pork	14		6			343			20	343	363	3 00	68 60	71 60
Paint					12	2			12	2	14	1 80	0 40	2 20
Pitch and tar														
Rags						1				1	1		0 20	0 20
Rye						923				923	923		92 30	92 30
Flaxseed						200				200	200		20 00	20 00
Resin														
Salt	1	30			4	549		632	5	1,211	1,216	0 75	242 20	242 95
Stone intended for cutting								429		429	429		85 80	85 80
" wrought														
" not suitable for cutting, unwrought					1,862				1,862		1,862	186 25		186 25
Seeds, all kinds						11				11	11		2 20	2 20
Sheep														
Soda ash														
Steel	2				75	13,522		2,842	77	16,364	16,441	11 55	3,272 80	3,284 35
Sugar	22		9		7,626				7,657		7,657	1,148 55		1,148 55
Spirits, beer, &c	92	98	11			168		47	103	313	416	15 45	62 60	78 05
Tobacco (raw)								96		96	96		19 20	19 20
Tallow						201				201	201		40 20	40 20
Tin			72						72		72	10 80		10 80
Turpentine														
Wheat		125,988				12,926		57,409		196,323	196,323		19,632 30	19,632 30
White lead														
Whiting														
Wool						130				130	130		26 00	26 00
All other goods and merchandise not enumerated	292	1	114		35,085	6,219		643	35,491	6,863	42,354	5,323 65	1,372 60	6,696 25
Bark														
Barrels, empty	10		14		21			1	45	1	46	8 26	0 04	8 30
Boat knees														

No. (A) 1.—General Statement showing the Quantity of each Article of through Freight transported on the Welland Canal, &c.—*Concluded.*

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Amount of Tolls, Up.	Amount of Tolls, Down.	Total Amount of Tolls.
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.				
												$ cts.	$ cts.	$ cts.
Floats														
Firewood, in vessels		27								27	27		1 80	1 80
" rafts														
Hoops														
Hop poles								100		100	100		12 00	12 00
Lumber, sawn, in vessels		1,467	3,663	2,366		57,695		1,674	3,663	63,202	66,865	658 82	11,358 96	12,017 78
" rafts														
Masts, spars, and telegraph poles, in vessels														
Masts, spars, and telegraph poles, in rafts		3	15						15	3	18	3 00	0 60	3 60
Railway ties, in vessels		71		1,273						1,347	1,347		215 26	215 26
" rafts														
Saw logs														
Staves and headings, barrel														
" pipe														
" W. India														
Staves, salt barrel														
Shingles		50	1						1	50	51	0 60	35 58	36 18
Split posts and fence rails, in vessels														
Split posts and fence rails, in rafts														
Timber, square, in vessels		500						24,485		24,985	24,985		3,746 21	3,746 21
" rafts														
Traverses														
Woodenware and wood, partly manufactured														
Total freight paying tolls	1,301	135,065	5,184	3,639	135,038	225,378		258,022	141,523	622,104	763,627	25,605 63	75,221 80	100,827 43

Articles having paid full tolls on St. Lawrence Canals, free :—											
Bricks	4		20					24		24	
Cement and water lime	335		662					997		997	
Clay, lime and sand	6		2					8		8	
Crockery and earthenware	2		1					3		3	
Fish			10					10		10	
Gypsum			4					4		4	
Glass (all kinds)	72		227					299		299	
Iron, all other	62		1,256					1,318		1,318	
Nails	196		322					518		518	
Oil (in barrels)			21					21		21	
Paint			2					2		2	
Pitch and tar	1		5					6		6	
Rags			14					14		14	
Rosin			15					15		15	
Seeds, all kinds	6		115					121		121	
Soda ash	3		105					108		108	
Sisal			18					18		18	
Sugar	535		1,061					1,596		1,596	
Spirits, beer, &c	16		162					178		178	
Tin			159					159		159	
White lead	1							1		1	
Whiting	24		65					89		89	
All other goods and merchandise not enumerated	69		413					482		482	
Grand total through freight	2,633	135,065	9,843	3,639	135,038	225,378	258,022	147,514	622,104	769,618	

Total through tolls on vessels	7,352 26	7,405 25	14,757 51
" " passengers	97 30	113 40	210 70
" " free goods $898.65			
	33,055 19	82,740 45	115,795 64

RICHARD DEVLIN,
Compiler of Canal Statistics.

Department of Railways and Canals,
Ottawa, October 1, 1900.

APPENDIX A—*Continued.*

No. (A) 3.—GENERAL STATEMENT showing the Quantity of each Article of Way Freight transported on the Welland Canal, and the Amount of Tolls Collected, during the Season of Navigation in 1899.

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Amount of Tolls, Up.	Amount of Tolls, Down.	Total Amount of Tolls.
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.				
												$ cts.	$ cts.	$ cts.
Ashes, pot and pearl														
Apples		214								214	214		5 35	5 35
Agricultural products not enumerated, vegetable	1			240					1	240	241	0 02	24 00	24 02
Agricultural products not enumerated, animal														
Agricultural implements														
Barley														
Bricks	115								115		115	4 99		4 99
Bones														
Brimstone														
Buckwheat		1								4	4		0 10	0 10
Cement and water lime	22	19							22	19	41	0 48	0 48	0 96
Clay, lime and sand	15	100						400	15	500	515	0 29	32 50	32 79
Coal														
Corn														
Cattle														
Cotton (raw)														
Crockery and earthenware	2								2		2	0 04		0 04
Dye, wood and dye stuffs														
Fish	1								1		1	0 02		0 02
Flax and hemp														
Flour		1,103								1,103	1,103		27 62	27 62
Furniture														
Gypsum														
Glass (all kinds)	20								20		20	0 40		0 40
Hay (pressed)														
Hogs														
Horses	2	1							2	1	3	0 04	0 03	0 07

Hides and skins, horns and hoofs	1								1		1	0 02		0 02
Ice														
Iron, railway	216								216		216	16 20		16 20
" pig														
" all other	172	122							172	132	294	3 28	3 05	6 33
Iron ore														
Kryolite chemical ore and other ore, except iron														
Lard and lard oil														
Meal, all kinds	4								4		4	0 38		0 38
Meats, other than pork	6								6		6	0 12		0 12
Marble														
Manilla														
Molasses														
Nails	87	1							87	1	88	1 68	0 03	1 71
Oats		338								338	338		37 98	37 98
Oil (in barrels)	15								15		15	0 30		0 30
Oil cake														
Pease		28								28	28		0 71	0 71
Potatoes														
Pork														
Paint	26								26		26	0 52		0 52
Pitch and tar														
Rags														
Rye														
Flax seed														
Rosin														
Salt	15	36						15	15	51	66	0 30	4 58	4 88
Stone intended for cutting														
" wrought														
" not suitable for cutting, unwrought	302	941							302	941	1,243	10 14	46 88	57 02
Seeds, all kinds														
Sheep														
Soda Ash	30	30							30	30	60	0 57	0 75	1 32
Steel	157								157		157	3 00		3 00
Sugar	32								32		32	0 61		0 61
Spirits, beer, &c.	99	66							99	66	165	1 89	1 65	3 54
Tobacco (raw)	7								7		7	0 14		0 14
Tallow														
Tin	1								1		1	0 02		0 02
Turpentine														
Wheat		1,409								1,409	1,409		134 97	134 97
White lead	7								7		7	0 14		0 14
Whiting														
Wool														
All other goods and merchandise not enumerated	1,642	1,581						279	1,642	1,860	3,502	33 19	75 14	108 33
Bark														

No. (A) 3.—GENERAL STATEMENT showing the Quantity of each Article of Way Freight transported on the Welland Canal, and the Amount of Tolls Collected, during the Season of Navigation in 1899.—*Continued.*

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Amount of Tolls, Up.	Amount of Tolls, Down.	Total Amount of Tolls.
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.				
												$ cts.	$ cts.	$ cts.
Barrels, empty	32								32		32	0 63		0 63
Boat Knees														
Floats														
Fire wood, in vessels		4,314								4,314	4,314		230 00	230 00
" " rafts														
Hoops														
Hop poles														
Lumber, sawn, in vessels		985								985	985		110 78	110 78
" " rafts														
Masts, spars, and telegraph poles, in vessels														
Masts, spars, and telegraph poles, in rafts	15	1							15	1	16	0 50	0 25	0 75
Railway ties, in vessels	290								290		290	23 17		23 17
" " rafts														
Saw logs	590	1,914	1,064	1,023					1,654	2,937	4,591	29 42	153 99	183 41
Staves and headings, barrel														
" " pipe														
" " W. India														
" salt barrel														
Shingles														
Split posts and fence rails, in vessels														
Split posts and fence rails, in rafts														
Timber, square, in vessels														
" " rafts														
Traverses														

Woodenware and wood, partly manufactured...														
Total freight paying tolls.	3,924	13,207	1,964	1,263				694	4,988	15,164	20,152	132 50	890 84	1,023 34
Total way tolls on vessels												324 70	323 01	647 71
" " passengers												282 30	284 94	567 24
Total way tolls												739 50	1,498 79	2,238 29

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 1, 1900.

RICHARD DEVLIN,
Compiler of Canal Statistics.

APPENDIX A—*Continued.*

No. (A) 4.—GENERAL STATEMENT showing the Quantity of each Article transported on the St. Lawrence Canals, and the Amount of Revenue collected during the Season of Navigation in 1899.

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Amount of Tolls, Up.	Amount of Tolls, Down.	Total Amount of Tolls.
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.				
												$ cts.	$ cts.	$ cts.
Ashes, pot and pearl		14								14	14		2 80	2 80
Apples	23	3,267						1	23	3,268	3,291	2 13	479 71	481 84
Agricultural products not enumerated, vegetable	1,815	530						129	1,815	659	2,474	94 65	92 19	186 84
Agricultural products not enumerated, animal	944	3,576					1,205		2,149	3,576	5,725	99 51	282 73	382 24
Agricultural implements	62	9							62	9	71	7 90	0 90	8 80
Barley	48	24,586							48	24,586	24,634	1 30	1,123 21	1,124 51
Bricks	8,355	59	34				408		8,797	59	8,856	401 46	2 22	403 68
Bones		366						1		367	367		47 37	47 37
Brimstone	608								608		608	64 08		64 08
Buckwheat	95	1,201							95	1,201	1,296	2 40	59 62	62 02
Cement and water lime	3,423	852	825						4,248	852	5,100	541 39	32 68	574 07
Clay, lime and sand	15,721	18,623	3				2,889	235	18,613	18,858	37,471	720 41	750 96	1,471 37
Coal	15	42,052				607	215	178,114	230	220,773	221,003	8 63	31,510 15	31,518 78
Corn	317	193,686						1,721	317	195,407	195,724	8 45	5,153 70	5,162 15
Cattle	15	293							15	293	308	1 26	22 45	23 71
Cotton (raw)	231								231		231	5 83		5 83
Crockery and earthenware	117	10	1						118	10	128	20 65	2 00	22 65
Dye woodand dye stuffs	1						2		3		3	0 29		0 29
Fish	65	11	12						77	11	88	8 98	0 67	9 65
Flax and hemp	3								3		3	0 30		0 30
Flour	781	22,823							781	22,823	23,604	49 56	1,253 68	1,303 24
Furniture	419	1,324							419	1,324	1,743	69 13	187 64	256 77
Gypsum	513	5	4						517	5	522	7 02	0 19	7 21
Glass (all kinds)	861	74	198				2		1,061	74	1,135	207 05	10 90	217 95
Hay (pressed)	654	305							654	305	959	25 97	16 40	42 37
Hogs		31								31	31		2 49	2 49
Horses	229	453							229	453	682	11 74	28 93	40 67

Hides and skins, horns and hoofs	2	41	14						16	41	57	0 20	3 64	3 84
Ice														
Iron, railway	280	27						2	280	29	309	19 31	3 53	22 84
" pig	487	2,247					1,135	95	1,622	2,342	3,964	107 91	297 69	405 63
" all other	7,310	1,328	1,328				1,662	43	10,300	1,371	11,671	901 59	93 93	995 52
Iron ore														
Kryolite chemical ore and other ore, except iron														
Lard and lard oil	137	1,029							137	1,029	1,166	15 31	86 43	101 74
Meal, all kinds	810	1,248							810	1,248	2,058	34 95	64 40	99 35
Meats, other than pork	68	65							68	65	133	6 79	9 31	16 10
Marble														
Manilla	40								40		40	7 80		7 80
Molasses	981	102					28		1,009	102	1,111	79 12	5 10	84 22
Nails	1,073	1,086	343						1,416	1,086	2,502	271 86	60 15	332 01
Oats	1,584	31,234							1,584	31,234	32,818	39 72	1,258 76	1,298 48
Oil (in barrels)	1,827	341	23				58	100	1,908	441	2,349	165 23	75 90	241 13
Oil cake	1	2,539							1	2,539	2,540	0 06	126 95	127 01
Pease	292	11,306							292	11,306	11,598	7 32	861 84	869 16
Potatoes	65	8							65	8	73	4 88	0 59	5 47
Pork	288	1,341							288	1,341	1,629	28 12	69 71	97 83
Paint	330	127	8					21	338	148	486	64 59	16 25	80 84
Pitch and tar	178	226	16				171		365	226	591	42 50	37 10	79 60
Rags	565	481	14						579	181	760	85 17	26 90	112 07
Rye	2	5,402						195	2	5,597	5,599	0 20	445 01	445 21
Flax seed	2	20,442							2	20,442	20,444	0 13	511 15	511 28
Rosin	40	25	15				1,668		1,723	25	1,748	92 15	1 25	93 40
Salt	2,230	33	65						2,295	33	2,328	267 99	1 25	269 21
Stone intended for cutting	184	4,109					158		342	4,109	4,451	13 43	181 91	195 34
" wrought	118	2							118	2	120	6 10	0 10	6 20
" not suitable for cutting, unwrought		4,614								4,614	4,614		146 10	146 10
Seeds all kinds	5,369	1,764	131						5,500	1,764	7,264	253 82	93 21	347 03
Sheep		166								166	166		12 66	12 66
Soda ash	550	6	94				1		645	6	651	125 81	0 30	126 11
Steel	726	297	18						744	297	1,041	103 23	44 55	147 78
Sugar	6,334	963	1,043				1,119		8,496	963	9,459	1,475 45	51 20	1,526 65
Spirits, beer, &c	358	212	154					10	512	222	734	86 68	40 15	126 83
Tobacco (raw)	33								33		33	3 33		3 33
Tallow	41	48							41	48	89	3 30	4 00	7 30
Tin	779	129	124					2	903	131	1,034	178 30	25 30	203 60
Turpentine	2	4					96		98	4	102	5 18	0 20	5 38
Wheat	6	128,901						682	6	129,583	129,589	0 45	1,105 78	1,106 23
White lead	112	72							112	72	184	22 05	3 60	25 65
Whiting	348	2	200						548	2	550	109 01	0 10	109 11
Wool		28								28	28		4 20	4 20
All other goods and merchandise not enumerated	8,230	5,357	504		329	592	963	27	10,026	5,976	16,002	1,442 71	762 20	2,204 91
Bark														

No. (A) 4.—General Statement showing the Quantity of each Article transported on the St. Lawrence Canals, &c.—*Concluded.*

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons	Amount of Tolls, Up.	Amount of Tolls, Down.	Total Amount of Tolls.
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.				
												$ cts.	$ cts.	$ cts.
Barrels, empty	122	464	2						124	464	588	3 75	56 33	60 08
Boat knees														
Floats	170	1,150							170	1,150	1,320	2 98	20 13	23 11
Fire wood, in vessels	4,125	5,954	1,527						5,652	5,954	11,606	170 55	100 20	270 75
" rafts		30								30	30		0 63	0 63
Hoops														
Hop poles														
Lumber, sawn, in vessels	20,190	4,757	391	472	15	34			20,596	5,263	25,859	577 48	135 70	713 18
" " rafts	54	1,734							54	1,734	1,788	2 33	77 90	80 23
Masts, spars and telegraph poles, in vessels														
Masts, spars and telegraph poles, in rafts	90	31,079							90	31,079	31,169	2 25	776 88	779 13
Railway ties, in vessels	63	32	32						95	32	127	1 99	3 13	5 12
" rafts														
Saw logs		509								509	509		10 74	10 74
Staves and headings, barrel														
" " pipe														
" " W. India														
Staves, salt barrel		34								34	34		0 65	0 65
Shingles		49								49	49		8 26	8 26
Split posts and fence rails, in vessels														
Split posts and fence rails, in rafts														
Timber, square, in vessels	186	466							186	466	652	2 48	7 40	9 88
" " rafts	190	7,047							190	7,047	7,237	4 75	177 30	182 05
Traverses		544								544	544		3 40	3 40
Woodenware and wood partly manufactured	33		2						35		35	10 38		10 38
Total freight paying tolls	102,320	595,051	7,125	472	344	1,233	11,780	181,378	121,569	778,134	899,703	9,210 81	51,974 67	61,185 48

Free articles having paid full tolls on the Welland Canal:												
Ashes		30						28	58	58		
Barley								596	596	596		
Barrels, empty								1	1	1		
Corn		130,802						23,584	154,386	154,386		
Flour		1,706						2,523	4,229	4,229		
Glass		7						9	16	16		
Horses								1	1	1		
Iron, all other		2,564						2,499	5,063	5,063		
Merchandise		73						445	518	518		
Molasses		26						133	159	159		
Nails		1							1	1		
Oats		7,667						2,583	10,250	10,250		
Oils		6,861						282	7,143	7,143		
Rye		700						223	923	923		
Salt		30						153	183	183		
Seeds								200	200	200		
Steel		1,850						1,150	3,000	3,000		
Tobacco, raw								96	96	96		
Vegetables, all other		32							32	32		
Wheat		168,119						1,859	169,978	169,978		
Whisky		43						31	74	74		
Coal, free, per Order in Council	66,632						23,177	617	89,809	617	90,426	
Free articles for canal construction, O.C., 1884:												
Clay, lime and sand								15		15	15	
Lumber, sawn, in vessels	50	951							50	951	1,001	
Square timber, "								26		26	26	
Stone, wrought		1,015								1,015	1,015	
Grand total, freight	169,002	917,528	7,125	472	344	1,233	34,957	218,432	211,428	1,137,665	1,349,093	

Total tolls on vessels	12,111 32	9,618 67	21,729 99
" passengers	981 16	2,452 18	3,433 34
" free goods $41,990.13			
Total tolls	22,303 29	64,045 52	86,348 81
Fines			124 00
*Damages			
Wharfage and storage			2,174 00
Other receip's			12,283 39
Total revenue, exclusive of hydraulic rents			100,930 29

*Amount of damages not included in above, $185.47.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 1, 1900.

RICHARD DEVLIN,
Compiler of Canal Statistics.

No. (A) 5.—GENERAL STATEMENT showing the Quantity of each Article of Through Freight transported on the St. Lawrence Canals and the Amount of Tolls collected during the Season of Navigation of 1899.

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Amount of Tolls, Up.	Amount of Tolls, Down.	Total Amount of Tolls.
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.				
												$ cts.	$ cts.	$ cts.
Ashes, pot and pearl		14								14	14		2 80	2 80
Apples		3,168						1		3,169	3,169		175 35	475 35
Agricultural products not enumerated, vegetable	202	456						129	202	585	787	30 30	87 75	118 05
Agricultural products not enumerated, animal		1,123								1,123	1,123		168 45	168 45
Agricultural implements														
Barley		6,779								6,779	6,779		677 90	677 90
Bricks	254		34						288		288	43 20		43 20
Bones								1		1	1		0 15	0 15
Brimstone	82								82		82	12 30		12 30
Buckwheat		371								371	371		37 10	37 10
Cement and water lime	2,167	6	825						2,992	6	2,998	448 80	0 90	449 70
Clay, lime and sand	66		3						69		69	10 35		10 35
Coal		35,332						166,214		201,546	201,546		30,231 80	30,231 80
Corn		1,801						1,721		3,525	3,525		352 50	352 50
Cattle	1	5							1	5	6	0 15	0 75	0 90
Cotton (raw)														
Crockery and earthenware	56	10	1						57	10	67	11 40	2 00	13 40
Dye wood and dye stuffs														
Fish	16		12						28		28	4 20		4 20
Flax and hemp														
Flour		1,408								1,408	1,408		211 20	211 20
Furniture	253	773							253	773	1,026	50 60	154 60	205 20
Gypsum			4						4		4	0 60		0 60
Glass (all kinds)	701	40	198						899	40	939	179 80	8 00	187 80
Hay (pressed)	7								7		7	1 05		1 05
Hogs		1								1	1		0 15	0 15
Horses	5	57							5	57	62	0 75	8 55	9 30

Hides and skins, horns and hoofs			14						14		14	2 10		2 10
Ice														
Iron, railway	2	19						2	2	21	23	0 30	3 15	3 45
" pig	378	1,228						15	378	1,213	1,621	56 70	186 45	243 15
" all other	2,876	293	1,328					17	4,204	310	4,514	630 60	46 50	677 10
Iron ore														
Kryolite chemical ore and other ore, except iron														
Lard and lard oil	36	356							36	356	392	5 40	53 40	58 80
Meal, all kinds		49								49	49		7 35	7 35
Meats, other than pork	2	61							2	61	63	0 30	9 15	9 45
Marble														
Manilla	20								20		20	4 00		4 00
Molasses	2								2		2	0 40		0 40
Nails	747	35	343						1,090	35	1,125	218 00	7 00	225 00
Oats		5,769								5,769	5,769		576 90	576 90
Oil (in barrels)	310	216	23					100	333	346	679	66 60	69 20	135 80
Oil cake														
Pease		7,669								7,669	7,669		766 90	766 90
Potatoes	2								2		2	0 30		0 30
Pork	1	31							1	31	32	0 15	4 65	4 80
Paint	257	38	8					21	265	59	321	53 00	11 80	64 80
Pitch and tar	105	172	16						121	172	293	24 20	34 40	58 60
Rags	59	109	14						73	109	182	14 60	21 80	36 40
Rye		3,873						195		4,068	4,068		406 80	406 80
Rosin	1		15						16		16	3 20		3 20
Salt	768		65						833		833	124 95		124 95
Stone intended for cutting														
" wrought	1								1		1	0 20		0 20
" not suitable for cutting, unwrought		504								504	504		40 20	40 20
Seeds, all kinds	283	51	131						414	51	465	62 10	7 65	69 75
Sheep														
Soda ash	516		94						610		610	122 00		122 00
Steel	646	297	18						664	297	961	99 60	44 55	144 15
Sugar	5,391	20	1,043						6,434	20	6,454	1,286 80	4 00	1,290 80
Spirits, beer, &c.	138	183	154					10	292	193	485	58 40	38 60	97 00
Tobacco (raw)	1								1		1	0 15		0 15
Tallow	3	16							3	16	19	0 45	2 40	2 85
Tin	729	123	124					2	853	125	978	170 60	25 00	195 60
Turpentine														
Wheat		10,682						682		11,364	11,364		1,136 40	1,136 40
White lead	91								91		91	18 20		18 20
Whiting	325		200						525		525	105 00		105 00
Wool		28								28	28		4 20	4 20
All other goods and merchandise not enumerated	4,407	2,649	487					11	4,894	2,660	7,554	978 80	532 00	1,510 80
Bark														
Barrels, empty	60		2						62		62	10 18		10 18

No. (A) 5.—General Statement showing the Quantity of each Article of Through Freight transported on the St. Lawrence Canals, &c.—*Concluded.*

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Amount of Tolls, Up.	Amount of Tolls, Down.	Total Amount of Tolls.
	Up.	Down.	Up.	Down.	Up.	Down.	Up	Down.	Up.	Down.				
												$ cts.	$ cts.	$ cts.
Boat knees														
Floats														
Firewood, in vessels			1,527						1,527		1,557	101 80		101 80
" in rafts														
Hoops														
Hop poles														
Lumber, sawn in vessels	270		391						661		661	59 33		59 33
" in rafts														
Masts, spars and telegraph poles, in vessels														
Masts, spars and telegraph poles, in rafts														
Railway ties, in vessels			32						32		32	2 50		2 50
" in rafts														
Saw logs														
Staves and headings, barrel														
" " pipe														
" " W. India														
Staves, salt barrel														
Shingles														
Split posts and fence rails, in vessels														
Split posts and fence rails, in rafts														
Timber, square, in vessels														
" in rafts														
Traverses														
Woodenware and wood partly manufactured	17		2						19		19	7 60		7 60
Total through freight paying tolls	22,251	85,848	7,108					169,121	29,362	254,969	284,331	5,082 01	36,460 40	41,542 41

Free articles having paid full tolls on the Welland Canal:											
Agricultural products vegetable		32						32	32		
Ashes		30				28		58	58		
Barley						596		596	596		
Clay, lime and sand						15		15	15		
Corn		127,415				23,584		150,999	150,999		
Flax seed						200		200	200		
Flour		1,706				2,523		4,229	4,229		
Glass		7				9		16	16		
Horses						1		1	1		
Iron (all other)		2,564				2,499		5,063	5,063		
Molasses		25				133		159	159		
Nails		1						1	1		
Oats		7,667				2,583		10,250	10,250		
Oils		6,861				282		7,143	7,143		
Rye		700				223		923	923		
Salt		30				153		183	183		
Steel		1,850				1,150		3,000	3,000		
Tobacco						96		96	96		
Wheat		168,119				1,859		169,978	169,978		
Whisky		43				31		74	74		
Merchandise		73				445		518	518		
Barrels (empty)						1		1	1		
Lumber, sawn (in vessels)		924						924	924		
Timber square (in ")						26		26	26		
Coal, free per Order in Council	448				448		448		448		
Grand total through freight	22,702	403,896	7,108		448	205,558	29,810	609,451	639,264		

Total through tolls on vessels				6,748 27	6,807 36	13,555 63
" "	passengers			487 95	1,628 65	2,116 60
" "	free goods	836,875.72				
	Total through tolls			12,318 23	44,896 41	57,214 64

RICHARD DEVLIN,
Compiler of Canal Statistics.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 1, 1900.

APPENDIX A—*Continued.*

No. (A) 6.—GENERAL STATEMENT showing the Quantity of each Article of Way Freight transported on the St. Lawrence Canals, and the Amount of Tolls collected during the Season of Navigation in 1899.

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Amount of Tolls, Up.	Amount of Tolls, Down.	Total Amount of Tolls.
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.				
												$ cts.	$ cts.	$ cts.
Ashes, pot and pearl														
Apples	23	99							23	99	122	2 13	4 36	6 49
Agricultural products not enumerated, vegetable	1,613	74							1,613	74	1,687	64 35	4 44	68 79
Agricultural products not enumerated animal	944	2,453					1,225		2,169	2,453	4,602	99 51	114 28	213 79
Agricultural implements	62	9							62	9	71	7 90	0 90	8 80
Barley	48	17,807							48	17,807	17,855	1 30	145 31	146 61
Bricks	8,101	59					408		8,509	59	8,568	358 26	2 22	360 18
Bones		366								366	366		47 22	47 22
Brimstone	526								526		526	51 78		51 78
Buckwheat	95	830							95	830	925	2 40	22 52	24 92
Cement and water lime	1,256	846							1,256	846	2,102	92 59	31 78	124 37
Clay, lime and sand	15,655	18,623					2,889	235	18,544	18,858	37,402	710 06	750 96	1,461 02
Coal	15	6,720				607	215	11,900	230	19,227	19,457	8 63	1,278 35	1,286 98
Corn	317	191,882							317	191,882	192,199	8 45	4,891 20	4,899 65
Cattle	14	288							14	288	302	1 14	21 70	22 84
Cotton (raw)	231								231		231	5 83		5 83
Crockery and earthenware	61								61		61	9 25		9 25
Dye wood and dye stuffs	1						2		3		3	0 29		0 29
Fish	49	11							49	11	60	4 78	0 67	5 45
Flax and hemp	3								3		3	0 30		0 30
Flour	781	21,415							781	21,415	22,196	49 56	1,042 48	1,092 04
Furniture	166	551							166	551	717	18 53	33 04	51 57
Gypsum	513	5							513	5	518	6 42	0 19	6 61
Glass (all kinds)	160	34					2		162	34	196	27 25	2 90	30 15
Hay (pressed)	647	305							647	305	952	24 92	16 40	41 32
Hogs		30								30	30		2 34	2 34
Horses	224	396							224	396	620	10 99	20 38	31 37

Hides and skins, horns and hoofs	2	41							2	11	43	0 20	1 54	1 71
Ice														
Iron, railway	278	8							278	8	286	19 01	0 38	19 39
" pig	109	1,019					1,135	80	1,244	1,099	2,343	51 21	111 24	162 48
" all other	4,434	1,035					1,662	26	6,096	1,061	7,157	270 99	47 43	318 42
Iron ore														
Kryolite chemical ore and other ore, except iron														
Lard and lard oil	101	673							101	673	774	9 91	33 03	42 94
Meals, all kinds	810	1,199							810	1,199	2,009	34 95	57 05	92 00
Meats, other than pork	66	4							66	4	70	6 49	0 16	6 65
Marble														
Manilla	20								20		20	3 80		3 80
Molasses	979	102					28		1,007	102	1,109	78 72	5 10	83 82
Nails	326	1,051							326	1,051	1,377	53 86	53 15	107 01
Oats	1,584	25,465							1,584	25,465	27,049	39 72	681 86	721 58
Oil (in barrels)	1,517	95					58		1,575	95	1,670	98 63	6 70	105 33
Oil cake	1	2,539							1	2,539	2,540	0 06	126 95	127 01
Pease	292	3,637							292	3,637	3,929	7 32	94 94	102 26
Potatoes	63	8							63	8	71	4 58	0 59	5 17
Pork	287	1,310							287	1,310	1,597	27 97	65 06	93 03
Paint	73	89							73	89	162	11 59	4 45	16 04
Pitch and tar	73	54					171		244	54	298	18 30	2 70	21 00
Rags	506	72							506	72	578	70 57	5 10	75 67
Rye	2	1,529							2	1,529	1,531	0 20	38 24	38 44
Flax seed	2	20,442							2	20,442	20,444	0 13	511 15	511 28
Rossin	39	25					1,668		1,707	25	1,732	88 95	1 25	90 20
Salt	1,462	33							1,462	33	1,495	143 04	1 25	144 29
Stone intended for cutting	184	4,109					158		342	4,109	4,451	13 43	181 91	195 34
" wrought	117	2							117	2	119	5 90	0 10	6 00
" not suitable for cutting, unwrought		4,110								4,110	4,110		105 90	105 90
Seeds, all kinds	5,086	1,713							5,086	1,713	6,799	191 72	85 56	277 28
Sheep		166								166	166		12 66	12 66
Soda ash	34	6					1		35	6	41	3 81	0 30	4 11
Steel	80								80		80	3 63		3 63
Sugar	943	943					1,119		2,062	943	3,005	188 65	47 20	235 85
Spirits, beer, &c	220	29							220	29	249	28 28	1 55	29 83
Tobacco (raw)	32								32		32	3 18		3 18
Tallow	38	32							38	32	70	2 85	1 60	4 45
Tin	50	6							50	6	56	7 70	0 30	8 00
Turpentine	2	4					96		98	4	102	5 18	0 20	5 38
Wheat	6	118,219							6	118,219	118,225	0 45	2,969 38	2,969 83
White lead	21	72							21	72	93	3 85	3 60	7 45
Whiting	23	2							23	2	25	4 01	0 10	4 11
Wool														
All other goods and merchandise not enumerated	3,823	2,708	17		329	592	963	16	5,132	3,316	8,148	463 91	230 20	694 11
Bark														

No. (A) 6.—General Statement showing the Quantity of each Article of Way Freight transported on the St. Lawrence Canals, &c. *Concluded.*

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Amount of Tolls, Up.	Amount of Tolls, Down.	Total Amount of Tolls.
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.				
												$ cts.	$ cts.	$ cts.
Barrels, empty	62	464							62	464	526	3 75	46 15	49 90
Boat knees														
Floats	170	1,150							170	1,150	1 320	2 98	20 13	23 11
Firewood, in vessels	4,125	5,951							4,125	5,951	10,079	68 75	100 20	168 95
" " in rafts		30								30	30		0 63	0 63
Hoops														
Hope poles														
Lumber, sawn, in vessels	19,920	4,757		472	15	34			19,935	5,263	25,198	518 15	135 70	653 85
" " in rafts	54	1,731							54	1,734	1,788	2 33	77 90	80 23
Masts, spars, and telegraph poles, in vessels														
Masts' spars, and telegraph poles, in rafts	90	31,079							90	31,079	31,169	2 25	776 88	779 13
Railway ties, in vessels	63	32							63	32	95	1 99	0 63	2 62
" in rafts														
Saw logs		509								509	509		10 74	10 74
Staves and headings, barrel														
" " pipe														
" " W. India														
Staves, salt barrel		34								34	34		0 65	0 65
Shingles		49								49	49		8 26	8 26
Split posts and fence rails, in vessels														
Split posts and fence rails, in rafts														
Timber, square, in vessels	186	466							186	466	652	2 48	7 40	9 88
" " in rafts	190	7,047							190	7,047	7,237	4 75	177 30	182 05
Traverses		544							16	544	544		3 40	3 40
Woodenware and wood partly manufactured	16										16	2 78		2 78
Total way freight paying tolls	80,066	509,203	17	472	344	1,233	11,789	12,257	92,207	523,165	615,372	4,143 58	15,499 49	19,643 07

Free articles having paid full tolls on the Welland Canal :															
Corn		3,387									3,387	3,387			
Coal, free, per Order in Council	66,184					23,177	617	89,361	617	89,978					
Free articles for canal construction, O.C., 1884 :															
Stone, wrought		1,015							1,015	1,015					
Lumber, sawn, in vessels	50	27						50	27	77					
Grand total way freight	146,300	513,632	17	472	314	1,233	34,957	12,874	181,618	528,211	709,829				
Total way tolls on vessels												5,363 05	2,811 31	8,174 36	
" " passengers												493 21	823 53	1,316,74	
" " free goods											85,114 41				
Total way tolls												9,999 84	19,134 33	29,134 17	

RICHARD DEVLIN,
Compiler of Canal Statistics.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 1, 1900.

APPENDIX A—*Continued.*

No. (A) 7.—GENERAL STATEMENT showing the Quantity of each Article transported on the Ottawa Canals, and the Amount of Revenue collected during the Season of Navigation in 1899.

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Amount of Tolls.
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.		
Ashes, pot and pearl		6								6	6	0 96
Apples		19								19	19	1 26
Agricultural products not enumerated, vegetable	9	2,125							9	2,125	2,134	185 77
do do animal		4								4	4	0 76
Agricultural implements												
Barley												
Bricks										11	11	0 78
Bones		11										
Brimstone										40	40	3 92
Buckwheat		40								17	17	1 67
Cement and water lime		17										
Clay, lime and sand	200	2,785		2					200	2,785	2,985	68 06
Coal												
Corn												
Cattle	2	661							2	661	663	50 35
Cotton (raw)												
Crockery and earthenware												
Dye wood and dye stuffs												
Fish		10								10	10	0 60
Flax and hemp												
Flour		125								125	125	11 51
Furniture	8	27							8	27	35	3 31
Gypsum		20								20	20	1 95
Glass (all kinds)		2								2	2	0 38
Hay (pressed)		451								451	451	41 90
Hogs		121								121	121	9 26
Horses	20	196							20	196	216	10 23
Hides and skins, horns and hoofs		11								11	11	0 90
Ice												

Iron, railway		2						2	2	0 12
" pig	1	6					1	6	7	0 42
" all other		107						107	107	7 26
Iron ore										
Kryolite chemical ore and other ore, except iron										
Lard and lard oil		5						5	5	0 50
Meal, all kinds		15						15	15	1 11
Meats, other than pork										
Marble										
Manilla		4						4	4	0 76
Molasses		2						2	2	0 38
Nails										
Oats	121	1,320					121	1,320	1,441	117 73
Oil (in barrels)	1	3					1	3	4	0 48
Oil cake										
Pease		345						345	345	28 25
Potatoes	5	143					5	143	148	9 59
Pork	1	2					1	2	3	0 12
Paint										
Pitch and tar		57						57	57	10 83
Rags		67						67	67	12 19
Rye		10						10	10	0 92
Flax seed										
Rosin										
Salt	2	18		2			2	20	22	1 13
Stone intended for cutting										
" wrought		1,166						1,166	1,166	54 10
" not suitable for cutting, unwrought		1,178						1,178	1,178	12 56
Seeds, all kinds		1						1	1	0 06
Sheep	1	282					1	282	283	23 78
Soda ash										
Steel										
Sugar	16	1					16	1	17	1 50
Spirits, beer, &c		3						3	3	0 57
Tobacco (raw)										
Tallow		9						9	9	0 89
Tin										
Turpentine										
Wheat										
White lead										
Whiting										
Wool		1						1	1	0 10
All other goods and merchandise not enumerated	6	564		1			6	565	571	89 98
Bark										
Barrels, empty	2	43					2	43	45	4 96
Boat knees										
Floats	50	40,040					50	40,040	40,090	334 67
Fire wood, in vessels		17,390						17,390	17,390	568 57
" rafts		114						114	114	1 14
Hoops		38						38	38	4 14

No. (A) 7.—General Statement showing the Quantity of each Article transported on the Ottawa Canals, and the Amount of Revenue collected, &c.—*Concluded.*

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Amount of Tolls.
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.		
												$ cts.
Hop poles												
Lumber, sawn, in vessels		337,255		69,059						406,314	406,314	29,572 13
" rafts		64								64	64	1 26
Masts, spars, and telegraph poles, in vessels		60								60	60	0 63
" rafts												
Railway ties, in vessels		1,706		756						2,462	2,462	493 11
" rafts												
Saw logs		1,013								1,013	1,013	21 00
Staves and headings, barrel												
" pipe												
" West India												
Staves, salt barrel												
Shingles		78								78	78	15 72
Split posts and fence rails, in vessels												
" " rafts												
Timber, square, in vessels		80								80	80	0 84
" " rafts		8,423								8,423	8,423	88 66
Traverses												
Woodenware and wood partly manufactured												
Total freight paying tolls	445	418,244		69,820					445	488,064	488,509	31,875 76
Free per Order in Council, June 27, 1890.												
Floats		19,620								19,620	19,620	
Firewood in rafts		144								144	144	
Lumber, sawn, in rafts		47								47	47	
Timber, square "		11,300								11,300	11,300	
Shingles		2								2	2	
Saw logs		483								483	483	
Freight, grand total	445	449,840		69,820					445	519,660	520,105	

Total tolls on vessels		3,303 29
" passengers		186 25
" free goods		806 15
Other receipts		18 00
Total revenue exclusive of hydraulic rents		35,383 40

RICHARD DEVLIN,
Compiler of Canal Statistics.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October, 1, 1900.

APPENDIX A—*Continued.*

No. (A) 8.—GENERAL STATEMENT showing the Quantity of each Article transported on the Chambly Canal, and the Amount of Revenue collected during the Season of Navigation in 1899.

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Amount of Tolls.
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.		
												$ cts.
Ashes, pot and pearl												
Apples		90						87		177	177	12 66
Agricultural products not enumerated, vegetable												
" " animal												
Agricultural implements	2	6							2	6	8	0 61
Barley		30								30	30	1 01
Bricks								349		349	349	34 90
Bones												
Brimstone												
Buckwheat												
Cement and water lime	7							168	7	168	175	17 05
Clay, lime and sand	77							6,061	77	6,061	6,138	698 28
Coal	54	12						98,148	54	98,160	98,214	9,688 62
Corn												
Cattle	5	115							5	115	120	4 25
Cotton (raw)												
Crockery and earthenware		2								2	2	0 20
Dye wood and dye stuffs								5		5	5	0 50
Fish												
Flax and hemp												
Flour	100	9							400	9	409	13 77
Furniture												
Gypsum												
Glass (all kinds)								8		8	8	0 80
Hay (pressed)	55	4,314	7,420						7,475	4,314	11,789	712 65
Hogs												
Horses	8	55							8	55	63	2 23
Hides and skins, horns and hoofs												
Ice												
Iron, railway												

" pig								1,167		1,167	1,167	116 70
" all other	121							1,829	121	1,829	1,950	187 21
Iron ore								145		145	145	14 50
Kryolite chemical ore and other ore, except iron												
Lard and lard oil												
Meat, all kinds												
Meats, other than pork												
Marble								15		15	15	1 50
Manilla												
Molasses	41							189	41	189	230	20 37
Nails												
Oats	1	4,341							1	4,341	4,342	144 98
Oil (in barrels)	47	29						50	47	79	126	7 72
Oil cake								16		16	16	1 60
Pease		238								238	238	7 96
Potatoes	6	53							6	53	59	2 04
Pork		2								2	2	0 08
Paint								19		19	19	1 90
Pitch and tar		329						5,669		5,998	5,998	599 80
Rags												
Rye												
Flax seed												
Rosin								2,203		2,203	2,203	245 76
Salt	166							761	166	761	927	81 67
Stone intended for cutting												
" wrought								1		1	1	0 10
" not suitable for cutting, unwrought								504		504	504	51 15
Seeds, all kinds	6	2						1	6	3	9	0 42
Sheep		90								90	90	3 13
Soda ash												
Steel												
Sugar	8	1						1,568	8	1,569	1,577	157 13
Spirits, beer, &c												
Tobacco (raw)												
Tallow												
Tin								4		4	4	0 40
Turpentine								157		157	157	15 70
Wheat												
White lead												
Whiting												
Wood												
All other goods and merchandise not enumerated	1,049	325	3,363					1,652	4,412	1,977	6,389	509 65
Bark												
Barrels, empty		3								3	3	0 30
Boat knees												
Floats												
Fire wood, in vessels		2,160	148,467						148,467	2,160	150,627	4,955 76
" in rafts												
Hoops												
Hop poles												

No. (A) 8.—General Statement showing the Quantity of each Article transported on the Chambly Canal, and the Amount of Revenue Collected, &c.—*Concluded.*

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.	Tons.			Total Tons.	Amount of Tolls.
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Up.	Down.			
												$ cts.
Lumber, sawn, in vessels	168	4	56,661					56,829	1		56,833	3,384 20
" in rafts												
Masts, spars and telegraph poles, in vessels												
" " rafts												
Railway ties, in vessels			11,517					11,517			11,517	917 99
" rafts												
Saw logs												
Staves and headings, barrel												
" " pipe												
" " West India												
Staves, salt barrel												
Shingles												
Split posts and fence rails, in vessels												
" rafts												
Timber, square, in vessels												
" rafts												
Traverses												
Woodenware and wood partly manufactured												
Total freight paying tolls	2,221	12,210	227,428				120,776	229,649	132,986		362,635	22,617 25
Total tolls on vessels												3,332 77
" passengers												50 08
Total revenue exclusive of hydraulic rents												26,000 10

Department of Railways and Canals,
Ottawa, October 1, 1900.

RICHARD DEVLIN,
Compiler of Canal Statistics.

APPENDIX A—*Continued.*

No. (A) 9.—General Statement showing the Quantity of each Article transported on the Rideau Canal, and the Amount of Revenue collected during the Season of Navigation in 1899.

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Amount of Tolls.
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.		
												$ cts.
Ashes, pot and pearl		13								13	13	2 11
Apples	12	186							12	186	198	4 80
Agricultural products not enumerated, vegetable	4	25							4	25	29	0 70
" " animal	314	868							314	868	1,182	31 86
Agricultural implements	27	91							27	91	118	13 17
Barley												
Bricks	282		60						342		342	8 02
Bones	14	11							14	11	25	0 86
Brimstone												
Buckwheat		33								33	33	1 42
Cement and water lime	410	24							410	24	434	11 14
Clay, lime and sand	6,123	371	90						6,213	371	6,584	153 82
Coal		3,327						12,921		16,248	16,248	646 98
Corn	3	107							3	107	110	2 69
Cattle		2								2	2	0 06
Cotton (raw)												
Crockery and earthenware	20	24							20	24	44	3 96
Dye wood and dye stuffs	3								3		3	0 27
Fish	35	1							35	1	36	0 92
Flax and hemp												
Flour	176	612							176	612	788	20 11
Furniture	7	32							7	32	39	3 77
Gypsum												
Glass (all kinds)	66	5							66	5	71	6 37
Hay (pressed)	425	2							425	2	427	10 86
Hogs												
Horses	3	13							3	13	16	0 48
Hides and skins, horns and hoofs	11								11		11	0 32
Ice												
Iron, railway												
" pig	67								67		67	1 82

No. (A) 9.—General Statement showing the Quantity of each Article transported on the Rideau Canal, &c—*Continued.*

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Amount of Tolls.
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.		
												$ cts.
Iron, all other	288	25							288	25	313	8 52
Iron ore												
Kryolite chemical ore and other ore, except iron	20								20		20	1 00
Lard and lard oil	66	20							66	20	86	2 31
Meal, all kinds		19								19	19	0 47
Meats, other than pork	57	4							57	4	61	1 55
Marble	2								2		2	0 18
Manilla	6								6		6	0 53
Molasses	73	3							73	3	76	6 70
Nails	148								148		148	15 17
Oats	202	621							202	621	823	31 43
Oil (in barrels)	131	49							131	49	180	16 54
Oil cake												
Pease		9								9	9	0 35
Potatoes	73	37							73	37	110	2 68
Pork	145	55							145	55	200	5 10
Paint	33								33		33	3 49
Pitch and tar	47	3							47	3	50	4 44
Rags	15	25							15	25	40	4 21
Rye	1	6							1	6	7	0 20
Flax seed	2								2		2	0 06
Rosin	12								12		12	1 05
Salt	781	293							781	293	1,074	28 47
Stone intended for cutting		22								22	22	0 52
" wrought		1								1	1	0 09
" not suitable for cutting, unwrought		15								15	15	0 19
Seeds, all kinds	4								4		4	0 10
Sheep												
Soda ash	3								3		3	0 27
Steel	20	2							20	2	22	0 62
Sugar	399	48							399	48	447	10 79
Spirits, beer, &c	54	25							54	25	79	7 11
Tobacco (raw)	16								16		16	0 43
Tallow												

Tin	12	3					12	3	15	1 60
Turpentine										
Wheat	30	183					30	183	213	1 97
White lead	20						20		20	1 79
Whiting	9						9		9	0 81
Wool		2						2	2	0 08
All other goods and merchandise not enumerated	680	447					680	447	1,127	109 22
Bark										
Barrels, empty	35	53					35	53	88	5 65
Boat knees										
Floats	1,185	60					1,185	60	1,245	21 60
Firewood, in vessels	6,204	195					6,204	195	6,399	108 65
" rafts										
Hoops										
Hop poles										
Lumber, sawn, in vessels	5,040	1,580	11,187	10,727			16,227	12,307	28,534	2,619 98
" " rafts										
Masts, spars and telegraph poles, in vessels										
" " " rafts										
Railway ties, in vessels	94						94		94	3 75
" " rafts										
Saw logs	140	27					140	27	167	3 72
Staves and headings, barrel										
" " pipe										
" " West India										
Staves, salt barrel										
Shingles	120	30					120	30	150	29 11
Split posts and fence rails, in vessels										
" " rafts										
Timber, square, in vessels										
" " rafts										
Traverses	600						600		600	3 80
Woodenware and wood partly manufactured										
Total freight paying tolls	24,769	9,609	11,337	10,727		12,921	36,106	33,257	69,363	4,025 81
Coal, free, per Order in Council	542						542		542	
Grand total freight	25,311	9,609	11,337	10,727		12,921	36,648	33,257	69,905	

Total tolls on vessels		1,552 29
" passengers		126 12
" free coal	814 47	
Wharfage and storage		22 76
Other receipts		278 00
Total revenue, exclusive of hydraulic rents		6,004 98

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 1, 1900.

RICHARD DEVLIN,
Compiler of Canal Statistics.

APPENDIX A—*Continued.*

No. (A) 10.—GENERAL STATEMENT showing the Quantity of each Article transported on the St. Peter's Canal and the Amount of Revenue collected during the Season of Navigation in 1899.

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Amount of Tolls.
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.		
												$ cts.
Ashes, pot and pearl												
Apples	63								63		63	0 63
Agricultural products not enumerated, vegetable	96								96		96	0 96
" " " annual	1								1		1	0 01
Agricultural implements												
Barley	7								7		7	0 07
Bricks	1,165								1,165		1,165	11 65
Bones												
Brimstone												
Buckwheat												
Cement and water lime	95	891							95	891	986	9 86
Clay, lime and sand		474								474	474	4 74
Coal		35,335								35,335	35,335	353 35
Corn	21								21		21	0 21
Cattle	31								31		31	0 31
Cotton (raw)												
Crockery and earthenware	5								5		5	0 05
Dye wood and dye stuffs												
Fish	24	1,828							24	1,828	1,852	18 52
Flax and hemp												
Flour	2,460								2,460		2,460	24 60
Furniture	8								8		8	0 08
Gypsum		130								130	130	1 30
Glass (all kinds)	2								2		2	0 02
Hay (pressed)	1,466								1,466		1,466	14 66
Hogs												
Horses												
Hides and skins, horns and hoofs												
Ice												
Iron, railway	33								33		33	0 33

" pig	23	7							23	7	30	0 30
" all other	50								50		50	0 50
Iron ore		150								150	150	1 50
Kryolite chemical ore and other ore except iron	291	15							291	15	306	3 06
Lard and lard oil	1								1		1	0 01
Meal, all kinds	999								999		999	9 99
Meats, other than pork	39								39		39	0 39
Marble	4	2,196							4	2,196	2,200	22 00
Manilla	2								2		2	0 02
Molasses	270								270		270	2 70
Nails	62								62		62	0 62
Oats	2,009	1							2,009	1	2,010	20 10
Oil (in barrels)	277	51							277	51	328	3 28
Oil cake	1								1		1	0 01
Pease												
Potatoes	2,123	5							2,123	5	2,128	21 28
Pork	106								106		106	1 06
Paint	5								5		5	0 05
Pitch and tar	4								4		4	0 04
Rags												
Rye												
Flax seed												
Rosin	1								1		1	0 01
Salt	954	5							954	5	959	9 59
Stone intended for cutting												
" wrought												
" not suitable for cutting, unwrought		5,327								5,327	5,327	53 27
Seeds, all kinds												
Sheep	1								1		1	0 01
Soda ash	1								1		1	0 01
Steel												
Sugar	214								214		214	2 14
Spirits, beer, &c	28								28		28	0 28
Tobacco (raw)	1								1		1	0 01
Tallow												
Tin	33								33		33	0 33
Turpentine	1								1		1	0 01
Wheat												
White lead	1								1		1	0 01
Whiting	54								54		54	0 54
Wool												
All other goods and merchandise not enumerated	638	18							638	18	656	6 56
Bark	48								48		48	0 48
Barrels, empty	18	10							18	10	28	0 28
Boat knees												
Floats												
Firewood, in vessels		383								383	383	3 83
" in rafts												
Hoops												
Hop poles	1								1		1	0 01

No. (A) 10—GENERAL STATEMENT showing the Quantity of each Article transported on the St. Peter's Canal, &c.—*Concluded.*

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Amount of Tolls.
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.		
Lumber, sawn in vessels	9,122	86							9,122	86	9,208	92 08
" in rafts												
Masts, spars and telegraph poles, in vessel	12	12							12	12	24	0 24
" " in rafts												
Railway ties, in vessels	255								255		255	2 55
" in rafts												
Saw logs												
Staves and headings, barrel												
" " pipe												
" " West India												
Staves, salt barrel												
Shingles	143								143		143	1 43
Split posts and fence rails, in vessels	35	5							35	5	40	40
" " in rafts												
Timber, square, in vessels	514	57							514	57	571	5 71
" in rafts												
Traverses												
Woodenware and wood partly manufactured												
Total freight paying tolls	23,818	46,986							23,818	46,986	70,804	708 04
Total tolls on vessels												2,443 29
Other receipts												
Total receipts												3,151 33

RICHARD DEVLIN,
Compiler of Canal Statistics.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 1, 1900.

No. (A) 11.—General Statement showing the Quantity of each Article transported on the Trent Valley Canals and the Amount of Revenue collected during the Season of Navigation in 1899.

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Amount of Tolls.
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.		
Ashes, pot and pearl												
Apples												
Agricultural products not enumerated, vegetables												
" " " animal												
Agricultural implements												
Barley	13								13		13	13
Bricks	120	85							120	85	205	2 83
Bones												
Brimstone												
Buckwheat												
Cement and water lime												
Clay, lime and sand												
Coal												
Corn												
Cattle	70								70		70	0 70
Cotton (raw)												
Crockery and earthenware												
Dye wood and dye stuffs												
Fish												
Flax and Hemp												
Flour												
Furniture	8								8		8	24
Gypsum												
Glass (all kinds)												
Hay (pressed)												
Hogs	163	12							163	12	175	1 75
Horses												
Hides and skins, horns and hoofs												
Ice												
Iron railway												

No. (A) 11.—GENERAL STATEMENT showing the Quantity of each Article transported on the Murray Canal, &c.—*Concluded.*

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Amount of Tolls.
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up	Down.		
												$ cts.
Iron, pig												
" all other												
Iron ore												
Kryolite chemical ore and other ore, except iron												
Lard and lard oil										2	2	0 02
Meal, all kinds		2										
Meats, other than pork												
Marble												
Manilla												
Molasses												
Nails												
Oats	16								16		16	0 16
Oil (in barrels)												
Oil cake												
Peas	19								19		19	0 19
Potatoes	5								5		5	0 05
Pork												
Paint												
Pitch and tar												
Rags												
Rye												
Flax seed												
Rosin												
Salt												
Stone intended for cutting												
" wrought												
" not suitable for cutting, unwrought	947								947		947	4 45
Seeds, all kinds												
Sheep	5								5		5	0 05
Soda ash												
Steel												
Sugar												
Spirits, beer, &c												
Tobacco (raw)												

Tallow												
Tin												
Turpentine												
Wheat	435	2							435	2	437	4 37
White lead												
Whiting												
Wool												
All other goods and merchandise not enumerated	22	91							22	91	113	3 40
Bark	46								46		46	1 78
Barrels empty	10								10		10	25
Boat knees												
Floats	743	5,013							743	5,013	5,756	44 42
Firewood, in vessels	18,069	2,454							18,069	2,454	20,523	217 86
" rafts												
Hoops												
Hop poles												
Lumber, sawn, in vessels	1,982	218							1,982	218	2,200	42 78
" " rafts		497								497	497	7 00
Masts, spars, and telegraph poles, in vessels												
" " " rafts	103								103		103	1 00
Railway ties, in vessels												
" rafts	1,060								1,060		1,060	41 50
Saw logs	7,064	570							7,064	570	7,634	64 89
Staves and headings, barrel												
" " pipe												
" " West India												
Staves, salt barrel	150								150		150	1 50
Shingles	127	22							127	22	149	12 97
Split posts and fence rails, in vessels												
" " " rafts												
Timber, square, in vessels												
" " rafts		17								17	17	0 68
Traverses												
Woodenware and wood partly manufactured												
Total freight paying tolls	31,177	8,983							31,177	8,983	40,160	454 97

Total tolls, on vessel	620 39
" passengers	165 38
" other receipts	72 00
Total revenue exclusive of hydraulic rents	1,312 74

Department of Railways and Canals,
Ottawa, October 1, 1900.

RICHARD DEVLIN,
Compiler of Canal Statistics.

APPENDIX A—*Continued.*

No. (A) 12.—General Statement showing the Quantity of each Article transported on the Murray Canal, and the Amount of Revenue collected during the Season of Navigation in 1899.

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Amount of Tolls.
	Up.	Down.	Up.	Down.	Up	Down.	Up.	Down.	Up.	Down.		
												$ cts.
Ashes, pot and pearl												
Apples	18	175							18	175	223	4 27
Agricultural products not enumerated, vegetable	29	42							29	42	71	1 40
" " " animal												
Agricultural implements		1								1	4	0 10
Barley	164	598							164	598	762	14 31
Bricks	41	2							41	2	43	0 81
Bones												
Brimstone	30								30		30	0 57
Buckwheat		79								79	79	1 49
Cement and water lime	74	103							74	103	177	3 37
Clay, lime and sand	29								29		29	0 56
Coal		30						350		380	380	7 14
Corn	56								56		56	1 05
Cattle												
Cotton (raw)	2								2		2	0 04
Crockery and earthenware	8	19							8	19	37	0 70
Dye wood and dye stuffs												
Fish												
Flax and hemp												
Flour	1	6							1	6	7	0 14
Furniture	120	50	4					31	124	81	205	5 34
Gypsum												
Glass (all kinds)	77	34							77	34	111	2 81
Hay (pressed)												
Hogs												
Horses	33	29							33	29	62	1 19
Hides and skins, horns and hoofs	11								11		11	0 21
Ice												
Iron, railway	216								216		216	4 05

" pig												
" all other	299	37	8						307	37	344	6 58
Iron ore												
Kryolite chemical ore and other ore, except iron												
Lard and lard oil	1	20							1	20	21	0 42
Meal, all kinds	3	8							3	8	11	0 22
Meats, other than pork		7								7	7	0 14
Marble												
Manilla												
Molasses		2								2	2	0 05
Nails	24	3	14						38	3	41	1 06
Oats		8								8	8	0 15
Oil (in barrels)	45	125							45	125	170	4 28
Oil cake												
Pease	32	397							32	397	429	8 09
Potatoes		4								4	4	0 08
Pork		14								14	14	0 28
Paint	49	11							49	11	60	1 53
Pitch and tar	2								2		2	0 05
Rags	5	15							5	15	20	0 51
Rye		392								392	392	7 38
Flax seed	1								1		1	0 02
Rosin												
Salt	41	1							41	1	42	0 81
Stone intended for cutting												
" wrought												
" not suitable for cutting, unwrought	1,365								1,365		1,365	43 65
Seeds, all kinds	50	6							50	6	56	1 67
Sheep												
Soda ash	47								47		47	1 18
Steel	22	1							22	1	23	0 45
Sugar	730	8	97						827	8	835	20 91
Spirits, beer, &c.	25	54							25	54	79	2 00
Tobacco (raw)												
Tallow	4								4		4	0 08
Tin	3	8	23						26	8	34	0 86
Turpentine		2								2	2	0 05
Wheat	18	1,097							18	1,097	1,115	20 97
White lead	10	2							10	2	12	0 30
Whiting	14								14		14	0 35
Wool	2	6							2	6	8	0 16
All other goods and merchandise not enumerated	2,230	2,244	4					2	2,234	2,246	4,480	111 98
Bark												
Barrels, empty												
Boat knees												
Floats												
Firewood, in vessels	807								807		807	6 74
" rafts												
Hoops												
Hop poles												

No. (A) 12.—General Statement showing the Quantity of each Article transported on the Murray Canal—*Concluded.*

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Amount of Tolls.
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.		
												$ cts.
Lumber, sawn, in vessels	311								311		311	3 50
" rafts												
Masts, spars, and telegraph poles, in vessels	10								10		10	0 07
" " rafts												
Railway ties, in vessels			331						331		331	3 31
" rafts												
Saw-logs												
Staves and headings, barrel												
" pipe												
" West India												
Staves, salt barrel												
Shingles		12		20					20	12	32	2 18
Split posts and fence rails, in vessels												
" rafts												
Timber, square, in vessels												
" rafts		160								160	160	2 00
Traverses												
Woodenware and wood partly manufactured												
Total freight paying tolls	10,089	5,815	501					383	10,590	6,198	16,788	303 01
Total tolls on vessels												237 84
" passengers												173 64
Total revenue exclusive of hydraulic rents												714 49

RICHARD DEVLIN,
Compiler of Canal Statistics.

Department of Railways and Canals,
Ottawa, October 1, 1900.

No. (A) 13.—General Statement showing the Quantity of each Article transported on the Sault Ste. Marie Canal, during the Season of Navigation in 1899.

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total. Tons.
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	
Ashes, pot and pearl	30										
Apples	19		1,360						30		30
Agricultural products not enumerated, vegetable									1,379		1,379
" " " animal											
Agricultural implements											
Barley											
Bricks	20		2			2,040				2,040	2,040
Bones							96	96	127	96	223
Brimstone											
Buckwheat											
Cement and water lime	580		147		80			6	807	6	813
Clay, lime and sand	37	200							37	200	237
Coal	1,519		567		574,970	10	87,119		664,113	10	664,123
Corn						3,360		17,482		20,842	20,842
Cattle	43		2	1					45	1	46
Cotton (raw)											
Crockery and earthenware	13		1						14		14
Dye wood and dye stuffs											
Fish		35		467		70		57		569	569
Flax and hemp											
Flour	28	10,231			150	74,463		35,016	178	119,710	119,888
Furniture			21						24		24
Gypsum			5						5		5
Glass (all kinds)	50		56						106		106
Hay (pressed)	1,748	183	88					50	1,836	233	2,069
Hogs	10		4						14		14
Horses	101	3	4	9			2	12	148	24	172
Hides and skins, horns and hoofs					467			15	167	15	542
Ice											

No. (A) 13.—General Statement showing the Quantity of each Article transported on the Sault Ste. Marie Canal, &c.—*Concluded.*

Articles.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total. Tons.
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	
Iron, railway	2,166				1,250		2,799		6,215		6,215
" pig											
" all other	863		314			39	107		1,284	39	1,323
Iron, ore					2,576	1,676,444		1,044	2,576	1,677,488	1,680,064
Copper ore						5,103				5,103	5,103
Kryolite chemical ore and other ore, except iron											
Lard and lard oil	1		12						13		13
Meal, all kinds						14,535		75		14,610	14,610
Meats, other than pork	7								7		7
Marble											
Manilla	218								218		218
Molasses											
Nails	542		183		800				1,525		1,525
Oats	357						204	2,635	561	2,635	3,196
Oil (in barrels)	52		118		28		162		360		360
Oil cake								307		307	307
Pease											
Potatoes	5		20						25		25
Pork	3	30							3	30	33
Paint	33								33		33
Pitch and tar	1								1		1
Rags											
Rye						3,528				3,528	3,528
Flax seed				2,513		10,121		2,236		14,870	14,870
Rosin											
Salt	202		230		6,388				6,820		6,820
Stone intended for cutting											
" wrought											
" not suitable for cutting, unwrought					1,269				1,269		1,269
Seeds, all kinds											
Sheep	3		2						5		5
Soda ash											
Steel	26								26		26
Sugar	495		237						732		732

Spirits, beer, &c	431	161				61		653		653
Tobacco (raw)										
Tallow										
Tin	10	21						31		31
Turpentine										
Wheat		215,915	15,063		98,851		52,960		382,789	382,789
White lead	1	18						19		19
Whiting	17							17		17
Wool					217		11		228	228
All other goods and merchandise not enumerated	12,785	564	5,311	19	8,215	1,270	171	553	26,482	2,406	28,888
Bark										
Barrels empty										
Boat knees										
Floats										
Fire-wood, in vessels	428	544		11,200				428	11,744	12,172
" " rafts										
Hoops										
Hop poles										
Lumber, sawn, in vessels	3,889	63			8,901		418	3,889	9,382	13,271
" " rafts										
Masts, spars, and telegraph poles, in vessels										
" " " " rafts										
Railway ties, in vessels		860							860	860
" " rafts										
Saw-logs	437	5,533			455	862		892	6,395	7,287
Staves and headings, barrel										
" " pipe										
" " West India										
Staves, salt barrel										
Shingles	9	8			3,250		193	9	3,451	3,460
Split posts and fence rails, in vessels										
" " rafts										
Timber, square, in vessels	400	200			200		2,800	600	3,000	3,600
" " rafts										
Traverses										
Woodenware and wood partly manufactured										
Total freight paying tolls	27,588	234,169	9,066	29,212	596,648	1,903,261	90,721	115,996	724,023	2,282,641	3,006,664

RICHARD DEVLIN,
Compiler of Canal Statistics.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 1, 1900.

No. (A) 14.—STATEMENT of Traffic on the undermentioned Canals, and

Articles.	Welland Canal.		St. Lawrence Canals.		Chambly Canal.	
	Tons.	Tolls.	Tons.	Tolls.	Tons.	Tolls.
Class No. 1.		$ cts.		$ cts.		$ cts.
Canadian vessels, steam	391,448	3,751 49	713,266	4,766 20	64,429	211 67
United States vessels, steam	424,820	6,352 83	23,584	155 91	1,613	18 49
Canadian vessels, sail	167,852	3,577 12	1,525,512	15,491 23	35,190	396 62
United States vessels, sail	76,553	1,723 78	116,070	1,316 65	211,391	2,705 99
Total, Class No. 1	1,060,673	15,405 22	2,378,432	21,729 99	892,623	3,332 77
Class No. 2.	No.		No.		No.	
Passengers	63,545	777 94	70,921	3,433 34	3,710	50 08
Class No. 3.	Tons.		Tons.		Tons.	
Bricks	115	4 99	8,856	403 68	349	34 90
Brimstone			608	64 08		
Cement and water lime	49	2 16	5,100	574 07	175	17 05
Clay, lime and sand	550	38 79	37,471	1,471 37	6,138	698 28
Fish	2,233	334 82	88	9 65		
Gypsum			522	7 21		
Iron, railway	567	68 85	309	22 84		
" pig			3,964	405 63	1,167	116 70
" all other	6,361	1,184 23	11,671	995 52	1,950	187 21
Steel	16,598	3,287 35	1,041	147 78		
Salt	1,282	247 83	2,328	269 24	927	81 67
Stone, for cutting	429	85 80	4,451	195 34		
Apples	230	7 75	3,291	481 84	177	12 66
Barley	2,907	314 85	24,634	1,124 51	30	1 01
Buckwheat	4	0 10	1,206	62 02		
Corn	204,004	20,400 40	195,724	5,162 15		
Cotton, raw			231	5 83		
Flax and hemp			3	0 30		
Flour	11,625	2,132 02	23,604	1,303 24	409	13 77
Hay, pressed	400	60 00	959	42 37	11,789	712 65
Meals, all kinds	18,202	3,639 98	2,058	99 35		
Oil cake			2,540	127 01	16	1 60
Oats	24,037	2,432 68	32,818	1,298 48	4,342	144 98
Pease	28	0 71	11,598	869 16	238	7 96
Potatoes			73	5 47	59	2 04
Rye	923	92 30	5,599	445 24		
Flax seed	200	20 00	20,444	511 28		
Seeds, all kinds	11	2 20	7,264	347 03	9	0 42
Tobacco, raw	163	19 34	33	3 33		
Wheat	197,732	19,767 27	129,589	4,106 23		
All other agricultural products, vegetable	273	30 42	2,474	186 84		
Bones			367	47 37		
Cattle			308	23 71	120	4 25
Hogs			31	2 49		
Hides and skins, horns and hoofs	21	3 02	57	3 84		
Horses	10	1 17	682	40 67	63	2 23
Lard and lard oil	870	173 85	1,166	101 74		
Meats, other than pork	9	0 57	133	16 10		
Pork	363	71 60	1,629	97 83	2	0 08
Sheep			166	12 66	90	3 13
Tallow	201	40 20	89	7 30		
Wool	130	26 00	28	4 20		
All other agricultural products, animal			5,725	382 24		
Total, Class No. 3	490,467	54,491 25	551,022	21,488 24	28,050	2,042 59

SESSIONAL PAPER No. 20

A—*Continued.*

the Amount of Tolls collected during the Season of Navigation in 1899.

Murray Canal.		Ottawa Canals.		Rideau Canal.		St. Peter's Canal.		Trent Valley Canals.	
Tons.	Tolls.	Tons.	Tolls.	Tons.	Tolls.	Tons.	Tolls.	Tons.	Tolls.
	$ cts.		$ cts.		$ cts.		$ cts.		$ cts.
161,597	198 55	154,041	735 45	117,489	794 53	45,751	915 20	69,914	438 54
282	1 08	43	0 60	899	15 08	276	5 52		
9,599	34 46	138,416	1,920 38	29,645	490 39	75,892	1,519 31	49,978	181 85
356	3 75	27,477	646 86	12,749	252 29	163	3 26		
171,834	237 84	319,977	3,303 29	160,782	1,552 29	122,082	2,443 29	119,892	620 39
No.		No.		No.		No.		No.	
14,466	173 64	13,254	186 35	5,510	126 12			26,608	165 38
Tons.		Tons.		Tons.		Tons.		Tons.	
43	0 81			342	8 02	1,165	11 65	205	2 83
30	0 57								
177	3 37	17	1 67	434	11 14	986	9 86		
29	0 56	2,985	68 06	6,584	153 82	474	1 74		
		10	0 60	36	0 92	1,852	18 52		
		20	1 95			130	1 30		
216	4 05	2	0 12			33	0 33		
		7	0 42	67	1 82	30	0 30		
344	6 58	107	7 26	313	8 52	50	0 50		
23	0 45			22	0 62				
42	0 81	22	1 13	1,074	28 47	959	9 59		
				22	0 52				
223	4 27			198	4 80	63	0 63		
762	14 31					7	0 07	13	0 13
79	1 49	40	3 92	33	1 42				
56	1 05			110	2 49	21	0 21		
2	0 04								
7	0 14	125	11 51	788	20 11	2,460	24 66		
		451	41 90	427	10 86	1,466	14 66		
11	0 22	15	1 14	19	0 47	999	9 99	2	0 02
						1	0 01		
8	0 15	1,441	117 73	823	31 43	2,040	20 10	16	0 16
429	8 09	345	28 25	9	0 35			19	0 19
4	0 08	148	9 59	110	2 68	2,128	21 28	5	0 05
392	7 38	10	0 92	7	0 20				
1	0 02			2	0 06				
56	1 07	1	0 06	4	0 10				
				16	0 43	1	0 01		
1,115	20 97			213	4 97			437	4 37
71	1 40	19	1 26	29	0 70	96	0 96		
		11	0 78	25	0 86			70	0 70
		663	50 35	2	0 06	31	0 31	175	1 75
		121	9 26						
11	0 21	11	0 90	11	0 32				
62	1 19	216	10 23	16	0 48				
21	0 42	5	0 50	86	2 31	1	0 01		
7	0 14			61	1 55	39	0 39		
14	0 28	3	0 12	200	5 10	106	1 06		
		283	23 78			1	0 01	5	0 05
4	0 08	9	0 89						
8	0 16	1	0 10	2	0 08				
		2,134	185 77	1,182	31 86	1	0 01		
4,247	80 36	9,222	580 17	13,267	337 74	15,110	151 10	947	10 25

No. (A) 14.—STATEMENT of Traffic on the undermentioned Canals, and

Articles.	Welland Canal.		St. Lawrence Canals.		Chambly Canal.	
	Tons.	Tolls.	Tons.	Tolls.	Tons.	Tolls.
		$ cts.		$ cts.		$ cts.
Class No. 4.						
Ashes, pot and pearl	58	11 60	14	2 80		
Agricultural implements			71	8 80	8	0 61
Crockery and earthenware	19	2 59	128	22 65	2	0 20
Dye woods and dye stuffs			3	0 29	5	0 50
Furniture	18	3 15	1,743	256 77		
Glass, all kinds	86	11 10	1,135	217 95	8	0 80
Marble	211	31 65			15	1 50
Manilla	129	19 35	40	7 80		
Molasses	249	45 70	1,111	84 22	230	20 37
Nails	139	10 01	2,502	332 01		
Oil, in barrels	7,467	1,488 05	2,349	241 13	126	7 72
Paint	40	2 72	486	80 84	19	1 90
Pitch and tar			591	79 60	5,998	599 80
Rags	1	0 20	760	112 07		
Rosin			1,748	93 40	2,203	245 76
Soda ash	60	1 32	651	126 11		
Sugar	7,689	1,149 16	9,459	1,526 65	1,577	157 13
Stone, wrought			120	6 20	1	10
Tin	73	10 82	1,034	203 60	4	40
Turpentine			102	5 38	157	15 70
White lead	7	14	184	25 65		
Whiting			550	109 11		
Whisky and all other spirits	581	81 59	734	126 83		
Merchandise, not enumerated	45,856	6,804 58	16,002	2,204 91	6,389	509 65
Total, Class No. 4	62,683	9,673 73	41,517	5,874 77	16,742	1,562 14
Class No. 5.						
Bark						
Barrels empty	78	8 93	588	60 08	3	0 30
Boat knees						
Floats			1,320	23 11		
Fire wood, in vessels	4,341	231 80	11,606	270 75	150,627	4,955 76
" in rafts			30	0 63		
Lumber sawn, in vessels	67,850	12,128 56	25,859	713 18	56,833	3,384 20
" in rafts			1,788	80 23		
Hoops						
Railway ties, in vessels	1,637	238 63	127	5 12	11,517	917 99
" in rafts						
Masts, spars and telegraph poles, in vessels						
Masts, spars and telegraph poles, in rafts	34	4 35	31,169	779 13		
Square timber, in vessels	24,985	3,746 21	652	9 88		
" in rafts			7,237	182 05		
Woodenware and wood partly manufactured			35	10 38		
Shingles	51	36 18	49	8 26		
Split posts and fence rails, in vessels						
" " in rafts						
Saw logs	4,591	183 41	509	10 74		
Staves and headings, barrel						
" pipe						
" West India						
" Salt barrel			34	0 65		
Traverses			544	3 40		
Hop poles	100	12 00				
Total, Class No. 5	103,667	16,589 87	81,547	2,157 59	218,980	9,258 25

SESSIONAL PAPER No. 20

the Amount of Tolls collected, &c.—*Continued.*

Murray Canal.		Ottawa Canals.		Rideau Canal.		St. Peter's Canal.		Trent Valley Canals.	
Tons.	Tolls.	Tons.	Tolls.	Tons.	Tolls.	Tons.	Tolls.	Tons.	Tolls.
	$ cts.		$ cts.		$ cts.		$ cts.		$ cts.
.....	.....	6	0 96	13	2 11	.....	.....	.....	.....
4	0 10	4	0 76	118	13 17	.....	.....	.....	.....
27	0 70	.....	.....	44	3 16	5	0 05	.....	.....
.....	.....	.....	.....	3	0 27	.....	.....	.....	.....
205	5 34	35	3 31	39	3 77	8	0 08	8	24
111	2 81	2	0 38	71	6 37	2	0 02	.....	.....
.....	.....	.....	.....	2	0 18	2,200	22 00	.....	.....
.....	.....	4	0 76	6	0 53	2	0 02	.....	.....
2	0 05	2	0 38	76	6 70	270	2 70	.....	.....
41	1 06	.....	.....	148	15 17	62	0 62	.....	.....
170	4 28	4	0 48	180	16 54	328	3 28	.....	.....
60	1 53	.....	.....	33	3 49	5	0 05	.....	.....
2	0 05	57	10 83	50	4 44	4	0 04	.....	.....
20	0 51	67	12 19	40	4 21	.....	.....	.....	.....
.....	.....	.....	.....	12	1 05	1	0 01	.....	.....
47	1 18	.....	.....	3	0 27	1	0 01	.....	.....
835	20 91	17	1 50	447	40 79	214	2 14	.....	.....
.....	.....	1,166	54 10	1	0 09	.....	.....	.....	.....
34	0 86	.....	.....	15	1 60	33	0 33	.....	.....
2	0 05	.....	.....	.....	.....	1	0 01	.....	.....
12	0 30	.....	.....	20	1 79	1	0 01	.....	.....
14	0 35	.....	.....	9	0 81	54	0 54	.....	.....
79	2 00	3	0 57	79	7 11	28	0 28	.....	.....
4,480	111 98	571	89 98	1,127	109 22	656	6 56	113	3 40
6,145	154 06	1,938	176 20	2,536	243 64	3,875	38 75	121	3 64
.....	.....	.....	.....	.....	.....	48	0 48	46	1 78
.....	.....	45	4 96	88	5 65	28	0 28	10	0 25
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	40,090	334 67	1,245	21 60	.....	.....	5,756	44 42
807	6 74	17,390	568 57	6,399	108 65	383	3 83	20,523	217 86
.....	.....	114	1 14	.....	.....	.....	.....	.....	.....
311	3 50	406,314	29,572 13	28,534	2,619 98	9,208	92 08	2,200	42 78
.....	.....	64	1 26	.....	.....	.....	.....	497	7 00
.....	.....	38	4 14	.....	.....	.....	.....	.....	.....
331	3 31	2,462	493 11	94	3 75	255	2 55	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	1,660	41 50
10	0 07	.....	.....	.....	.....	24	0 24	.....	.....
.....	.....	60	0 63	.....	.....	.....	.....	103	1 00
.....	.....	80	0 84	.....	.....	571	5 71	.....	.....
160	2 00	8,423	88 66	.....	.....	.....	.....	17	0 68
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
32	2 18	78	15 72	159	29 11	143	1 43	149	12 97
.....	.....	.....	.....	.....	.....	46	0 40	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	1,018	21 00	167	3 72	.....	.....	7,634	64 89
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	150	1 50
.....	.....	.....	.....	600	3 80	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	1	0 01	.....	.....
1,651	17 80	476,171	31,106 83	37,277	2,796 26	10,701	107 01	38,145	436 63

No. (A) 14.—STATEMENT of Traffic on the undermentioned Canals, and

Articles.	Welland Canal.		St. Lawrence Canals.		Chambly Canal.	
	Tons.	Tolls.	Tons.	Tolls.	Tons.	Tolls.
Special Class.		$ cts.		$ cts.		$ cts.
Coal	97,732	19,546 40	221,003	31,518 78	98,214	9,688 62
Kryolite or chemical ore						
Iron ore	26,125	1,306 25			145	14 50
Stone, unwrought, not suitable for cutting	3,105	243 27	4,614	146 10	504	51 15
Ice						
Total special class	126,962	21,095 92	225,617	31,664 88	98,863	9,754 27
Total freight and tolls	783,779	118,033 93	899,703	86,348 81	362,635	26,000 10
Timber and other wood, free			1,028	88 77		
Wheat, corn, flour, iron, salt, coal, etc., free	5,991	898 65	448,362	41,901 36		
Grand totals, passengers and tonnage of vessels not included	789,770	118,932 58	1,349,093	128,338 94	362,635	26,000 10

DEPARTMENT OF RAILWAYS AND CANALS,

OTTAWA, October 1, 1900.

the Amount of Tolls collected, &c.—*Concluded.*

Murray Canal.		Ottawa Canals.		Rideau Canal.		St. Peter's Canal.		Trent Valley Canals.	
Tons.	Tolls.	Tons.	Tolls.	Tons.	Tolls.	Tons.	Tolls.	Tons.	Tolls.
	$ cts.		$ cts.		$ cts.		$ cts.		$ cts.
380	7 14	.....	.....	16,248	646 98	35,335	353 35	.....	.....
.....	.....	.....	.....	20	1 00	306	3 06	.....	.....
.....	.....	.....	.....	.....	.....	150	1 50	.....	.....
4,365	43 65	1,178	12 56	15	0 19	5,327	53 27	947	4 45
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
4,745	50 79	1,178	12 56	16,283	648 17	41,118	411 18	947	4 45
16,788	714 49	488,509	35,365 40	69,363	5,704 22	70,804	3,151 33	40,160	1,240 74
.....	.....	31,596	305 15	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	542	14 47	.....	.....	.....	.....
16,788	714 49	520,105	35,670 55	69,905	5,718 69	70,804	3,151 33	40,160	1,240 74

RICHARD DEVLIN,
Compiler of Canal Statistics.

SUPPLEMENTARY APPENDIX

No. (A) 15.—SUMMARY STATEMENT of Traffic on the undermentioned Canals during of each description of property passed through

Articles.	Welland Canal.		St. Lawrence Canals.		Chambly Canal.	
	Tons.	Tolls.	Tons.	Tolls.	Tons.	Tolls.
		$ cts.		$ cts.		$ cts.
Vessels of all kinds	1,060,673	15,405 22	2,378,432	21,729 99	892,623	3,332 77
	No.		No.		No.	
Passengers	63,545	777 94	70,921	3,433 34	3,710	50 08
Forest, Produce of the Wood.	Tons.		Tons.		Tons.	
Bark						
Boat knees						
Floats			1,320	23 11		
do Free						
Firewood	4,341	231 80	11,636	271 38	150,627	4,955 76
do Free						
Hoops and hop poles	100	12 00				
Lumber, sawed	67,850	12,128 56	27,647	793 41	56,833	3,384 29
do Free			1,001			
Masts, spars, &c	34	4 35	31,169	779 13		
Railway ties	1,637	238 43	127	5 12	11,517	917 99
Saw logs	4,591	183 41	509	10 74		
do Free						
Staves, all kinds			34	65		
Shingles	51	36 18	49	8 26		
do Free						
Split posts and rails						
Timber, square	24,985	3,746 21	7,889	191 93		
do Free			26			
Traverses			544	3 40		
Total	103,589	16,580 94	81,951	2,087 13	218,977	9,257 95
Farm Stock.						
Cattle			308	23 71	120	4 25
Hogs			31	2 49		
Horses	10	1 17	682	40 67	63	2 23
do Free			1			
Sheep			166	12 66	90	3 13
Total	10	1 17	1,188	79 53	273	9 61
Produce of Animals.						
Bones			367	47 37		
Horns and hoofs, hides and skins, raw	21	3 62	57	3 84		
Lard and lard oil	870	173 85	1,166	101 74		
Meats other than pork	9	57	133	16 10		
Pork	363	71 60	1,629	97 83	2	08
Tallow	201	40 20	89	7 30		
Wool	130	26 00	28	4 20		
Agricultural products not enumerated, animal			5,725	382 24		
Total	1,594	315 24	9,194	660 62	2	08

SESSIONAL PAPER No. 20

A—*Continued.*

the Season of Navigation ended 31st December, 1899, showing the Total Quantity and the amount of Tolls collected thereon.

Murray Canal.		Ottawa Canals.		Rideau Canal		St. Peter's Canal.		Trent Valley Canals.	
Tons.	Tolls.	Tons.	Tolls.	Tons.	Tolls.	Tons.	Tolls.	Tons.	Tolls.
	$ cts.		$ cts.		$ cts.		$ cts.		$ cts.
171,834	237 84	319,977	3,303 29	160,782	1,552 29	122,082	2,443 29	119,892	620 39
No.		No.		No.		No.		No.	
14,466	173 64	13,254	186 35	5,510	126 12			26,608	165 38
Tons.		Tons.		Tons.		Tons.		Tons.	
						48	48	46	1 78
		40,090	334 67	1,245	21 60			5,756	44 42
		19,620							
807	6 74	17,504	569 71	6,399	108 65	383	3 83	20,523	217 86
		144							
		38	4 14			1	01		
311	3 50	406,378	29,573 39	28,534	2,619 98	9,208	92 08	2,697	49 78
		47							
10	07	60	63			24	24	103	1 00
331	3 31	2,462	493 11	94	3 75	255	2 55	1,060	41 50
		1,013	21 00	167	3 72			7,634	64 89
		483							
								150	1 50
32	2 18	78	15 72	150	29 11	143	1 43	149	12 97
		2							
						40	40		
160	2 00	8,503	89 50			571	5 71	17	68
		11,300							
				600	3 80				
1,651	17 80	507,722	31,101 87	37,189	2,790 61	10,673	106 73	38,135	536 38
		663	50 35	2	06	31	31	175	175
		121	9 26						
62	1 19	216	10 23	16	48				
		283	23 78			1	01	5	05
62	1 19	1,283	93 62	18	54	32	32	180	180
		11	78	25	86			70	70
11	21	11	90	11	32				
21	42	5	50	86	2 31	1	01		
7	14			61	1 55	39	39		
14	28	3	12	200	5 10	106	1 06		
4	08	9	89						
8	16	1	10	2	08				
		2,134	185 77	1,182	31 86	1	01		
65	1 29	2,174	189 06	1,567	42 08	147	1 47	70	70

No. (A) 15.—Summary Statement of Traffic on the Undermentioned

Articles.	Welland Canal.		St. Lawrence Canals.		Chambly Canal.	
	Tons.	Tolls.	Tons.	Tolls.	Tons.	Tolls.
		$ cts.		$ cts.		$ cts.
Agricultural Products.						
Agricultural products not enumerated, vegetable	273	30 42	2,474	186 84		
do do Free			32			
Apples	230	7 75	3,291	481 84	177	12 66
Barley	2,907	314 85	24,634	1,124 51	30	1 01
do Free			596			
Buckwheat	4	10	1,296	62 02		
Cotton, raw			231	5 83		
Corn	204,004	20,400 40	195,724	5,162 15		
do Free			154,386			
Flax and hemp			3	30		
Flour	11,625	2,132 02	23,604	1,303 24	409	13 77
do Free			4,229			
Hay, pressed	400	60 00	959	42 37	11,789	712 65
Meals, all kinds	18,202	3,639 98	2,058	99 35		
Manilla	129	19 35	40	7 80		
Oats	24,037	2,432 68	32,818	1,298 48	4,342	144 98
do Free			10,250			
Pease	28	71	11,598	869 16	238	7 96
Potatoes			73	5 47	59	2 04
Rye	923	92 30	5,599	445 24		
do Free			923			
Seeds, flax, clover and grass	211	22 20	27,708	858 31	9	42
do do Free	121		200			
Tobacco, raw	103	19 34	33	3 33		
do Free			96			
Wheat	197,732	19,767 27	129,589	4,106 23		
do Free			169,978			
Total	460,929	48,930 37	802,422	16,062 47	17,053	895 49
Manufactures.						
Ashes, pot and pearl	58	11 60	14	2 80		
do do Free			58			
Agricultural Implements			71	8 80	8	61
Barrels, empty	78	8 93	588	60 08	3	30
do Free			1			
Bricks	115	4 99	8,856	403 68	349	34 90
do Free	24					
Cement and water lime	49	2 16	5,100	574 07	175	17 05
do do Free	997					
Crockery and earthenware	19	2 59	128	22 65	2	20
do do Free	3					
Furniture	18	3 15	1,743	256 77		
Glass of all kinds	86	11 10	1,135	217 95	8	80
do Free	200		16			
Iron, railway	567	68 85	309	22 84		
do pig			3,964	405 63	1,167	116 70
do all other	6,361	1,184 23	11,671	995 52	1,950	187 21
do do Free	1,318		5,063			
Molasses	249	45 70	1,111	84 22	230	20 37
do Free			159			
Nails	139	10 01	2,502	332 01		
do Free	518					
Oil	7,467	1,488 05	2,349	241 13	126	7 72
do Free	21		7,143			
Oil cake			2,540	127 01	16	1 60
Paint	40	2 72	486	80 84	19	1 90
do Free	2					

Canals, and the Amount of Tolls collected, &c.—*Continued.*

Murray Canal.		Ottawa Canals.		Rideau Canal,		St. Peter's Canal.		Trent Valley Canals.	
Tons.	Tolls.	Tons.	Tolls.	Tons.	Tolls.	Tons.	Tolls.	Tons.	Tolls.
	$ cts.		$ cts.		$ cts.		$ cts.		$ cts.
71	1 40	19	1 26	29	70	96	96		
223	4 27			198	4 80	63	63		
762	14 31					7	07	13	13
79	1 49	40	3 92	33	1 42				
2	04								
56	1 05			110	2 69	21	21		
7	14	125	11 51	788	20 11	2,460	24 60		
		451	41 90	427	10 86	1,466	14 66		
11	22	15	1 14	19	47	999	999	2	02
		4	76	6	53	2	02		
8	15	1,441	117 73	823	31 43	2,010	20 10	16	76
429	8 09	345	28 25	9	35			19	19
4	08	148	9 59	110	2 68	2,128	21 28	5	05
392	7 38	10	92	7	20				
57	1 09	1	06	6	16				
				16	43	1	01		
1,115	20 97			213	4 97			437	4 37
3,216	60 68	2,599	217 04	2,794	81 80	9,253	92 53	492	492
		6	96	13	2 11				
4	10	4	76	118	13 17				
		45	4 96	88	5 65	28	28	10	25
43	81			342	8 02	1,165	11 65	205	2 83
177	3 87	17	1 67	434	11 14	986	9 86		
27	70			44	3 96	5	05		
205	5 34	35	3 31	39	3 77	8	08	8	24
111	2 81	2	38	71	6 37	2	02		
216	4 05	2	12			33	33		
		7	42	67	1 82	30	30		
344	6 58	107	7 26	313	8 52	50	50		
2	05	2	38	76	6 70	2 70	2 70		
41	1 06			148	15 17	62	62		
170	4 28	4	48	180	16 54	328	3 28		
						1	01		
60	1 53			33	3 49	5	05		

No. (A) 15.—SUMMARY STATEMENT of Traffic on the Undermentioned

Articles.	Welland Canal.		St. Lawrence Canals.		Chambly Canal.	
	Tons.	Tolls.	Tons.	Tolls.	Tons.	Tolls.
Manufactures—Concluded.		$ cts.		$ cts.		$ cts.
Pitch and tar			591	79 60	5,998	599 80
do Free	6					
Rosin			1,748	93 40	2,203	245 76
do Free	15					
Soda ash	60	1 32	651	126 11		
do Free	108					
Spirits, whiskey, &c	581	81 59	734	126 83		
do do Free	178					
Steel	16,598	3,287 35	1,041	147 78		
do Free	18		3,000			
Sugar	7,689	1,149 16	9,459	1,526 65	1,577	157 13
do Free	1,596					
Tin	73	10 82	1,034	203 60	4	40
do Free	159					
White lead	7	14	184	25 65		
do Free	1					
Turpentine			102	5 38	157	15 70
Whiting			550	109 11		
do Free	89					
Woodenware			35	10 38		
Total	45,606	7,374 46	74,211	6,290 49	13,992	1,408 15
Merchandise.						
Brimstone, crude			608	64 08		
Clay, lime and sand	550	38 79	37,471	1,471 37	6,138	698 28
do do Free	8		15			
Coal	97,732	19,546 40	221,003	31,518 78	98,214	9,688 62
do Free			90,426			
Dye woods and dye stuffs			3	29	5	50
Fish	2,233	334 82	88	9 65		
do Free	10					
Gypsum			522	7 21		
do Free	4					
Ores, all kinds	26,125	1,306 25			145	14 50
Marble	211	31 65			15	1 50
Rags	1	20	760	112 07		
do Free	14					
Salt	1,282	247 83	2,328	269 24	927	81 67
do Free			183			
Stone, all kinds	3,534	329 07	9,185	347 64	505	51 25
do Free			1,015			
All other goods and merchandises, not enumerated	45,856	6,804 58	16,002	2,204 91	6,389	509 65
do do Free	482		518			
Total	178,042	28,639 59	380,127	36,005 24	112,338	11,045 97
Grand totals, passengers and tonnage of vessels not included	789,770	118,033 93	1,349,093	86,348 81	362,635	26,000 10

DEPARTMENT OF RAILWAY AND CANALS,

OTTAWA, October 1, 1900.

SESSIONAL PAPER No. 20

Canals, and the Amount of Tolls collected, &c.—*Continued.*

Murray Canal.		Ottawa Canals.		Rideau Canal.		St. Peter's Canal.		Trent Valley Canals.	
Tons.	Tolls.	Tons.	Tolls.	Tons.	Tolls.	Tons.	Tolls.	Tons.	Tolls.
	$ cts.		$ cts.		$ cts.		$ cts.		$ cts.
2	05	57	10 83	50	4 44	4	04	.....	.....
.....	.....	.....	.....	12	1 05	1	01	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
47	1 18	.....	.....	3	27	1	01	.....	.....
79	2 00	3	57	79	7 11	28	28	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
23	45	.....	.....	22	62	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
835	20 91	17	1 50	447	40 79	214	214	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
34	86	.....	.....	15	1 60	33	33	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
12	30	.....	.....	20	1 79	1	01	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
2	05	.....	.....	.....	.....	1	01	.....	.....
14	35	.....	.....	9	81	54	54	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
2,448	56 83	308	33 60	2,023	164 91	3,310	33 10	223	3 32
30	57	.....	.....	.....	.....	.....	.....	.....	.....
29	56	2,985	68 06	6,584	153 82	474	4 74	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
380	7 14	.....	.....	16,248	646 98	35,335	353 35	.....	.....
.....	.....	.....	.....	542	.....	.....	.....	.....	.....
.....	.....	.....	.....	3	27	.....	.....	.....	.....
.....	.....	10	60	36	92	1,852	18 52	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	20	1 95	.....	.....	130	1 30	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	20	1 00	456	4 56	.....	.....
.....	.....	.....	.....	2	18	2,200	22 00	.....	.....
20	51	67	12 19	40	4 21	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
42	81	22	1 13	1,074	28 47	959	9 59	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
4,365	43 65	2,344	66 66	38	80	5,327	53 27	947	4 45
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
4,480	111 98	571	89 98	1,127	109 22	656	6 56	113	3 40
9,346	165 22	6,019	240 57	25,714	945 87	47,389	473 89	1,060	7 85
16,788	714 49	520,105	35,365 40	69,905	5,704 22	70,804	3,151 33	40,160	1,340 74

RICHARD DEVLIN,

Compiler of Canal Statistics.

APPENDIX A—*Continued.*

No. (A) 16.—STATEMENT showing the amount of Tolls accrued each month during the Season of Navigation ended December 31, 1899.

Canals and Offices.	January	March.	April.	May.	June.	July.	August.	September	October.	November	December.	Total.
WELLAND CANAL.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Chippawa				34 20	4 95	5 61	12 46	50				57 72
Colborne			1,475 49	14,257 18	13,418 86	12,100 22	11,254 59	10,053 49	10,612 56	7,673 69	2,268 97	83,115 05
Dalhousie			2,220 90	9,900 53	6,741 11	3,672 35	2,822 05	2,835 90	1,909 32	4,035 79	1 71	34,139 66
Dunnville				90 74	64 85	48 84	76 75	12 28	36 91	74 63	17 08	422 08
Maitland												
St. Catharines		2 31	31 75	44 64	33 29	45 50	19 15	28 04	61 49	28 16	2 09	299 42
Total Welland Canal		2 31	3,731 14	24,327 29	20,263 06	15,872 52	14,185 00	12,930 21	12,620 28	11,812 27	2,289 85	118,033 93
ST. LAWRENCE CANALS.												
Beauharnois				1,409 29	1,422 83	1,763 08	2,077 23	1,527 58	1,250 13	871 30		10,324 44
Cardinal			3 36	17 36	28 50	29 85	48 06	41 77	78 30	51 55	9 08	307 83
Cornwall			62 46	5,708 38	4,976 11	5,097 63	4,198 03	3,522 41	4,211 84	4,629 19	96 45	33,102 50
Kingston			646 53	1,417 57	1,192 77	976 59	1,048 59	1,319 63	2,238 15	2,345 91		11,179 34
Lachine				332 63	418 51	440 09	704 62	527 79	447 59	464 04	8 58	3,343 85
Montreal				4,855 69	4,756 57	4,734 99	4,677 08	3,313 40	2,965 27	2,787 85		28,090 85
Total St. Lawrence Canals			712 35	13,740 92	12,795 29	13,636 23	12,753 61	10,252 58	11,191 28	11,152 44	114 11	86,348 81
CHAMBLY CANAL.												
Chambly				886 55	1,685 91	1,889 80	2,141 67	1,905 63	1,398 86	1,495 01		11,403 43
St. John				3,004 59	2,178 30	2,294 05	2,108 81	967 63	2,519 06	841 40	5 34	13,919 18
St. Ours			9 25	41 53	59 84	63 26	93 37	80 01	226 59	100 04	3 60	677 49
Total Chambly Canal			9 25	3,932 67	3,924 05	4,247 11	4,343 85	2,953 27	4,144 51	2,436 45	8 94	26,000 10

Ottawa Canals.												
Ottawa			35 93	5,396 49	4,625 35	4,652 13	4,057 26	2,977 39	3,744 55	1,787 93		27,277 03
Carillon				6 62	8 79	8 59	6 06	7 66	3 47	5 96		47 15
Grenville				757 89	713 73	784 40	998 05	1,458 05	1,360 46	948 05		7,020 63
Ste. Anne's			1 29	95 76	201 21	159 96	196 29	150 14	129 95	85 99		1,020 59
Total Ottawa Canals			37 22	6,256 76	5,549 08	5,605 08	5,257 66	4,593 24	5,238 43	2,827 93		35,365 40
Rideau Canal.												
Kingston Mills				100 22	219 51	211 21	263 47	114 60	159 84	30 09		1,098 94
Ottawa				761 35	403 41	795 33	701 77	490 93	491 31	285 23	7 41	3,939 74
Smith's Falls				62 08	94 73	98 02	147 96	102 45	87 59	72 71		665 54
Total Rideau Canal				926 65	717 65	1,104 56	1,113 20	707 98	738 74	388 03	7 41	5,704 22
St Peter's Canal.												
St. Peter's	12 30		35 59	271 86	308 92	423 14	516 46	518 30	396 46	380 69	287 61	3,151 33
Trent Valley Canals.												
Bobcaygeon				33 00	38 37	60 82	88 06	121 75	106 07	76 62	0 25	524 94
Buckhorn				9 25	10 48	24 34	15 97	13 08	12 95	30 30		116 37
Burleigh				3 41	10 01	12 01	17 60	17 00	5 25	7 50		72 81
Fenelon Falls				10 10	33 90	33 70	35 85	29 10	10 89	16 70		170 24
Hastings				1 65	6 20	5 61	5 75	4 87	14 45	4 89		43 42
Peterborough			4 33	19 59	47 67	74 70	78 26	42 57	24 21	21 63		312 96
Total Trent Valley Canals			4 33	77 03	146 63	211 18	241 49	228 37	173 82	157 64	0 25	1,240 74
Murray Canal.												
Brighton			13 06	58 56	95 91	142 98	132 40	120 78	89 05	61 25	0 50	714 49
Grand total	12 30	2 31	4,542 94	49,591 74	43,800 59	41,242 80	38,543 67	32,304 73	34,592 57	29,216 70	2,708 67	276,559 02

RICHARD DEVLIN,
Compiler of Canal Statistics.

Department of Railways and Canals,
Ottawa, October, 1899.

APPENDIX A.—*Continued.*

No. (A) 17.—SUMMARY STATEMENT showing the Number, Tonnage and Nationality of Vessels passed through all the Canals during the Season of Navigation ended December 31, 1899, and the amount of Tolls collected thereon.

Vessels.	Total Number.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Amount of Tolls.
		Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.		
WELLAND CANAL.													$ cts.
Canadian vessels, steam	1,258	133,195	130,597	63,134	1,341	.....	483	489	61,906	197,118	191,330	391,448	3,751 49
" sail	121	43,175	41,183	10,908	1,345	.....	802	503	39,936	84,586	83,266	167,852	3,577 12
Total Canadian	1,679	176,370	171,780	104,342	2,689	.....	1,285	992	101,842	281,704	277,596	559,300	7,328 61
United States vessels, steam	355	1,465	.....	20,765	461	189,568	161,615	29	50,917	211,827	212,983	424,820	6,352 83
" sail	168	.....	814	10,244	110	28,268	18,734	814	17,569	39,326	37,227	76,553	1,723 78
Total United States	523	1,465	814	31,009	571	217,836	180,349	843	68,486	251,153	250,220	501,373	8,076 61
Grand Total Welland Canal	2,202	177,835	172,594	135,351	3,260	217,836	181,634	1,835	328	532,857	527,816	1,060,673	15,405 22
ST. LAWRENCE CANALS.													
Canadian vessels, steam	3,505	369,682	298,971	20,822	68	925	280	68	22,450	391,497	321,769	713,266	4,766 20
" sail	6,327	789,345	607,463	40,172	180	.....	36	180	88,136	829,697	695,815	1,525,512	15,491 23
Total Canadian	9,832	1,159,027	906,434	60,994	248	925	316	248	110,586	1,221,194	1,017,584	2,238,778	20,257 43
United States vessels, steam	384	618	1,710	4,875	61	4,909	5,455	233	5,720	10,635	12,949	23,584	155 91
" sail	654	5,698	11,110	32,525	519	634	1,908	29,974	34,757	67,776	48,294	116,070	1,316 65
Total United States	1,038	6,316	12,820	37,400	583	5,543	7,363	30,207	40,477	78,411	61,243	139,654	1,472 56
Grand Total, St. Lawrence Canals	10,870	1,165,343	919,254	98,394	831	6,468	7,679	30,455	151,063	1,299,605	1,078,827	2,378,432	21,729 99
CHAMBLY CANAL.													
Canadian vessels, steam	321	31,039	33,334	56	.....	.....	.....	.....	.....	31,095	33,334	64,429	211 67
" sail	349	8,211	9,602	6,406	.....	.....	.....	123	10,848	14,740	20,450	35,190	396 62
Total Canadian	670	39,250	42,936	6,462	.....	.....	.....	123	10,848	45,835	53,784	99,619	608 29

United States vessels, steam	31	15	99	496			39		964	511	1,102	1,613	18 49
" sail	2,145	384	1,496	91,266					118,245	91,650	119,741	211,391	2,705 99
Total United States	2,176	399	1,595	91,762			39		119,209	92,161	120,843	213,004	2,724 48
Grand Total, Chambly Canal	2,846	39,649	44,531	98,224			39	123	130,057	137,996	174,627	312,623	3,332 77
OTTAWA CANALS.													
Canadian vessels, steam	1,149	42,773	111,060		208					42,773	111,268	154,041	735 45
" sail	1,224	5,564	127,362		5,490					5,564	132,852	138,416	1,920 38
Total Canadian	2,373	48,337	238,422		5,698					48,337	244,120	292,457	2,655 83
United States vessels, steam	2		42		1						43	43	60
" sail	278	4,300	97		22,877			203		4,503	22,974	27,477	646 86
Total United States	280	4,300	139		22,878			203		4,503	23,017	27,520	647 46
Grand Total, Ottawa Canals	2,653	52,637	238,561		28,576			203		52,840	267,137	319,977	3,303 29
RIDEAU CANAL.													
Canadian vessels, steam	1,561	55,986	56,169	2,291					3,040	59,280	59,209	117,489	794 53
" sail	618	9,341	11,041	4,865					4,398	14,206	15,439	29,645	490 39
Total Canadian	2,179	65,327	67,210	7,159					7,438	72,486	74,648	147,134	1,284 92
United States vessels, steam	58	35	10	377					477	412	487	899	15 08
" sail	231	4,358	2,468	551	4,701				671	4,909	7,840	12,749	252 29
Total United States	289	4,393	2,478	928	4,701				1,148	5,321	8,327	13,648	267 37
Grand Total, Rideau Canal	2,468	69,720	69,688	8,087	4,701				8,586	77,807	82,975	160,782	1,552 29
ST. PETER'S CANAL.													
Canadian vessels, steam	298	25,836	19,915							25,836	19,915	45,751	915 20
" sail	1,407	38,567	37,226					99		38,666	37,226	75,892	1,519 31
Total Canadian	1,705	64,403	57,141					99		64,502	57,141	121,643	2,434 51
United States vessels, steam	2	138	138							138	138	276	5 52
" sail	4	25			112			26		51	112	163	3 26
Total United States	6	163	138		112			26		189	250	439	8 78
Grand Total, St. Peter's Canal	1,711	64,566	57,279		112			125		64,691	57,391	122,082	2,443 29

No. (A) 17.—Summary Statement showing the Number, Tonnage and Nationality of Vessels, &c.—*Continued.*

Vessels.	Total Number.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Amount of Tolls.
		Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.		
Trent Valley Canals.													$ cts.
Canadian vessels, steam	1,644	35,013	34,901							35,013	34,901	69,914	438 54
" sail	788	24,338	35,640							24,338	25,640	49,978	181 85
Total Canadian	2,432	59,351	60,541							59,351	60,541	119,892	620 39
United States vessels, steam													
" sail													
Total United States													
Grand Total, Trent Valley Canals	2,432	59,351	60,541							59,351	60,541	119,892	620 39
Murray Canal.													
Canadian vessels, steam	562	80,968	52,404	14,387	517			499	12,822	95,854	65,743	161,597	198 55
" sail	147	3,043	4,144	621	5		1,200		586	3,664	5,935	9,599	34 46
Total Canadian	709	81,011	56,548	15,008	522		1,200	499	13,408	99,518	77,678	171,196	233 01
United States vessels, steam	5	106	50	126						232	50	282	1 08
" sail	15	75	10	77					194	152	204	356	3 75
Total United States	20	181	60	203					194	384	254	638	4 83
Grand Total, Murray Canal	729	84,192	56,608	15,211	522		1,200	499	13,602	99,902	71,932	171,834	237 84
Sault Ste. Marie Canal.													
Canadian vessels, steam	1,743	130,611	140,526	39,300	17,192		88	31,185	90,031	201,096	247,837	448,933	
" sail	257	38,956	33,251	9,552	6,087		802	9,144	11,827	57,652	51,967	109,619	
Total Canadian	2,000	169,567	173,777	48,852	23,279		890	40,329	101,858	258,748	299,804	558,552	Free.

United States vessels, steam	1,420	.....	.....	10,955	857	1,047,921	746,642	15,968	2,852	1,074,844	750,351	1,825,195		
" sail	349	.....	.....	640	300	334,587	222,110	4,655	1,970	330,882	224,380	564,202		
Total United States	1,769	... ...	.....	11,595	1,157	1,382,508	968,752	20,623	4,822	1,414,726	974,731	2,389,457		
Grand Total Sault Ste. Marie Canal	3,769	169,597	173,777	60,447	24,436	1,382,508	963,642	60,952	106,680	1,673,474	1,274,535	2,948,009	Free.	

No. (A) 17.—Summary Statement showing the Number, Tonnage and Nationality of Vessels, &c.—*Concluded.*

RECAPITULATION.

Vessels.	Total Number.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Amount of Tolls.
		Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.		
Canadian Vessels. *Steam and Sail.*													$ cts.
Welland	1,679	176,370	171,780	104,342	2,689	.....	1,285	992	101,842	281,704	277,596	559,300	7,328 61
St. Lawrence	9,832	1,159,027	906,434	60,994	248	925	316	248	110,586	1,221,191	1,067,584	2,238,778	20,257 43
Chambly	670	39,256	42,936	6,462	.....	.....	.....	123	10,848	45,835	53,784	99,619	608 29
Ottawa	2,373	48,337	238,122	.....	5,698	.....	.....	.....	.....	48,337	244,120	292,457	2,655 83
Rideau	2,179	65,327	67,210	7,159	.....	.....	.....	.....	7,438	72,486	74,648	147,134	1,284 92
St. Peter's	1,705	64,401	57,141	.....	.....	.....	.....	99	.....	64,502	57,141	121,643	2,434 51
Trent Valley	2,432	59,351	60,541	.....	.....	.....	.....	.....	.....	59,351	60,541	119,892	620 39
Murray	709	84,011	56,548	15,008	522	.....	1,200	499	13,408	99,518	71,678	171,196	233 61
Sault Ste. Marie	2,000	169,567	173,777	48,852	23,279	.....	890	40,329	101,858	258,748	299,804	558,552	Free.
Total Canadian	23,579	1,865,643	1,774,789	242,817	32,436	925	3,691	42,290	345,980	2,151,675	2,156,896	4,308,571	35,422 99
United States Vessels.													
Welland	523	1,465	814	31,009	571	217,836	180,349	843	68,486	251,153	250,220	501,373	8,076 61
St. Lawrence	1,038	6,316	12,820	37,400	583	5,543	7,363	30,207	40,477	78,411	61,243	139,654	1,472 56
Chambly	2,176	399	1,595	91,762	.....	.....	39	.....	119,209	92,161	120,843	213,004	2,724 48
Ottawa	280	4,300	139	.....	22,878	.....	.....	203	.....	4,503	23,017	27,520	647 46
Rideau	289	4,393	2,478	928	4,701	.....	.....	.....	1,148	5,321	8,327	13,648	267 37
St. Peter's	6	163	138	.....	112	.....	.....	26	.....	189	250	439	8 78
Trent Valley	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Murray	20	181	60	203	.....	.....	.....	.....	194	384	254	638	4 83
Sault Ste. Marie	1,769	.....	.....	11,595	1,157	1,382,508	968,752	20,623	4,822	1,414,726	974,731	2,389,457	Free.
Total United States	6,101	17,217	18,044	172,897	30,002	1,605,887	1,156,503	51,902	234,336	1,846,848	1,438,885	3,285,733	13,202 09
Grand total, Canadian and United States	29,680	1,882,860	1,792,833	415,714	62,438	1,606,812	1,160,194	94,192	580,316	3,998,523	3,595,781	7,594,304	48,625 08

Department of Railways and Canals,
Ottawa, October 1, 1900.

RICHARD DEVLIN,
Compiler of Canal Statistics.

No. (A) 18.—COMPARATIVE STATEMENT of Grand Total Freight passed through the undermentioned Canals during the Seasons of Navigation of 1898 and 1899, and the Amount of Tolls collected on the same, including Tolls on Vessels and Passengers.

—	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.		Tons.		Total Tons.	Amount of Tolls.
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.		
1898.												$ cts.
Welland	6,343	106,239	5,561	20,997	210,516	277,023	986	512,412	223,406	916,671	1,140,077	168,598 07
St. Lawrence	172,178	1,028,585	3,374	620	398	962	28,181	204,836	204,131	1,235,003	1,439,134	90,854 93
Chambly	6,389	10,272	161,183					93,492	167,572	103,764	271,336	19,326 06
Ottawa	1,401	492,712		55,873					1,401	548,585	549,986	36,920 62
Rideau	19,910	9,498	7,283	9,106				9,149	27,193	27,753	54,946	4,794 01
St. Peter's	14,427	49,321					742		15,169	49,321	64,490	2,876 32
Trent Valley	21,167	6,509							21,167	6,509	27,676	1,094 63
Murray	5,671	8,467	531				53	881	6,255	9,288	15,543	684 01
Sault Ste. Marie	16,503	108,344	9,321	12,371	618,594	2,147,136	51,653	91,365	696,071	2,359,216	3,055,287	No Tolls.
Grand total	263,989	1,819,887	187,253	98,967	829,508	2,425,121	81,615	912,135	1,362,365	5,256,110	6,618,475	325,148 65
1899.												
Welland	6,557	148,272	10,907	4,902	135,038	225,491		258,603	152,502	637,268	789,770	118,033 93
St. Lawrence	169,092	917,528	7,125	472	344	1,233	34,957	218,432	211,428	1,137,665	1,349,093	85,348 81
Chambly	2,221	12,210	227,428					120,776	229,649	132,986	362,635	26,000 10
Ottawa	445	449,840		69,820					445	519,660	520,105	35,365 40
Rideau	25,311	9,609	11,337	19,727				12,921	36,648	33,257	69,905	5,704 22
St. Peter's	23,818	46,986							23,818	46,986	70,804	3,151 33
Trent Valley	31,177	8,983							31,177	8,983	40,160	1,240 74
Murray	10,089	5,815	501					383	10,590	6,198	16,788	714 49
Sault Ste. Marie	27,588	234,169	9,066	29,212	596,648	1,903,264	90,721	115,996	724,023	2,282,641	3,006,664	No Tolls.
Grand total	296,208	1,833,412	266,364	115,133	732,030	2,129,988	125,678	727,111	1,420,280	4,805,644	6,225,924	276,559 02

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October 1, 1900.

RICHARD DEVLIN,
Compiler of Canal Statistics.

APPENDIX A—*Continued.*

No. (A) 19.—STATEMENT of the Number and Tonnage of all kinds of Vessels passed through the Canals during the Season of Navigation in 1899.

WELLAND CANAL.

CANADIAN.					UNITED STATES.			
Steam Vessels.			Sailing Vessels.		Steam Vessels.		Sailing Vessels.	
Tonnage.	Number.	Total Tonnage.	Number.	Total Tonnage.	Number.	Total Tonnage.	Number.	Total Tonnage.
8	5	40	3	24	3	24	.....	.....
10	4	40	1	10	3	30	1	10
15	3	45	.....	.....	2	30	1	15
20	3	60	.....	.....	1	20	.....	.....
25	5	125	2	50	.....	.....	.....	.....
30	4	120	.....	.....	2	60	1	30
35	4	140	.....	.....	.....	.....	.....	.....
40	.....	.....	7	280	1	40	.....	.....
45	1	45	3	135	1	45	.....	.....
50	.....	.....	2	100	3	150	.....	.....
55	.....	.....	1	55	.....	.....	.....	.....
60	1	60	1	60	.....	.....	.....	.....
70	1	70	.....	.....	1	70	.....	.....
75	.....	.....	1	75	1	75	.....	.....
80	.....	.....	1	80	.....	.....	.....	.....
85	1	85	.....	.....	.....	.....	.....	.....
95	.....	.....	.....	.....	1	95	.....	.....
100	1	100	.....	.....	.....	.....	.....	.....
110	1	110	1	110	.....	.....	1	110
130	1	130	1	130	.....	.....	.....	.....
135	.....	.....	1	135	.....	.....	.....	.....
140	.....	.....	.....	.....	.....	.....	1	140
150	.....	.....	1	150	.....	.....	.....	.....
155	1	155	.....	.....	.....	.....	.....	.....
160	.....	.....	.....	.....	1	160	.....	.....
165	2	330	.....	.....	.....	.....	.....	.....
175	.....	.....	1	175	1	175	.....	.....
180	.....	.....	4	720	.....	.....	.....	.....
190	.....	.....	1	190	.....	.....	1	190
195	.....	.....	1	195	.....	.....	.....	.....
200	.....	.....	1	200	1	200	.....	.....
220	3	660	1	220	.....	.....	.....	.....
230	1	230	1	230	1	230	.....	.....
245	1	245	.....	.....	.....	.....	.....	.....
260	1	260	.....	.....	1	260	1	260
265	.....	.....	1	265	.....	.....	1	265
270	.....	.....	1	270	1	270	.....	.....
275	.....	.....	1	275	2	550	.....	.....
280	.....	.....	.....	.....	1	280	1	280
285	.....	.....	.....	.....	1	285	.....	.....
290	1	290	1	290	.....	.....	1	290
295	1	295	.....	.....	.....	.....	1	295
300	1	300	.....	.....	1	300	1	300
305	2	610	.....	.....	.....	.....	2	610
310	.....	.....	.....	.....	1	310	1	310
315	.....	.....	1	315	2	630	1	315
320	.....	.....	2	640	1	320	.....	.....
325	.....	.....	2	650	.....	.....	.....	.....
330	.....	.....	1	330	1	330	.....	.....
335	.....	.....	1	335	.....	.....	.....	.....
355	.....	.....	1	355	.....	.....	.....	.....
360	1	360	.....	.....	1	360	.....	.....
400	1	400	.....	.....	.....	.....	.....	.....
405	.....	.....	.....	.....	.....	.....	2	810
415	1	415	.....	.....	.....	.....	1	415
4'5	.....	.....	.....	.....	.....	.....	1	435
440	1	440	.....	.....	.....	.....	.....	.....

No. (A) 19.—STATEMENT of the Number and Tonnage of all kinds of Vessels, &c.—*Continued.*

WELLAND CANAL—*Continued.*

	CANADIAN.				UNITED STATES.			
	Steam Vessels.		Sailing Vessels.		Steam Vessels.		Sailing Vessels.	
Tonnage.	Number.	Total Tonnage.	Number.	Total Tonnage.	Number.	Total Tonnage.	Number.	Total Tonnage.
455			1	455				
460							1	460
470							1	470
475			1	475				
480	1	480	1	480				
485	1	485					1	485
490							1	490
495	1	495						
500	1	500						
530	1	530						
540	1	540			1	540	1	540
545			1	545	1	545	1	545
555	1	555						
575	2	1,170						
590			1	590	1	590	1	590
595							1	595
600	1	600					1	600
605								
615							1	615
620					1	620		
625					1	625	1	625
640			1	640	1	640	1	640
655					1	655		
660					1	660		
665							1	665
675			1	675				
685							1	685
695							1	695
700							1	700
707							1	707
710							1	710
719			1	719				
722	1	722						
739							2	1,478
740			1	740				
742	1	742						
753							1	753
769	1	769						
771	1	771						
787							1	787
796					1	796		
802			1	802	1		1	802
806							1	806
837					1	837		
838							1	838
849					2	1,698		
870							1	870
873							1	873
882					1	882		
892					1	892		
904					1	904		
908			1	908				
911					2	1,822		
917					1	917		
940					1	940		
944					1	944		
950					1	950		
962					1	962		
963					1	963		

No. (A) 19.—STATEMENT of the Number and Tonnage of all kinds of Vessels, &c.—*Concluded.*

WELLAND CANAL—*Concluded.*

CANADIAN.					UNITED STATES.			
Steam Vessels.			Sailing Vessels.		Steam Vessels.		Sailing Vessels.	
Tonnage.	Number.	Total Tonnage.	Number.	Total Tonnage.	Number.	Total Tonnage.	Number.	Total Tonnage.
966					2	1,932		
977	1	977						
989	1	989						
1,029					1	1,029		
1,034					1	1,034		
1,035	1	1,035						
1,041			1	1,041	1	1,041		
1,054					1	1,054		
1,068					1	1,068		
1,078							1	1,078
1,079					1	1,079		
1,111					1	1,111		
1,118					1	1,118		
1,123					1	1,123		
1,172	1	1,172						
1,203					2	2,406	1	1,203
1,207					1	1,207		
1,330					1	1,330		
1,425					1	1,425		
1,441					2	2,882		
1,547					1	1,547		
1,548					1	1,548		
1,550					1	1,550		
1,553					2	3,106		
1,565					1	1,565		
Total...	71	18,692	60	15,119	83	53,836	49	25,385

SESSIONAL PAPER No. 20

APPENDIX A—*Continued.*

No. (A) 20—STATEMENT of the Number and Tonnage of all kinds of Vessels, &c.—*Continued.*

ST. LAWRENCE CANALS—*Continued.*

CANADIAN.					UNITED STATES.			
Steam Vessels.			Sailing Vessels.		Steam Vessels.		Sailing Vessels.	
Tonnage.	Number.	Total Tonnage.	Number.	Total Tonnage.	Number.	Total Tonnage.	Number.	Total Tonnage.
8	36	288	31	248	10	80	1	8
10	20	200	24	240	4	40	2	20
15	16	240	10	150	4	60	.....	.....
20	15	300	11	220	2	40	.....	.....
25	18	450	7	175	1	25	1	25
30	14	420	9	270	.....	.....	1	30
35	7	245	5	175	3	105	2	70
40	10	400	8	320	5	200	4	160
45	4	180	4	180	1	45	.....	.....
50	6	300	6	300	.....	.....	2	100
55	2	110	3	165	4	220	.....	.....
60	5	300	20	1,200	.....	.....	.....	.....
65	.....	.....	1	65	.....	.....	.....	.....
70	6	420	5	350	.....	.....	2	140
75	1	75	7	525	1	75	3	225
80	4	320	8	640	.....	.....	.....	.....
85	4	340	3	255	.....	.....	7	595
90	2	180	8	720	1	90	11	990
95	4	380	3	285	.....	.....	46	4,370
100	3	300	14	1,400	.....	.....	50	5,000
105	4	420	10	1,050	2	210	13	1,365
110	2	220	8	880	2	220	14	1,540
115	2	230	10	1,150	1	115	5	575
120	3	360	7	840	.....	.....	5	600
125	1	125	2	250	.....	.....	2	250
130	4	520	5	650	.....	.....	.....	.....
135	.....	.....	5	675	.....	.....	.....	.....
140	1	140	18	2,520	.....	.....	1	140
145	2	290	9	1,305	.....	.....	.....	.....
150	1	150	30	4,500	.....	.....	.....	.....
155	2	310	31	4,805	.....	.....	.....	.....
160	2	320	10	1,600	.....	.....	2	320
165	.....	.....	11	1,815	.....	.....	.....	.....
170	.....	.....	5	850	.....	.....	.....	.....
175	.....	.....	2	350	.....	.....	.....	.....
180	.....	.....	6	1,080	.....	.....	.....	.....
185	1	185	4	740	.....	.....	.....	.....
190	.....	.....	1	190	.....	.....	.....	.....
195	2	390	4	780	.....	.....	.....	.....
200	3	600	1	200	.....	.....	.....	.....
215	.....	.....	1	215	.....	.....	.....	.....
220	.....	.....	3	660	.....	.....	.....	.....
225	1	225	.....	.....	.....	.....	.....	.....
230	2	460	3	690	.....	.....	.....	.....
245	1	245	2	490	.....	.....	.....	.....
255	1	255	11	2,805	.....	.....	.....	.....
260	1	260	4	1,040	.....	.....	.....	.....
265	.....	.....	2	530	.....	.....	.....	.....
270	.....	.....	1	270	.....	.....	.....	.....
275	.....	.....	1	275	.....	.....	2	550
290	1	290	4	1,160	.....	.....	2	580
300	2	600	6	1,800	.....	.....	.....	.....
305	1	305	2	610	.....	.....	.....	.....
310	.....	.....	5	1,550	.....	.....	.....	.....
315	.....	.....	3	945	.....	.....	.....	.....
320	.....	.....	10	3,200	.....	.....	.....	.....

No. (A) 20.—STATEMENT of the Number and Tonnage of all kinds of Vessels, &c.—*Concluded.*

ST. LAWRENCE CANALS—*Concluded.*

CANADIAN.					UNITED STATES.			
Steam Vessels.			Sailing Vessels.		Steam Vessels.		Sailing Vessels.	
Tonnage.	Number.	Total Tonnage.	Number.	Total Tonnage.	Number.	Total Tonnage.	Number.	Total Tonnage.
325	1	325	2	650				
330			4	1,320				
335			1	335				
340	2	680	6	2,040			1	340
345			1	345				
350			2	700				
360			4	1,440				
365			2	730				
370			4	1,480				
375			2	750				
390			3	1,170				
395			1	395				
415			3	1,245	1	415		
420			5	2,100				
435			1	435			1	435
440			2	880			1	440
445			1	445				
455	1	455						
460			1	460				
475	3	1,425	2	950			1	475
485			3	1,455				
490			2	980			1	490
500	1	500	1	500				
508	2	1,016						
516			2	1,032				
518	1	518	1	518				
520	1	520	1	520				
541			4	2,164				
544							1	544
567			2	1,134				
577	1	577						
578	1	578						
586			1	586				
590	1	590						
593	3	1,779						
599	1	599					2	1,198
607			2	1,214				
617					1	617		
639							1	639
662							1	662
680			1	680				
691	1	691						
694					1	694		
700	1	700						
715	1	715						
801							1	801
805							1	805
838					2	1,676		
1,103							1	1,103
1,207	1	1,207						
1,497					1	1,497		
Total.....	240	25,223	491	79,006	47	6,424	191	25,585

APPENDIX A—*Continued.*

No. (A) 21.—STATEMENT of the Number and Tonnage of all kinds of Vessels passing through the Canals during the Season of Navigation in 1899.

RIDEAU, OTTAWA AND CHAMBLY CANALS.

	CANADIAN.				UNITED STATES.			
	Steam Vessels.		Sailing Vessels.		Steam Vessels.		Sailing Vessels.	
Tonnage.	Number.	Total Tonnage.	Number.	Total Tonnage.	Number.	Total Tonnage.	Number.	Total Tonnage.
8	61	488	197	1,576	15	120	12	96
10	14	140	15	150	6	60	1	10
15	9	135	4	60	4	60	1	15
20	9	180	5	100	1	20	2	40
25	6	150	4	100	1	25	.....	.....
30	3	90	2	60	.....	.....	.....	.....
35	2	70	1	35	1	35	.....	.....
40	3	120	5	200	3	120	.....	.....
45	1	45	3	135	.....	.....	.....	.....
50	4	200	2	100	.....	.....	.....	.....
55	2	110	6	330	1	55	.....	.....
60	1	60	1	60	.....	.....	1	60
65	.....	.....	.....	.....	.....	.....	.....	.....
70	2	140	3	210	1	70	1	70
75	.....	.....	1	75	.....	.....	1	75
80	1	80	2	160	.....	.....	2	160
85	2	170	1	85	.....	.....	10	850
90	2	180	8	720	.....	.....	40	3,600
95	2	190	2	190	.....	.....	140	13,300
100	2	200	5	500	.....	.....	153	15,300
105	.....	.....	6	630	1	105	44	4,620
110	.....	.....	4	440	.....	.....	33	3,630
115	1	115	5	575	.....	.....	14	1,610
120	1	120	1	120	.....	.....	11	1,320
125	1	125	3	375	.....	.....	1	125
130	.....	.....	2	260	.....	.....	1	130
135	1	135	4	540	.....	.....	.....	.....
140	.....	.....	9	1,260	.....	.....	.....	.....
145	1	145	13	1,885	.....	.....	.....	.....
150	1	150	25	3,750	.....	.....	.....	.....
155	.....	.....	22	3,410	.....	.....	.....	.....
160	.....	.....	12	1,920	.....	.....	.....	.....
165	.....	.....	9	1,485	.....	.....	.....	.....
170	.....	.....	4	680	.....	.....	.....	.....
175	.....	.....	1	175	.....	.....	.....	.....
180	.....	.....	3	540	.....	.....	.....	.....
185	.....	.....	2	370	.....	.....	.....	.....
190	.....	.....	1	190	.....	.....	.....	.....
195	1	195	1	195	.....	.....	.....	.....
200	.....	.....	.....	.....	.....	.....	.....	.....
228	1	228	1	228	.....	.....	.....	.....
256	.....	.....	.....	.....	.....	.....	.....	.....
262	1	262	.....	.....	.....	.....	.....	.....
324	1	324	.....	.....	.....	.....	.....	.....
332	1	332	.....	.....	.....	.....	.....	.....
397	1	397	.....	.....	.....	.....	.....	.....
Total.....	138	5,276	395	23,874	34	670	468	45,011

APPENDIX A—*Concluded.*

STATEMENT showing the Classified Tonnage of all kinds of Vessels passed through the Canals during the Season of Navigation in 1899.

WELLAND CANAL.

CANADIAN.								UNITED STATES.							
Class.	Steam Vessels.	No.	Tonnage.	Class.	Sailing Vessels.	No.	Tonnage.	Class.	Steam Vessels.	No.	Tonnage.	Class.	Sailing Vessels.	No.	Tonnage.
1	250 to 1,172 tons...	28	15,902	1	250 to 1,041 tons...	24	11,795	1	250 to 1,565 tons...	60	52,432	1	250 to 1,203 tons...	43	24,890
2	200 " 249 " ...	5	1,135	2	200 " 249 " ...	3	650	2	200 " 249 " ...	2	430	2	200 " 249 " ...	...	.....
3	150 " 199 " ...	3	485	3	150 " 199 " ...	8	1,430	3	150 " 199 " ...	2	335	3	150 " 199 " ...	1	190
4	100 " 149 " ...	3	340	4	100 " 149 " ...	3	375	4	100 " 149 " ...	...	.....	4	100 " 149 " ...	2	250
5	50 " 99 " ...	3	215	5	50 " 99 " ...	6	370	5	50 " 99 " ...	6	390	5	50 " 99 " ...	...	.....
6	Under 50 " ...	29	615	6	Under 50 " ...	16	499	6	Under 50 " ...	13	249	6	Under 50 " ...	3	55
	Total.....	71	18,692		Total	60	15,119		Total.....	83	53,836		Total.....	49	25,385

ST. LAWRENCE CANALS.

1	250 to 1,207 tons...	29	14,585	1	250 to 680 tons....	116	42,838	1	250 to 1,497 tons...	6	4,899	1	250 to 1,103 tons...	17	9,062
2	200 " 249 " ...	7	1,530	2	200 " 249 "	10	2,255	2	200 " 249 " ...	...	.....	2	200 " 249 " ...	...	.....
3	150 " 199 " ...	8	1,355	3	150 " 199 "	104	16,710	3	150 " 199 " ...	...	.....	3	150 " 199 " ...	2	320
4	100 " 149 " ...	22	2,605	4	100 " 149 "	88	10,720	4	100 " 149 " ...	5	545	4	100 " 149 " ...	90	9,470
5	50 " 99 " ...	34	2,425	5	50 " 99 "	64	4,505	5	50 " 99 " ...	6	385	5	50 " 99 " ...	71	6,420
6	Under 50 " ...	140	2,723	6	Under 50 "	109	1,978	6	Under 50 " ...	30	595	6	Under 50 " ...	11	313
	Total.....	240	25,223		Total..... ..	491	79,006		Total.....	47	6,424		Total.....	191	25,585

1	250 to 397 tons	4	1,315	1	250 to —— tons....	.....	.....	1	250 to —— tons.....	.....	.....	1	250 to —— tons....	.....	.....
2	200 " 249 "	1	228	2	200 " 249 "	1	228	2	200 " 249 "	.....	.....	2	200 " 249 " ...	.....	.....
3	150 " 199 " ...	2	345	3	150 " 199 "	80	12,715	3	150 " 199 "	.....	.....	3	150 " 199 " ...	.....	.....
4	100 " 149 " ...	7	840	4	100 " 149 "	52	6,585	4	100 " 149 "	1	105	4	100 " 149 " ...	257	26,735
5	50 " 99 " ...	16	1,130	5	50 " 99 "	26	1,930	5	50 " 99 "	2	125	5	50 " 99 " ...	195	18,115
6	Under 50 " ...	108	1,418	6	Under 50 "	236	2,416	6	Under 50 "	31	440	6	Under 50 " ...	16	161
	Total.....	138	5,276		Total.....	395	23,874		Total	34	670		Total.....	468	45,011

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, October, 1, 1900.

RICHARD DEVLIN,
Compiler of Canal Statistics.

CANALS

CONSOLIDATED

Sec. 1.

No. 23.—RATES OF TOLLS ON THE CANALS

WELLAND, ST. LAWRENCE, RIDEAU, OTTAWA, CHAMBLY AND MURRAY CANALS.

(O. C., April 18, 1873.)

The Rates of Tolls are divided into Six Classes, as under, and are per ton, unless otherwise specified.	Welland Canal, westward.	Welland Canal, eastward.	Lake Erie to Montreal.	St. Lawrence Canals, each way.	Chambly Canal and St. Ours Lock.	Rideau Canal, each way.	Ottawa Canals, and St. Ann's Lock, each way.	Ottawa to St. Johns, each way.	Murray Canal, each way.
Class No. 1.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Vessel, steam.....per ton	0 01½	0 01½	0 02¼	0 00¾	0 00¾	0 01½	0 00½	0 01½	0 $\frac{9}{16}$
" sail and other.....	0 02¼	0 02¼	0 03⅜	0 01½	0 01¼	0 02¼	0 01	0 02⅝	0 $\frac{15}{16}$
Class No. 2.									
Passengers, 21 years of age and upwards...	0 10	0 10	0 20	0 10	0 65	0 08	0 02½	0 09¾	0 1¼
" under 21 years each.....	0 05	0 05	0 10	0 05	0 02	0 04	0 01¼	0 04½	0 0⅝
Class No. 3.									
Bricks, cement and water lime.....									
Clay, lime and sand.....									
Brimstone.....									
Corn.....									
Flour.....									
Iron, railway.....									
" pig.....									
" all other, including steel (O.C., Feb. 1, 1888).....	15	0 20	0 20	0 15	0 10	0 07	0 06	0 19¾	0 1⅞
Plaster, gypsum.....									
Salt.....									
Salt meats or fish, in barrels or otherwise...									
Agricultural products, vegetable, not enumerated.....									
Agricultural products, animal, not enumerated.....									
Stone, for cutting.....									
Wheat.....									
Class No. 4.									
All other articles not enumerated.....	0 15	0 20	0 20	0 20	0 10	0 26	0 14	0 29	0 2½

REVENUE

TARIFF OF TOLLS

OF THE DOMINION OF CANADA, 1899.

TRENT VALLEY CANALS.

(O. C., July 25, 1888.)

1st Section.	2nd Section.	3rd Section.	4th Section.	Through.	Peterborough to Hastings, each way.
Fenelon Falls to Bobcaygeon.	Bobcaygeon to Buckhorn.	Buckhorn to Burleigh.	Burleigh to Lakefield.	Fenelon Falls to Lakefield.	
Tolls Chargeable at Fenelon Falls.	Tolls Chargeable at Bobcaygeon.	Tolls Chargeable at Buckhorn.	Tolls Chargeable at Burleigh.	Tolls Chargeable at Fenelon Falls.	Tolls Chargeable at Peterborough and Hastings.
$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
0 00 3/16 0 00 1/4	0 00 3/16 0 00 1/4	0 00 3/16 0 00 1/4	0 00 3/16 0 00 1/4	0 00 3/4 0 01	0 00 3/16 0 00 1/4
01 0 00 1/2	0 01 0 00 1/2	0 01 0 00 1/2	0 01 0 00 1/2	0 04 0 02	0 01 0 00 1/2
..... 0 01	0 01	0 01	0 01	0 04	01
0 03	0 03	0 03	0 03	0 12	

RATES OF TOLLS

WELLAND, ST. LAWRENCE, RIDEAU, OTTAWA, CHAMBLY AND MURRAY CANALS.

The Rates of Tolls are divided into Six Classes, as under, and are per ton, unless otherwise specified.	Welland Canal, westward.	Welland Canal, eastward.	Lake Erie to Montreal.	St. Lawrence Canals, each way.	Chambly Canal and St. Ours Lock, each way.	Rideau Canal, each way.	Ottawa Canals and St. Ann's Lock, each way.	Ottawa to St. Johns, each way.	Murray Canal, each way.
Class No. 5.									
Bark	0 20	0 20	0 20	0 15	0 10	0 07	0 06	0 19½	0 01⅞
Barrels, empty, each	0 02	0 02	0 02	0 02	0 02	0 02	0 01	0 03½	0 00½
Boat knees, each	0 05	0 05	0 05	0 02	0 02	0 02	0 01	0 03½	0 00½
Floats, per 1,000 lineal feet	1 40	1 40	1 40	1 40	1 20	1 05	0 50	2 05	0 17½
Firewood, per cord, in vessels	0 20	0 20	0 20	0 20	0 10	0 15	0 08	0 23	0 02½
" " rafts	0 25	0 25	0 25	0 25	0 15	0 19	0 09	0 30½	0 03¾
Hoops	0 25	0 25	0 25	0 20	0 15	0 15	0 10	0 30	0 02½
Masts and spars, telegraph poles, per ton of 40 cubic feet, in vessels	0 15	0 15	0 15	0 05	0 05	0 08	0 07	0 13½	0 00⅝
Masts and spars, telegraph poles, per ton of 40 cubic feet, in rafts	0 20	0 20	0 20	0 10	0 10	0 15	0 10	0 22½	0 01¼
Railway ties, in vessels, each	0 01	0 01	0 01	0 00⅜	0 00½	0 00⅜	0 00¾	0 01⅝	0 00⅛
" rafts, each	0 02	0 02	0 02	0 01	0 01	0 02	0 01	0 02¼	0 00⅛
Sawed stuff, boards, plank, scantling and sawed timber, per M feet, board measure, in vessels	0 30	0 30	0 30	0 15	0 10	0 11¼	0 06¾	0 20	0 01⅞
Sawed stuff, boards, plank, scantling and sawed timber, per M feet, board measure, in rafts	0 60	0 60	0 60	0 30	0 20	0 19	0 09	0 36½	0 03¾
Square timber, per M cubic feet, in vessels	3 00	3 00	3 00	1 00	1 00	0 56	0 44	1 69	0 12½
" " rafts	4 50	4 50	4 50	2 00	2 00	1 12	0 63	3 13	0 25
Wagon stuff, woodenware and wood, partly manufactured, per ton of 40 cubic feet	0 40	0 40	0 40	0 40	0 25	0 30	0 20	0 55	0 05
Shingles, per M	0 06	0 06	0 06	0 06	0 04	0 04½	0 02½	0 08	0 00¾
Split posts and fence rails, per M, in vessels	0 40	0 40	0 40	0 40	0 20	0 23	0 12	0 42	0 05
" " " rafts	0 80	0 80	0 80	0 80	0 40	0 38	0 17	0 77	0 10
Saw-logs, each, standard log	0 08	0 08	0 08	0 08	0 05	0 06	0 06	0 13	0 01
Staves and headings, barrel, per M	0 40	0 40	0 40	0 20	0 15	0 15	0 10	0 30	0 02½
" " pipe, per M	1 50	1 50	1 50	1 00	1 00	0 75	0 50	1 75	0 12½
" " West India, per M	0 75	0 75	0 75	0 60	0 25	0 45	0 25	0 65	0 07½
" " salt barrel, sawn or cut, per M	0 08	0 08	0 08	0 04	0 03	0 03	0 02	0 06	0 00¾
Traverses, per 100 pieces	0 50	0 50	0 50	0 50	0 40	0 38	0 15	0 67½	0 06¼
Hop poles, per 1,000 pieces	2 00	2 00	2 00	2 00	1 50	1 50	0 65	2 65	0 25
Special Class.									
Gypsum, crude (per O.C., Oct. 28, 1892)	0 15	0 05		0 05	West ward				
Coal	0 20	0 20	0 20	0 15	0 10	0 08	0 05	0 17¾	0 01⅞
Stone, unwrought, corded, and not suitable for cutting, per cord	0 75	0 75	0 75	0 60	0 37½	0 28	0 24	0 77½	0 07½
Kryolite, iron ore or chemical ore	0 05	0 05	0 05	0 05	0 05	0 05	0 05	0 05	0 05
Ice	0 05	0 05	0 05	0 05	0 05	0 05	0 05	0 11	0 05

SESSIONAL PAPER No. 20

ON THE CANALS—*Continued.*

TRENT VALLEY CANALS.

1st section.	2nd section.	3rd section.	4th section.	Through.	Peterborough to Hastings, each way.
Fenelon Falls to Bobcaygeon.	Bobcaygeon to Buckhorn.	Buckhorn to Burleigh.	Burleigh to Lakefield.	Fenelon Falls to Lakefield.	
Tolls Chargeable at Fenelon Falls.	Tolls Chargeable at Babcaygeon.	Tolls Chargeable at Buckhorn.	Tolls Chargeable at Burleigh.	Tolls Chargeable at Fenelon Falls.	Tolls Chargeable at Peterborough and Hastings.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
0 01	0 01	0 01	0 01	0 04	0 01
0 00½	0 00¼	0 00¼	0 00½	0 01	0 00½
0 00½	0 00¼	0 00½	0 00½	0 01	0 00½
0 13	0 13	0 13	0 13	0 52	0 13
0 03	0 03	0 03	0 03	0 10	0 03
0 04	0 04	0 04	0 04	0 14	0 04
0 02	0 02	0 02	0 02	0 08	0 02
0 02	0 02	0 02	0 02	0 08	0 02
0 01	0 01	0 01	0 01	0 04	0 01
0 00½	0 00½	0 00½	0 00½	0 00½	0 00½
0 00¼	0 00¼	0 00¼	0 00¼	0 01	0 00¼
0 03	0 03	0 03	0 03	0 10	0 03
0 04	0 04	0 04	0 04	0 14	0 04
0 07	0 07	0 07	0 07	0 28	0 07
0 14	0 14	0 14	0 14	0 56	0 14
0 04	0 04	0 04	0 04	0 16	0 04
0 00¾	0 00¾	0 00¾	0 00¾	0 03	0 00¾
0 03	0 03	0 03	0 03	0 12	0 03
0 05	0 05	0 05	0 05	0 20	0 05
0 00¾	0 00¾	0 00¾	0 00¾	0 03	0 00¾
0 02	0 02	0 02	0 02	0 08	0 02
0 10	0 10	0 10	0 10	0 40	0 10
0 05½	0 05½	0 05½	0 05½	0 22	0 05½
0 00½	0 00½	0 00½	0 00½	0 02	0 00½
0 05	0 05	0 05	0 05	0 20	0 05
0 20	0 20	0 20	0 20	0 80	0 20
Free.	Free.	Free.	Free.	Free.	Free.
0 01	0 01	0 01	0 01	0 04	0 01
0 03½	0 03½	0 03½	0 03½	0 14	0 03½
0 00¾	0 00¾	0 00¾	0 00¾	0 03	0 00¾
Free.	Free.	Free.	Free.	Free.	Free.

St. Peter's Canal..

Sec. **2.** On each and every vessel passing through the said canal, two cents per ton on the vessel and one cent per ton on the freight, each way. O. C. June 23, 1883. Con. O. C. Oct. 26, 1889, sec. 109.

SPECIAL REGULATIONS RELATING TO TOLLS ON SOME OF THE CANALS.

Sec. **3.** Coal may pass up all canals, except the Welland Canal, free of toll. O. C. June 6, 1869. Con. O. C. Oct. 26, 1889, sec. 83.

Sec. **4.** Logs, lumber or other produce may pass free of toll down the Chippawa Creek, between the Aqueduct and Port Robinson. O. C. May 18, 1863. Con. O. C. Oct. 26, 1889, sec. 84.

Sec. **5.** (*a.*) In view of the dam constructed across the Ottawa River at Carillon whereby the passage of the rapids at that point through the river is rendered difficult and at times impracticable, it appears necessary, owing to the continued difficulty attending passage through the slide built in the dam, that the canal should be used by rafts and until otherwise ordered, free passage be given to rafts through the Carillon Canal, subject to such regulations as the Department of Railways and Canals may find necessary in the interest of the traffic of the canal to adopt. O. C. July 6, 1888.

Sec. **5.** (*b.*) "Save in cases for which special permission may be given the Grenville Canal is closed to the passage of rafts, or any portion of a raft of any kind whatever." O. C. June 27, 1890.

Sault Ste. Marie Canal.

Sec. **6.** All vessels and freight shall be permitted to pass through the Sault Ste. Marie Canal free of toll upon such vessels and freight, until otherwise ordered.

Sec. **7.** (*a.*) All up bound goods on which full tolls have been paid for passage through the whole of the St. Lawrence Canals, or for passage through the Lachine Canal, the Ottawa and Rideau Canals or for passage through the Ottawa and Rideau Canals shall be entitled to pass free through the Welland Canal, or any portion thereof, and tolls paid for passage through the Chambly Canal, or goods thereafter so becoming entitled to the above privilege, shall be refunded at Montreal. All down bound goods on which full tolls have been paid for passage through the Welland Canal shall be entitled to pass free through any or all of the above mentioned Canals, or through any portion thereof. O. C. May 17, 1897.

(*b.*) All articles, goods or marchandise, nor enumerated above, shall be charged to class No. 4. O. C. April 18, 1873. Con. O. C. Oct. 26, 1889, sec. 86.

Sec. **8.** Goods shipped to any port west of the St. Lawrence Canals, tolls upon which have already been paid for passage through such canals, may be re-shipped from such port and be passed through the Welland Canal free of tolls, in the same way as if they had been shipped through direct in the first instance; and goods going eastward, having paid Welland Canal tolls, may be transhipped at any port on Lake Ontario, and thereafter pass free through the St. Lawrence Canals, as if they had been shipped through direct in the first instance. O. C. June 23, 1883. Con. O. C. Oct. 26, 1889, sec. 87.

Sec. **9.** Iron ore, kryolite or chemical ore, may pass through one section, or through all the canal sections aforesaid, for 5 cents per ton.

Sec. **10.** No let-passes shall be issued to steam tugs or other small vessels for less than 25 cents, as a minimum charge; but such vessels, not carrying freight or passengers, can obtain, on payment of $30 a season "Let-Pass," which will pass them up and down the canals as often as desired. O. C. April 18, 1873. Con. O. C. Oct. 26, 1889, sec. 86.

Sec **11.** All vessels owned or chartered by persons having contracts for the enlargements or repair of any of the canals, and employed by them in removing earth or carrying materials necessary for the prosecution of such works, shall be entitled to pass through such canals free of toll upon such vessel and cargo. O. C. April 22, 1884. Con. O. C. Oct. 26, 1889, sec. 35.

Sec. **12.** Government dredges and scows shall be permitted to pass through the canals free of tolls, but that such dredges and scows shall not be so passed as to interfere with the passage of other vessels of any kind whatever. O. C. May 18, 1891.

HARBOUR DUES.

Sec. **13.** Vessels receiving or discharging freight at the premises of the Welland Railway, at Ports Colborne or Dalhousie, are to be free from harbour dues; but all other vessels discharging or receiving cargo at Port Dalhousie, Port Colborne or Port Maitland, shall pay on every ton of freight so received or discharged, two cents. O. C. April 18, 1873. Con. O. C. Oct. 26, 1889.

WAY RATES.

Sec. **14.** The following way rates are to be levied on vessels and property passing the several subdivisions of the Canals:—

Welland Canal.

	Rate.
1. From Port Maitland, Dunnville and Port Colborne to Port Robinson or Allanburg, not passing the lock, each way	1/2
2. From Chippawa Cut, or any part thereof, to Dunnville, Port Maitland or Port Colborne	1/2
3. From Dunnville to Port Colborne	1/2
4. From Thorold to St. Catharines or Fort Dalhousie	1/2
5. From Maitland, Dunnville, Colborne or Port Robinson to Marshville and intermediate places	1/2
6. From Marshville or intermediate places to Port Maitland, Dunnville, Port Colborne and Port Robinson	3/4
7. From Port Robinson to Allanburg or Thorold	3/4
8. From Port Robinson to St. Catharines or Port Dalhousie	1
9. From St. Catharines to Port Dalhousie	1
10. From Dunnville to Maitland	1
11. From Port Robinson through the Lock and Chippawa Cut	1
12. Form Port Colborne to Port Maitland	1
13. From Chippawa Cut through Lock to Port Robinson	1
14. From Colborne, Dunnville, Maitland and Marshville to Thorold	1
15. From Colborne, Dunnville, Maitland and Marshville to St. Catharines	1
16. Through the Chippawa Cut only	1/2
17. Through the Port Robinson Lock only	1/2

St. Lawrence Canals.

Sec. **15.** The navigation is divided into four sections, viz., Cardinal, Cornwall, Beauharnois and Lachine. Tolls are to be levied on all vessels and property in proportion to the number of sections passed through.

Chambly Canal.

	Rate.
Sec. **16.** Vessels and property passing from Sorel to Chambly, to pay	3/20th
Vessels and property passing from Chambly to St. Johns, to pay	3/20th

Ottawa Canals.

Sec. **17.** The navigation is divided into three sections, viz., Grenville, Carillon and Ste. Anne's. Tolls are to be levied on all vessels and property in proportion to the number of sections passed through.

Rideau Canal.

Sec. **18.** The navigation of this canal is divided into three sections, viz., Ottawa, Smith's Falls and Kingston Mills. Vessels and freight passing one section are to be charged one-third; two sections, two-thirds. O.C. April 18, 1873. Con. O.C. Oct. 26, 1889, secs. 77, 78, 79, 80 and 81.—

Tay Canal to be part of the Rideau Canal and the following rates of tolls to be levied upon the said Tay Branch of the Rideau Canal system, viz.:—

Perth to Smith's Falls, 1 section, or one-third of Rideau Canal rates, each way.

Perth to Kingston, 2 sections, or two-thirds Rideau Canal rates, each way.

Perth to Ottawa Basin, 2 sections, or two-thirds Rideau Canal rates, each way.

Perth to River Ottawa, 3 sections, full Rideau Canal rates, each way. O.C. Sept. 27, 1890.

General.

Sec. **19.** (*a.*) Any fraction of a ton freight is to be charged one ton, and portions of sections are to be charged as a whole section on all the above canals.

(*b.*) The passing of saw-logs or other lumber through any of the canals, or sections thereof, shall be at all times governed by the regulations for their management. O.C. April 18, 1873. Con. O.C. Oct. 26 1889, sec. 82.

Sec. 20.—STANDARD FOR ESTIMATING WEIGHTS, FOR CANAL TOLLS.

——	Tons.	——	Tons.
2,000 lbs. avoirdupois	1	Stone, 12 cubic feet	1
Per M. is per thousand feet		Stone, 1 cord	7½
Per mille is per thousand pieces		Whisky, 4 barrels or 215 gallons	1
Green fruit, 9 barrels are	1	Empty barrels, 10	1
Ashes, 3 barrels are	1	Barrel hoops, 10 mille	1
Bark, 4 cords	1	Board and other sawed lumber, 600 feet board measure	1
Beef, 7 barrels	1	Boat knees, 4	1
Biscuit and crackers, 9 barrels	1	Firewood, 1 cord	3
Bricks, common, 1,000	2	Hop poles, 60 or cubic feet	1
Butter, 22 kegs or 7 barrels	1	Shingles, 12 M. or bundles	1
Cattle, 3	1	Split posts and fence rails, 1 mille	1
Cement and water lime, 7 barrels	1	Staves and headings, pipe, 1 mille	8
Fire-bricks, 1,000	3	" " W. India, 1 mille	4
Fish, 7 barrels	1	" " barrel, 1 mille	2½
Flour, 9 barrels	1	" " salt barrel, 1 mille	0½
Gypsum and manganese, 6 barrels	1	Saw-logs, standard, 1	0⅞
Horses, 2	1	Square timber, 50 cubic feet	1
Lard and tallow, 7 barrels or 22 kegs	1	Telegraph poles, 10, or 40 cubic feet	1
Liquors and spirits, 215 gallons	1	Masts and spars, 40 cubic feet	1
Liquids, all others, 215 gallons	1	Railroad ties, 16, or 50 cubic feet	1
Nuts, 9 barrels	1	All other woodenware, or partly manufactured wood, 40 cubic feet as per tariff	1
Oysters, 6 barrels	1	Traverses, 40 cubic feet, or 5 pieces	1
Pork, 7 barrels	1	Floats, 50 lineal feet	1
Salt, 7 barrels	1		
Seeds, 9 barrels	1		
Sheep, 20	1		

NOTE.—By the Weights and Measures Act, chapter 104 of the Revised Statutes of Canada, section 14, all the following named articles are to be estimated by the cental of 100 lbs.

The weight equivalent to a bushel being as follows:—Wheat, 60 lbs.; Indian corn, 56 lbs.; rye, 56 lbs.; pease, 60 lbs.; barley, 48 lbs.; oats, 34 lbs.; beans, 60 lbs.; clover seed, 60 lbs.; timothy seed, 48 lbs.; buckwheat, 48 lbs.; flax seed, 50 lbs.; blue grass seed, 14 lbs.; hemp seed, 44 lbs.; malt, 36 lbs.; castor beans, 40 lbs.; potatoes, turnips, carrots, parsnips, beets and onions, 60 lbs.; bituminous coal, 70 lbs.

TOLLS AT SHEDS AT LACHINE CANAL BASIN.

Sec. 21. The following tolls shall be levied upon property stored at the sheds at the Lachine Canal Basin:—

			Cents.
Wheat and other grain,	per week,	per bushel	1
Meal	"	per barrel	4
Pork, beef, butter and lard	"	"	5
Muscovado sugar	"	per hhd., 10 cents; per brl.	5
Liquors	"	{ per pipe, 15 cents; per pun.	12
		{ per hhd., 10 cents; per qr. cask	7
Iron, bars	"	per ton	24
Iron, pig	"	"	12
Salt, except at the St. Gabriel sheds	"	per 100 minots	36
Salt at the St. Gabriel sheds, Montreal, after the first 48 hours	"	per bag	½
Bales, crates, cases, &c.	"	per ton weight or measurement	24
Coals	"	per chaldron	12

Sec. 22. (*a.*) No charge shall be made for property stored in the sheds of the Lachine Canal Basin for the first forty-eight hours, after which period, except in the case of flour, the foregoing rate of storage for the use of the sheds are to be raised, levied and collected.

(*b.*) Articles unenumerated are to be charged according to the above rates as nearly as the same can be computed.

(*c.*) All property stored in the sheds remaining after the first forty-eight hours will be liable to one week's storage, although it should only have been stored for a portion of the same, and so on for each succeeding week.

(*d.*) The labour of receiving property into the sheds and delivering the same shall be at the expense of and be furnished by the owners of the property or their agents.

(e.) All property stored in these sheds shall be at the risk of the proprietor from damage by fire or otherwise.

(f.) All dues for storage shall be paid before the removal of the property. O. C. August 21, 1846, October 28, 1846. Con. O. C. Oct. 26, 1889, secs. 90 and 91.

Flour.

Sec. **23.** (a.) Flour shall be allowed to remain in the sheds for two whole days free of charge.

(b.) If kept there beyond two days or 48 hours, such flour shall be liable to a charge of one cent per day per barrel for the first four days after the expiration of the 48 hours of the exemption.

(c.) Should the flour be kept in the sheds beyond four days at one cent per day per barrel, it shall be liable to pay two cents per day per barrel for every day subsequent to the expiration of such four days.

(d.) Any part of a day shall be considered as one day. O. C. May 31, 1856. Con. O. C. Oct. 26, 1889, sec. 92.

WHARFAGE DUES ON COAL FOR LOCAL CONSUMPTION IN MONTREAL.

Sec. **24.** Coal for local consumption in Montreal, landed on canal property between Montreal Harbour and Côte St. Paul, from vessels other than sea-going, and entering the Lachine Canal from Montreal Harbour, shall be charged wharfage dues at the rate of five cents a ton.

Coal screening shall be charged 3 cents a ton. Con. O. C. Oct. 26, 1889, sec. 93. O. C. May, 18, 1892.

CHARGES FOR WHARFAGE ON FIREWOOD ON WHARVES AND BANKS OF LACHINE CANAL.

Sec. **25.** The following rates of tolls shall be collected as herein mentioned that is to say:—

(a.) Firewood landed on wharves or banks of the Lachine Canal, or in boats, barges or other craft occupying any of the basins between Wellington Street Bridge and Lock No. 3, four cents per cord, and for every day the wood is allowed to remain in either the canal or basin, or on the wharves or banks after the first five days, an additional charge of four cents per cord. O. C. August 7, 1860. Con. O. C. Oct. 26, 1889, sec. 94.

(b.) The clause next preceding shall not only apply to the rates of toll to be collected on firewood on wharves at Lachine and the Lachine Canal and basin, but are also extended and made applicable to the banks and grounds at Côte St. Paul and at Lachine. O. C. Jan. 27, 1862. Con. O. C. 1889, sec. 94.

CANAL BASINS IN MONTREAL PART OF MONTREAL HARBOUR.

Sec. **26.** Whereas under existing regulations for the collection of canal tolls, eastern bound vessels having paid the charges one way in full through the Welland Canal are chargeable one Section Canal Toll if re-entering the Lachine Canal;

And whereas vessels loaded with grain destined for the Montreal Harbour frequently unload only part of their cargoes on board sea-going vessels in the harbour, and re-enter the Lachine Canal for the purpose of unloading the balance of their cargoes either in elevators or mills located along the canal basins;

It is ordered that the Lachine Canal basins, within the Montreal city limits, be considered as part of the Montreal Harbour, in so far only as regards the collection of tolls on the class of vessels above referred to, which re-enter that portion of the canal for the purpose of unloading the balance of their cargoes, but that the same shall not apply any further, as in the event of vessels returning to the harbour to take cargo, in which case the usual toll shall be charged against them on passing out of the canal a second time into the harbour. O. C. Aug. 8, 1878. Con. O. C. Oct. 26, 1889, sec. 95.

PHOSPHATES.

Sec. **27.** Whereas vessels laden with grain for delivery in Montreal Harbour frequently carry also deck loads of phosphates, and being compelled to proceed at once to the harbour for the discharge of the grain, they pay tolls through to that point, subsequently re-entering the Lachine Canal for the storage of the phosphates, and in accordance with the existing regulations, paying canal dues a second time forsuch re-entry;

It is ordered that the Lachine Canal basins, within the Montreal city limits, be considered as part of the Montreal Harbour, for the purpose of the unloading of phosphates carried by vessels in addition to their grain cargoes as described in this section; it being, however, provided that in the event of their returning to the harbour to take cargo, the usual tolls shall be charged against such vessels on their passing out of the canal a second time. O. C. July 12, 1881. Con. O. C. Oct. 26, 1889, sec. 96.

WHARFAGE DUES IN ALL BASINS OF THE LACHINE CANAL ON SEA-GOING VESSELS.

Sec. **28.** The Montreal Harbour Commissioners shall be allowed to retain the right of levying dues in respect of the old lower basin of the Lachine Canal, but the Government shall retain full control of the new works and basin of said canal and of the revenue that may be derived from their use.

All property delivered or received by sea-going vessels in the Lachine Canal basins at Montreal (except the old lower basin) shall be charged wharfage dues as follows:—

All goods, wares and merchandise not elsewhere specified	25 cents per ton.
Hay, straw, pig and scrap iron, pot and pearl ashes	20 "
Apples, crates and their contents, flour and meal, fish, meats, pitch, potatoes, tar, horses, neat cattle, sheep and swine	15
Ballast, clay, fire-bricks, gypsum, lime, marble, phosphate, sand, salt	10
Coal and coke, grain and seeds of all kinds	6
Special—Bricks, 10 cents per 1,000; cordwood, 5 cents per cord; lumber, 10 cents per 1,000 feet, board measure.	
Bullion specie	Free.
Coal screenings	3 "
Each entry shall pay not less than 5 cents.	

All property landed on the canal wharves for re-shipment, or transhipped in canal waters, shall pay one wharfage only.

Lumber upon which tolls have been paid for passage down the Lachine Canal, and which is reshipped from the wharves or vessels into sea-going vessels, shall pay wharfage dues equal to one section of canal tolls, viz., 3¾ cents per 1,000 feet board measure. O.C. Jan. 26, 1883. Con. O.C. Oct. 26, 1889, secs. 98, 99, 100 and 101. O.C. May 18, 1892.

Sec. **29.**—*Standard for Estimating Weights.*

Ashes, pot or pearl	3 brls. to 1 ton.
Apples, flour, meal, potatoes	9 " 1 "
Fish, meat, pitch, tar	7 " 1 "
Horses	2 to 1 ton.
Neat cattle	3 to 1 "
Sheep	15 to 1 "
Swine	10 to 1 "

O.C. April 1, 1881. Con. O.C. Oct. 26, 1889, sec. 102.

TOLLS ON FLOATED TIMBER, ETC., ENTERING THE BASIN AT LACHINE.

Sec. **30.** The following rates of tolls shall be collected on floated timber, lumber and firewood entering the basin at Lachine and Lachine Canal:—

Kinds of Timber.	For receiving Timber, &c., to include use of Basin and Wharf for one Month.	For each succeeding month during the Season of Navigation.	For Wintering in Basin or on Wharf.
	Cents.	Cents.	Cents.
Timber, square or round, of all kinds, above 12 x 12, per M cubic feet	25	20	35
Timber, round or flitted, of all kinds, under 12 x 12, per M lineal feet	20	15	30
Planks and boards to include all kinds of sawed lumber in rafts, per M feet, board measure	3	2	3
Saw logs, 12 feet long, if longer in same proportion per log	1	½	2
Floats, per 100	10	5	10
Traverses, per 100	10	5	10
Fence posts and rails, per M	10	5	10
Staves, barrel, per M	8	4	8
" pipe "	8	4	8
" West India, per M	8	4	8
Firewood on bank of canal between Lock No. 3 and Lock No. 5, and also on wharves in canal basin at Lachine	3	3	3

Note.

Sec. **31.** (*a.*) No allowance shall be made for fractional parts of a month or winter season.

(*b.*) The firewood shall be corded across the bank while being delivered from the boat in such manner and at such points as the superintending engineer may direct.

(*c.*) The rates on timber to take effect upon the completion of the booms in Lachine Canal. O.C. June 8, 1869. Con. O.C. Oct. 26, 1889, secs. 103 and 104.

CHARGES ON VESSELS WINTERING IN LACHINE CANAL.

Sec. **32.** The following rates per ton shall be charged for wintering vessels in the Lachine Canal viz.:—For each boat, barge, scow or other vessel of ten tons measurement or under, seventy cents per vessel for the entire winter, and every ten tons above the first ten, an additional rate of eight cents. O.C. Aug. 22, 1879. Con. O.C. Oct. 26, 1889, sec. 97.

CHARGES FOR WINTERING VESSELS IN RIDEAU CANAL.

Sec. **33.** The winterage dues for vessels wintering in the canal basin, at Ottawa, or other points along the line of the Rideau Canal, shall be as follows:—

In canal basin, Ottawa,	steamers	per season	$ 8 00
" "	barges	"	4 00
Inside locks	steamers	"	50 00
other stations	"	"	15 00

If the Minister of Railways and Canals deems it advisable, he is authorized to take security from parties wintering their vessels in locks against damage to Government property by fire. O.C. March 19, 1887. Con. O.C. Oct. 26, 1889, sec. 105.

CHARGES FOR WINTERING VESSELS IN THE OTTAWA RIVER CANALS AND LOCKS.

Sec. **34.** The charge for vessels wintering on the Ottawa River canals and locks, and the same is hereby prescribed accordingly, namely :

In Carillon Canal,	steamers per season		$8 00
"	barges	"	4 00
Grenville Canal,	steamers	"	8 00
"	barges	"	4 00
Inside Locks, Ste. Anne, Carillon and Grenville Canals, steamers per season			25 00
"	Culbute Canal, per season		15 00

Such security against damage by fire to be taken by way of bond as, in the opinion of the Minister of Railways and Canals, may seem desirable. O.C. Oct. 14, 1892.

Sec. **35.** No charges to be made for vessels wintering outside the locks of any government canal. O.C. Dec. 12, 1889.

CHARGES FOR REPAIRING VESSELS ON THE BANKS OF CANALS.

Sec. **36.** *(a.)* Persons using the banks of the Lachine Canal as a site for the repair of their vessels shall be subject to a charge of four dollars, payable in advance, for each vessel; the period during which such site may be occupied under any one payment being limited to six months, and permission for repairing being first obtained from the proper officer, in conformity with the existing canal regulations.

(b.) In the event of failure to remove vessels so occupying the banks at the expiration of the period named, no fresh permits having been obtained, such vessels may be sold under the 16th section of the canal regulations. O.C. March 5, 1880. Con. O.C. Oct. 26, 1889, sec. 106.

Sec. **37.** Rules with respect to the repairing of vessels on the banks of the Lachine Canal, the Beauharnois and the Chambly :—

(a.) Repairs shall only be executed at such points as may be indicated and approved by the superintending engineer.

(b.) For each vessel hauled up or beached for repairs, a charge of one dollar, over and above all other charges, shall be made, carrying the privilege of remaining one month, a further sum of one dollar being charged for each additional month, or fraction of a month, the vessel may remain.

(c.) In cases, however, where a vesssel hauled up for repairs upon the canal bank remains there throughout the winter, a charge of four dollars only shall be made (in addition to the ordinary winterage dues), the period covered being from the 1st of November to the 1st of June, inclusive.

(d.) Any vessel remaining on the canal bank after having wintered thereon shall be charged at the rate of one dollar a month or fraction of a month of her subsequent stay.

(e.) Any vessel remaining more than one year on the bank of the canal shall for such time as she may remain in excess of that period pay at the rate of two dollars a month or fraction of a month throughout the whole year.

(f.) All charges shall be payable at the collector's office in advance on the first day of each month.

(g.) These rules shall be understood as applying to all cases where the canal bank is used in any manner for the repairs of vessels, whether such vessels are actually hauled up or not. O. C. August 6, 1881. Con. O. C. Oct. 26, 1889, sec. 107.

DRY DOCK CHARGES.

Trent Valley Canal.

Sec. **38.** The following tolls and dues shall be charged for the use of the dry dock at Bobcaygeon, and of any of the locks on the Trent Valley Canal, during the winter or other shorter period :—

For Vessels	Wintering.	Per day.	Per week.
Over 15 tons	$30 00	$4 00	$12 00
15 tons and under.	20 00	3 00	10 00

(O. C. Oct. 31, 1890.)

Rideau Canal.

Sec. **39.** The following tariff of tolls and regulations shall be, and the same are hereby established for the use of the dry dock on the Rideau Canal at Ottawa :—

(1) Steamers entering dock	$8 00
Each day or portion of a day after day of entrance	2 50
(2) Barges entering dock	5 00
Each day or portion of a day after day of entrance	2 50
(3) Steam yachts or launches	5 00
Each day or portion of a day after day of entrance	2 50
(4) Boats wintering in the dry dock from the close to the opening of navigation	50 00
For every day such boat remains in the dock after the opening of navigation	8 00

(5) No vessel of any class shall be in the dock over six days after notice is given in writing by the lockmaster that the dock is required for another vessel unless a satisfactory agreement between all parties interested is arrived at.

(6) All entrances and discharge of vessels are covered by entrance fee.

(7) All drying off of vessels of all classes in the locks at Ottawa or Hartwell's during the season of navigation is prohibited unless for special reasons.

The owners of vessels of all classes to render the required assistance to open and close the gate under the supervision of the superintending engineer.

Vessel owners to supply all blocks, &c., to shove their boats up to make the necessary repairs and all refuse to be properly cleared out to the entire satisfaction of the lockmaster before leaving the dock.

(O. C. Dec. 28, 1893.)

Sec. **40.** The use of horses for towage purposes between the lower entrance of the Cornwall Canal and lock No. 20, be prohibited during the works of enlargement of that portion of the Cornwall Canal. (O.C. Aug. 20, 1890.)

Sec. **41.** As the prohibition of the use of horses for towing purposes, between the lower entrance of the Cornwall Canal and Lock No. 20 during the progress of the works of canal enlargement, has entailed the use of tugs and consequently expenses to the parties concerned, that all tugs, used solely for the purposes of towing on the section in question, be permitted to pass free of toll, up and down the canal between the lower entrance of the canal and lock No. 20, until the completion of the enlargement of the works on that section. (O. C. Sept. 27, 1890.)

SPECIAL RATES FOR 1899 ONLY.

Sec. **42.** For season of 1899 the Canal Tolls for the passage of the following food products:—wheat, Indian corn, pease, barley, rye, oats, flax seed and buckwheat, for through passage eastward through the Welland Canal, be ten cents per ton, and for through passage eastward through the St. Lawrence Canals only, ten cents per ton; payment of the said toll of ten cents per ton through the Welland Canal to entitle these products to free passage through the St. Lawrence Canals, or any portion thereof. (O. C. April 10, 1899.) Also special rates, are granted to grain, &c., carried on the O. A. & P. S. and Canada Atlantic Railway systems, from Depot Harbour to Coteau Landing and thence by Canal to Montreal, as follows, viz.:—Wheat, Indian corn, pease, barley, rye, oats, flaxseed and buckwheat, 2½ cents per ton, and all rolling and package freight, 5 cents per ton. (O. C. April 24, 1899.)

Sec. **43.** *(a.)* That for the current season of navigation of 1899, there shall be allowed in the case of steamships specially chartered for the conveyance of excursion parties, going and coming the same day, a reduction of one-half of the usual passenger tolls for passage through the Government canals, it being distinctly understood that no freight is to be carried by the said steamers on such excursions. (O. C. April 10, 1899.)

Sec. **43.** *(b.)* Whereas the Canal Tolls payable for passage through the Welland and St. Lawrence Canals of barrel staves and headings, are 40 cents per 1,000 in the case of ordinary materials, such as those for sugar and flour barrels; while in the case of staves and headings for salt barrels the charge is 8 cents per 1,000 only.

And whereas application is made to have this distinction removed on the ground that sugar and flour cooperage is of the same weight as salt cooperage.

His Excellency in virtue of the provisions of chapter 38 of the Revised Statutes of Canada, intituled "An Act respecting the Department of Railways and Canals," and by and with the advice of the Queen's Privy Council for Canada, is pleased to order that Class 5 of the existing Tariff of tolls for passage through the Canals of the Dominion, established by the Order in Council of the 25th March, 1895, shall be and the same is hereby amended to the effect, and to that effect only, of removing the distinction between ordinary and salt barrel staves and headings, and making the tolls payable for these articles the same, namely, those at present charged on salt barrel staves and headings, on all the Canals of the Dominion. (O. C. May 28 1897.)

SPECIAL RATES ON SAND AND STONE.

Sec. **43.** *(c.)* On the recommendation of the Acting Minister of Railways and Canals, the rate of toll on sand and stone used in the construction of the bridge being built at Cornwall by the Ottawa and New York Railway was reduced from 15 and 20 cents to 7½ and 10 cents respectively. (O. C. August 27, 1898.

PART VI

RAILWAY STATISTICS

RAILWAY STATISTICS

OF THE

DOMINION OF CANADA

FOR THE YEAR ENDED JUNE 30, 1900

Compiled by Mr. Thomas Ridout, C.E., from sworn Returns furnished by the several Railway Companies

COLLINGWOOD SCHREIBER,
Deputy Minister and Chief Engineer of Railways and Canals.

TABLE showing the growth of the Railways from year to year, since the opening of the first line in 1836.

Year.	Miles in Operation.	Year.	Miles in Operation.
1835	0	1868	2,278
1836	16	1869	2,524
1837	16	1870	2,617
1838	16	1871	2,695
1839	16	1872	2,899
1840	16	1873	3,613
1841	16	1874	3,832
1842	16	1875	4,331
1843	16	1876	4,804
1844	16	1877	5,218
1845	16	1878	5,782
1846	16	1879	6,126
1847	54	1880	6,858
1848	54	1881	7,194
1849	54	1882	7,331
1850	66	1883	8,697
1851	159	1884	9,577
1852	205	1885	10,273
1853	506	1886	10,773
1854	764	1887	11,793
1855	877	1888	12,184
1856	1,414	1889	12,585
1857	1,444	1890	13,151
1858	1,803	1891	13,838
1859	1,994	1892	14,564
1860	2,065	1893	15,005
1861	2,146	1894	15,627
1862	2,189	1895	15,977
1863	2,189	1896	16,270
1864	2,189	1897	16,550
1865	2,240	1898	16,870
1866	2,278	1899	17,250
1867	2,278	1900	17,657

THE SUMMARY of Tables for the Years ended June 30, 1899, and June 30, 1900.

	Comparative Statement.	
	June 30, 1899.	June 30, 1900.
Miles of railway completed (track laid)	17,358	17,824
" sidings	2,402	2,558
" iron rails in main line	178	130
" steel "	17,180	17,694
" " " (double track)	562	591
Capital paid (including the four following items)	964 699,784	998,268,404
Government (Dominion and Provincial) bonuses paid	165,534,900	169,706,725
" " " loans paid	26,468,245	20,869,264
" (Provincial only) subscription to shares paid	300,000	300,000
Municipal aid paid	15,740,668	15,884,542
Miles in operation	17,250	17,657
Gross earnings	62,243,784	70,740,270
Working expenses	40,706,217	47,699,798
Net earnings	21,537,567	23,040,472
Passengers carried	19,133,365	21,500,175
Freight carried (tons)	31,211,753	35,946,183
Train mileage	52,215,207	55,177,871
Passengers killed	20	7
Number of elevators	163	239
" guarded level crossings—public roads	197	169
" unguarded " "	11,813	12,879
" overhead bridges	430	431
" level crossings of other railways	276	244
" junctions with other railways	347	346
" " branch lines	234	251
" engines owned	2,142	2,179
" " hired	75	103
" sleepers and parlour cars owned	231	235
" " " hired	37	3
" first-class cars owned	1,170	1,213
" " hired	69	74
" second-class and immigrant cars owned	621	640
" " " hired	19	1
" baggage, mail and express cars owned	639	632
" " " hired	29	30
" refrigerator cars owned	665	736
" " hired	122	207
" cattle and box freight cars owned	38,839	39,112
" " " hired	3,112	3,426
" platform cars owned	15,434	14,947
" " hired	377	679
" coal and dump cars owned	5,540	5,739
" " " hired	42	133
" conductors' vans owned	1,008	1,055
" " hired	5	1
" tool cars owned	*910	*872
" " hired	8	...
" snow ploughs owned	302	360
" " hired	2	...
" flangers owned	186	311
" " hired	1	...

* Including steam shovels, pile drivers, water tank cars, store cars, gravel cars, boarding cars, &c.

Nominal Capital paid up to June 30, 1900.

	Miles constructed.	Amount.	Per Mile.	Remarks.
		$ cts.	$ cts.	
Ordinary share capital	17,824	279,368,512 02	15,673 73	
Preference "	17,824	130,957,582 97	7,347 26	
Bonded debt	17,824	373,716,703 69	20,967 05	
Aid from Dominion Government	17,824	159,565,770 16	8,952 30	
" Ontario "	6,812	7,291,577 69	1,070 40	Equal to an average of $1,756.63 per mile on the total mileage.
" Quebec "	3,414	15,788,035 63	4,623 03	
" New Brunswick Government	1,438	4,529,040 71	3,149 54	
" Nova Scotia Government	927	1,583,108 53	1,705 61	
" Prince Edward Island Government	210			
" Manitoba Government	1,815	2,085,907 50	1,149 26	
" British Columbia Government	1,307	37,500 00	28 69	
" North-west Territories Government	1,901			
" Municipalities in Ontario	6,812	12,050,164 37	1,768 96	Equal to an average of $891.19 per mile on the total mileage.
" " Quebec	3,414	2,569,218 62	752 55	
" " New Brunswick	1,438	336,500 00	234 04	
" " Nova Scotia	927	270,559 17	291 87	
" " Prince Edward Island	210			
" " Manitoba	1,815	595,600 00	328 15	
" " British Columbia	1,307	37,500 00	28 69	
" " North-west Territories	1,901	25,000 00	13 15	
Capital from other sources	17,824	7,465,123 57	418 82	
Total capital paid	17,824	998,268,404 63	56,006 98	

Government and Municipal Loans, Bonuses, &c., promised to Railways completed and under construction up to June 30, 1900.

	$ cts.
Dominion Government	166,009,303 15
Ontario "	7,497,006 69
Quebec "	17,115,665 34
New Brunswick Government	4,545,540 71
Nova Scotia "	2,619,316 53
Manitoba "	2,090,177 50
British Columbia "	37,500 00
Municipalities in Ontario	12,296,164 37
" Quebec	4,581,574 00
" New Brunswick	361,500 00
" Nova Scotia	485,559 17
" Manitoba	595,600 00
" British Columbia	37,500 00
North-west Territories	25,000 00
	218,297,407 46

TOTAL FATAL ACCIDENTS for Year ended June 30, 1900.

——	Passengers Killed.	Employees Killed	Others Killed.	Total Killed.
Falling from cars or engines	3	25	7	35
Falling on or off trains in motion	3	6	11	20
At work making up trains		11		11
Putting heads or arms out of window		1		1
Coupling cars		16		16
Collisions and derailments		15	3	18
Striking bridges		3	1	4
Walking or being on track		18	103	121
Explosives				
Other causes	1	28	70	99
Total killed	7	123	195	325

Land Grants made by Governments to Railways, completed or under construction, up to June 30, 1900.

No.	Act authorizing Subsidy.	Name of Railway Company.	Government.	Mileage Subsidized.	Acres granted per Mile.	Total Acres granted.	Acres sold by Railway Companies.	Amount Realized.
								$ cts.
1	48-49 Vic., c. 60 50-51 Vic., c. 22 52 Vic., c. 2.	Alberta Railway and Coal Co.—Main line, Dunmore to Lethbridge	Dominion.	109·50	6,400	700,860	834,048	1,101,732 83
2	52 Vic., c. 4 52 Vic., c. 3	Alberta Railway and Coal Co, from Lethbridge to International Boundary.	"	64 62	6,400	413,568		
3	53 Vic., c. 4.	Calgary and Edmonton Railway	"	340·00	6,400	2,176,000	1,481,046	*
4	58 Vic., c. 4.	Canadian Northern, comprising Lake Manitoba Railway and Canal Company.	"	125·00	6,400	800,000		
5	47 Vic., c. 25.	Winnipeg Great Northern Railway	"	900·00	Div. A., 6,400 " B., 12,800 " C., 6,400	8,480,000	53,244	178,738 30
6	53 Vic., c. 4.	Manitoba and South-eastern Railway	"	98 00	6,400	627,200		
7	44 Vic., c. 1.	Canadian Pacific Railway—Main line	"			25,000,000	46,793,014	10,189,521 00
8	53 Vic., c. 4.	C. P. R.—Deloraine and Napinka Branch	"	18 01	6,400	115,264		
9	53 Vic., c. 4.	C. P. R.—Glenboro' and Souris Branch	"	45 24	6,400	289,536	4,416,534	14,024,998 04
10	53 Vic., c. 4 54 Vic., c. 10	C. P. R.—Kemnay and Estevan Branch	"	156 86	6,400	1,003,904		
11	57 58 Vic., c. 6.	C. P. R.—Pipestone Branch.	"	31 30	6,400	200,320		
12	49 Vic., c. 11.	Great North-west Central Railway	"	50 00	6,400	320,000		
13	48-49 Vic., c. 60.	Manitoba and North-western Railway—Main line	"	430·00	6,400	2,918,400	1,187,487	1,950,522 10
14	49 Vic., c. 11.	" " Branch from Binscarth.	"	26 00	6,400			
15	57-58 Vic., c. 6.	Saskatchewan and Western Railway	"	15·47	6,400	99,008		
16	48-49 Vic., c. 10 54-55 Vic., c. 10	Manitoba and South-western Colonization Railway	"	218 25	6,400	1,396,800	Town sites 471,301	169,763 79 2,032,579 51
17	48-49 Vic., c. 60 50-51 Vic., c. 23	Qu'Appelle, Long Lake and Saskatchewan Railway	"	253·96	6,400	1,625,344	128,000 998,230	121,600 00 *
18	52 Vic., c. 4. 54 Vic., c. 9.	Red Deer Valley Railway	"	55·00	6,400	352,000		No return.
19		Yarmouth and Annapolis—in Dominion Atlantic Ry.	Nova Scotia			150,000	No return	of lands sold.
20		Columbia and Kootenay Railway	British Columbia			190,000	7,448 Town sites	16,175 18 203,549 48
21		Columbia and Western Railway	"			2,110,000		
22		Esquimalt and Nanaimo Railway	"			1,900,000	Town sites 272,685	36,210 48 830,260 05
23		Kaslo and Slocan Railway	"			198,240	Town sites 441	15,028 40 3,404 15
24		Nelson and Fort Sheppard	"			608,256	Town sites 5,767	240,242 51 47,694 35

* Again, after efforts to obtain a statement of the amounts realized from the sale of these lands, the companies have failed to give the information, the return, therefore, in this respect, is incomplete. † Sold to the Dominion Government at $1.50 per acre. ‡ By 62-63 Vic., (Session of 1899) caps 57, 75 and 80, the Lake Manitoba Railway and Canal Co., the Winnipeg Great Northern Ry., the Manitoba and South-eastern, and Ontario and Rainy River Ry., were amalgamated under the title of the Canadian Northern Ry., all the rights of these four companies being vested in the new company.

TABLE showing Location of the Railways of the Dominion of Canada, June 30, 1900.

Name of Railway.	Description.	Distance. Miles.	Distance. Total.
Alberta Railway and Coal Co.	From Lethbridge in District of Alberta, N.W.T., to Coutts, on International boundary, 3 ft. gauge.	.....	64·62
	The portion from Dunmore to Lethbridge, 10¼ miles, was changed to 4 ft. 8½-in. gauge and sold to Can. Pac. Ry., 29th Nov., 1893	.....	
Albert Southern.	Harvey Branch Junction to Alma, N.B.	16·00	
	Harvey Branch Albert to Harvey Bank, N.B.	3·00	19·00
Algoma Central	Sault Ste Marie to Gowlais River	31·00	
	Branch—Michipicoten to Helen Mines	11·00	
	13 miles completed, 29 miles under construction.		42·00
Baie des Chaleurs in Atlantic and Lake Superior System.	Metapedia Station on C.P.R. to Paspebiac	.....	100·00
Bay of Quinte Railway and Navigation Coy.	Deseronto, on Bay of Quinte, Lake Ontario, to Deseronto Junction, Grand Trunk Railway	.....	4·00
Bedlington and Nelson	Kuskonook to Bedlington, B.C.	.....	15·16
Berlin and Waterloo (Electric)	Berlin to Waterloo, Ont	.....	3·00
British Yukon	White Pass to White Horse Spur, B.C., and Branch to White Horse	.....	64·75
Buctouche and Moncton	Moncton, on Intercolonial Railway, to Buctouche, N.B.	.....	32·00
Brockville, Westport and Sault Ste. Marie	Brockville to Westport, Ont	.....	45·00
Calgary and Edmonton	Calgary to Edmonton	190·97	
	" McLeod, District of Alberta	104·10	295·07
Canada Atlantic, including Ottawa, Arnprior and Parry Sound Ry	City of Ottawa to Junction with Grand Trunk at Lacolle and U.S. boundary. Crosses the St. Lawrence at Cotean by bridge. Connects with Grand Trunk Railway at Cotean and Lacolle, and Ottawa to Depot Harbour, Lake Huron, near Parry Sound	.....	398·80
Central Counties	From Glen Robertson, on Canada Atlantic to Hawkesbury, Ont.	21·00	
Leased to Canada Atlantic	South Indian, on Canada Atlantic, to Rockland	16·00	37·00
Canadian Northern, comprising Lake Manitoba Ry. and Canal Coy.'s Line, Winnipeg Great Northern, Manitoba South-Eastern Ry., Ontario and Rainy River	Gladstone Jct. to Dowsman	195·5	
	Sifton Jct. to Winnipegosis	21·2	216·70
Canada Southern	Main Line—Windsor, Ont., to Suspension Bridge	226·18	
	Amherstburg Branch—Essex Centre to Amherstburg	16·83	
	St. Clair Branch—St. Clair Junction to Contright	62·63	
	Fort Erie Branch—Fort Erie to Welland Junction	17·50	
	Erie and Niagara Branch—Old Fort Erie to Niagara	30·60	
	Oil Springs Branch—Oil Springs to Oil City	5·50	
Leased	Sarnia, Chatham and Erie—Old City to Petrolia,	7·00	
"	Leamington and St. Clair—Comber to Leamington	15·95	382·19
Canada Eastern	Late Northern and Western of New Brunswick		
	Gibson, opposite City of Fredericton to Chatham Junction, I.C.R.	107·00	
	Chatham Junction to Chatham and Logieville via Nelson	20·00	
	Blackville to Indiantown	9·00	136·00
Canadian Pacific:			
Owned	Main Line Callander to Vancouver	2,560·30	
(Canada Central)	" Ottawa to Bonfield	223·60	
(Que., Mont., Ottawa & Occid.)	" Montreal to Ottawa	120·30	
(" North Shore)	" Quebec to St. Martin's Junction	159·80	

TABLE showing Location of Railways, &c.—*Continued.*

Name of Railway.	Description.	Distance. Miles.	Total.
Canadian Pacific—*Continued.*			
Alberta Railway	Branches—Dunmore to Lethbridge	105·15	
Crow's Nest Pass	" Lethbridge to Kootenay Landing	288·75	
	" Piles Junction to Grand Piles	26·90	
	" Berthier Junction to Berthier	2·00	
	" Joliette Junction to St. Felix	16·80	
	" Ste. Thérese Junction to St. Jerome	13·60	
	" " to St. Eustache	6·00	
Montreal and Western	" St. Jérome to Labelle	66·90	
	" St. Lin Junction to St. Lin	15·00	
	" Buckingham Stn. to Buckingham Village	4·20	
Brockville and Ottawa Railway	" Carleton Junction to Brockville	45·00	
	" Sudbury to Sault Ste. Marie	180·60	
	" Sudbury to Copper Mines	5·60	
	" Winnipeg Junction to Emerson	64·50	
	" " to Manitou	101·10	
	" Rosenfeldt to Gretna	13·70	
	" Winnipeg to West Selkirk	22·60	
	" Air Line Junction to Foxton	37·50	
	Souris Branch—Kenmay to Estevan	156·20	
	Souris Branch—Glenboro' to Souris	45·70	
	Souris Branch—Deloraine to Napinka	18·60	
	Branches—Monteith Junction to Antler	47·80	
	" North Portal to Pasqua	160·30	
	" New Westminster Junction to New Westminster	8·20	
Lake Témiscamingue Colonization	" Mattawa to Kippewa	45·80	
	" Mission Junction to Mission	10·00	
	" Revelstoke to Arrow Head	27·70	
	" Vancouver to Coal Harbour	1·20	
	" Three Forks to Sandon	4·20	
	" Wood Bay to Snowflake	16·30	
	" Cranbrook to Kimberly	19·40	
	" Deloraine to Waskada	17·20	
	Total mileage owned		4,658·50
Leased Lines	Atlantic and North-west (in Canada)—		
	South end Lachine Bridge to Maine boundary, Que. 182·50		
	Renfrew Jct. to Eganville, Ont. 18·90		
			291·40
	St. Lawrence and Ottawa—		
	Ottawa to Prescott, Ont 51·80		
	Chaudière Junction to Sussex St., Ottawa 6·60		
			58·40
	Ontario and Quebec—		
	Montreal (Windsor St.,) to Daley's cut 6·70		
	Mile End to Daley's cut 7·40		
	Montreal Jct. to South End Lachine Bridge 3·60		
	" Toronto Junction 334·00		
	St. Luc Junction to Western Junction 1·70		
	Toronto Junction to Strachan Avenue 3·20		
	Leaside Junction to Union St., Toronto 5·30		
	London to Windsor 112·60		
			474·50
	Credit Valley—		
	Toronto Junction to St. Thomas 116·80		
	Streetsville Junction to Melville Jct 31·60		
	Cataract to Elora 27·30		
			175·70
	West Ontario Pacific—Woodstock to London	26·60	
	Toronto, Grey and Bruce—		
	Toronto Junction to Owen Sound 116·80		
	Orangeville Junction to Teeswater 69·80		
	Glenanan to Wingham 4·50		
			191·10

TABLE showing Location of Railways, &c.—*Continued.*

Name of Railway.	Description.		Distance. Miles.	Total.
Canadian Pacific—*Continued.*				
Leased lines	Guelph Junction			
	Guelph Junction on Credit Valley Ry. to Guelph		15·00	
	Toronto, Hamilton and Buffalo—			
	Desjardin Junction with Grand Trunk to Poulette St., Hamilton		1·70	
	Montreal and Lake Maskinongé—			
	St. Félix to St. Gabriel de Brandon		12·90	
	Montreal and Ottawa			
	Vaudreuil to Jct. with the Canada Atlantic	86·20		
	Rigaud to Pt. Fortune	7·00		
			93·90	
	Cap de la Madeleine			
	From Main Line C.P.R., at Junction with Piles branch to Cap de la Madeleine		2·32	
	New Brunswick			
	Woodstock to Maine boundary	59·40		
	Newburg Junction to Fredericton	58·40		
	Aroostook Junction to Edmondston	57·20		
	St John and Maine		175·00	
	Vanceboro to McAdam Junction	6·30		
	McAdam Junction to Fairville	81·80		
	Fairville to Carleton	4·00		
	St. John Bridge and Railway Extension—		92·10	
	Fairville to St. John		2·00	
	Fredericton			
	Fredericton Junction to Fredericton		22·10	
	New Brunswick and Canada—			
	McAdam Junction to St. Stephen	33·90		
	Watt Junction to St. Andrews	27·50		
	McAdam Junction to Woodstock	50·80		
	Debec Junction to Maine boundary	5·00		
	St. Stephen and Milltown Ry.—		117·20	
	St. Stephen to Milltown		4·60	
	Tobique Valley			
	Perth Centre to Plaster Rock		28·00	
	Manitoba South-western Colonization—			
	Manitou to Deloraine	100·40		
	Winnipeg to Glenboro	101·90		
	Elm Creek to Carman	12·10		
	Columbia and Kootenay—		214·40	
	Nelson to Robson	27·70		
	Slocan Junction to Slocan City	32·00		
	To Mouth of Kootenay River	0·80		
	Shuswap and Okanagan—		60·50	
	From Junction with C. P. R. at Sicamous to Lake Okanagan		50·80	
	Nakusp and Slocan			
	Nakusp on Arrow Lake to Three Forks of Carpenter's Creek, B.C.		36·30	
	Columbia and Western—			
	Robson to Rossland	32·10		
	Trail to Smelter Junction	2·00		
	Rossland to LeRoi	1·30		
	W. Robson to Midway	98·80		
	Mining Spurs	25·00		
			159·20	
	Total mileage leased			2,215·72
	" owned			4,658·50
	" in Can. Pac. system			6,874·22

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TABLE showing Location of Railways, &c.—*Continued.*

Name of Railway.	Description.	Distance. Miles.	Total.
Canadian Government Railways.	Intercolonial—		
	Halifax to Point Lévis (*via* Harlaka)..... 674·87		
	Dartmouth to Windsor Junction..... 13·00		
	Truro to Sydney ..... 214·17		
	North Sydney Junction to North Sydney. 4·50		
	New Glasgow to Pictou Landing..... 8·00		
	Stellarton to Oxford Junction. ..... 79·63		
	Brown's Point to Pictou ..... 1·70		
	Pugwash Junction to Pugwash Station.... 4·70		
	Painsec Junction to Pt. du Chêne.... .... 11·38		
	Moncton to St. John ..... 89·22		
	Derby Junction to Indiantown. ..... 13·51		
	Dalhousie Branch ..... 7·00		
	St. Charles Junction to Chaudière Junction (*via* St. Henri) ..... 16·38		
	Hadlow to Chaudière Curve ..... 5·64		
	Freight Branches. ..... 23·47		
		1,167·17	
	Windsor Branch (32 miles) of I. C. Ry. is operated by Dominion Atlantic Ry.		
	Drummond County—	133·77	1,300·94
	Prince Edward Island—		
	Main Line—Alberton to Charlottetown.... 105·30		
	Royalty Junction to Georgetown... ..... 41·00		
	Branch—Mount Stewart to Souris..... 38·40		
	" Alberton to Tignish..... 13·30		
	" Emerald to Cape Traverse..... 12·00		
		210·00	
			1,510·94
Caraquet.....	From Gloucester Junction, Intercolonial Railway, 5 miles south of Bathurst Station, easterly along the south shore of Baie des Chaleurs to Shippigan Harbour, N.B.....		68·00
Carillon and Grenville.....	Carillon to Grenville, Que., connecting at both termini with Ottawa River Navigation Company's steamers (Gauge, 5 ft. 6 in.)..		13·00
Central (Nova Scotia), formerly Nova Scotia Central.	From Middleton on the Windsor and Annapolis Railway to town of Lunenburg, on the Atlantic coast, N.S.....		74·00
Central Ontario.....	From Picton, in Prince Edward County, Ont., to Coe Hill Iron Mines, Wallaston, County of Hastings; connects with Grand Trunk at Trenton, Midland Railway, 2 miles west of Stirling, and with Ontario and Quebec, in Township of Rawdon.....		104·00
Central Railway of New Brunswick	From Norton Station, on the Intercolonial Railway, to Chipman.....		45·66
Coast Line, Nova Scotia, now Halifax and Yarmouth.....	Yarmouth towards Halifax, 240 miles, of which 50·10 miles are in operation.....		50·10
Cobourg, Northumberland and Pacific..	From Cobourg, Ont., to Junction with Central Ontario Railway, 49 miles under construction.....		
Cumberland Railway and Coal Company (formerly Spring Hill and Parrsboro').....	Spring Hill Junction, Intercolonial Railway, to Spring Hill Coal Mines, N.S., and Parsboro', on the Bay of Fundy		32·00
	Spring Hill and Oxford Branch, 14 miles from Spring Hill Mines to Oxford Village on the Oxford and New Glasgow Branch, I.C.R., not in operation.		

TABLE showing Location of Railways, &c.—*Continued.*

Name of Railway.	Description.	Distance. Miles.	Total.
Dominion Atlantic, comprising Windsor and Annapolis, Yarmouth and Annapolis and Cornwallis Valley and lease of Windsor Branch of Intercolonial	Windsor to Annapolis, N.S.	84·00	
	Annapolis to Yarmouth	87·00	
	Branches—		
	Wilmot to Forbrook	3·50	
	From Kentville to Kingsport, on Basin of Minas (formerly Cornwallis Valley Railway)	14·00	
	Windsor Branch of I.C.R.—Windsor to Windsor Junction, Intercolonial Railway, 14 miles from Halifax	32·00	
Drummond County	Ste. Rosalie, Que., junction with Grand Trunk Railway, to St. Leonard, thence to Chaudière	115·93	220·50
Now in Intercolonial System	St. Leonard to Nicolet and Ball's Wharf, on the St. Lawrence	17·34	
	Mitchell to Burrill's Mill	50	
			133·77
East Richelieu Valley	Iberville to Noyan, Que		22·80
Elgin to Havelock	From Elgin, County of Albert, N.B., to Petitcodiac Junction with Intercolonial Railway; thence to Havelock in County of King's, N.B.	27·00	
	Havelock to Keith's Mills	1·00	
			28·00
Esquimalt and Nanaimo	Victoria to Wellington, Island of Victoria		78·00
Fredericton and St. Mary's Railway Bridge	Over the St. John River, connecting the Fredericton Railway, at Fredericton, with the New Brunswick Railway, and Canada Eastern Ry., at St. Mary's		1·33
Grand Trunk (owned)—			
Main Line	Point Edward to Point Levis and Eastern Div.	544·40	
	Boundary Line, Vermont. Middle Div.	175·70	
	Niagara Falls to Windsor	229·81	
			949·91
Branches, Eastern Division	Arthabasca Branch	35·34	
	St. Lambert to Ft. Covington (Boundary)	67·20	
	Brosseaus to Rouse's Point (Boundary)	36·79	
	St. Isidore to Province Line	24·15	
	St. Martin's to Valleyfield	19·12	
	Bonaventure to Dorval	10·12	
	Jacques Cartier Union Ry	6·54	
	St. Paul Branch	1·08	
	St. Henri curve	0·31	
	Wharf Branch, Montreal	0·85	
	Wharf Branch, Lachine	0·68	
	Kingston Branch	2·25	
			204·43
Northern Division	Belleville Harbour to Midland	163·96	
	Madoc Junction to Eldorado	21·68	
	Port Hope to Peterboro'	30·57	
	Peterboro' to Lakefield	9·56	
	Millbrook Junction to Omemee Junction	15·12	
	Chemong Branch	3·00	
	Blackwater to Coboconk	36·19	
	Meaford Tramway	0·75	
	Scarboro Junction to Haliburton	114·82	
	Whitby Harbour to Manilla Junction	33·71	
	Stouffville (Sutton Branch to Jackson's Point)	26·91	
	North Parkdale to Nipissing Junction	218·31	
	Muskoka Wharf Branch	1·00	
	Burlington Junction to Allandale	83·46	
	Allandale to Meaford	51·80	
	Colwell to Penetang	33·30	
	Beeton Junction to Lake Junction	39·20	
	Hillsdale Tramway	8·28	
			891·62

TABLE showing Location of Railways, &c.—*Continued.*

Name of Railway.	Description.	Distance. Miles.	Total.
Grand Trunk (owned)—*Con.*			
Middle Division	Blackwell to Point Edward	5·21	
	Galt to Elmira	25·02	
	St. Mary's to London	21·13	
	Toronto Belt Line	12·79	
	Bathurst St., Toronto to Hamilton	37·95	
	Port Dover to Hamilton	40·25	
	Burlington Beach Line	11·33	
	Stoney Creek and Gages connections	2·56	
	Komoka to Sarnia	50·85	
	Sarnia to Point Edward	2·67	
	Petrolia Branch	4·71	
	Fort Erie to Glencoe	145·55	
	Glencoe to Kingscourt	21·01	
	Port Colborne to Port Dalhousie	25·14	
	Clifton to Port Robinson	9·75	
	Welland Junction	0·20	
	Goderich to Goderich Harbour	1·00	
	Harrisburg to Tilsonburg Juncton	42·54	
	Port Dover to Tavistock	55·68	
	Simcoe to Port Rowan	17·00	
	Harrisburg to Southampton	128·44	
	Palmerston to Durham	26·73	
	Harriston to Wiarton	63·97	
	Stratford to Palmerston	36·60	
	Listowell to Kincardine	57·66	
	Hyde Park to Wingham	68·88	
	Cobourg to Harwood (not in operation)	15·00	
			929·62
			2,975·58
Leased and partly owned	Buffalo and Lake Huron Ry		
	Fort Erie to Goderich	162·00	
	Owen Sound Branch		
	Park Head to Owen Sound,	12·42	
			174·42
Leased or rented	Wharf Branch, Montreal		3·44
			3,153·44
St. Clair Tunnel and approaches	Under the St. Clair River, between Sarnia and Port Huron—connecting the Grand Trunk Railway with railroads in State of Michigan		2·23
	(Length of tunnel between portals 6,000 ft., cylindrical in section with clear inside diameter of 19 ft. 10 inches).		
Great Eastern in Atlantic and Lake Superior system	Constructed from junction with South eastern Railway at Yamaska to River St. Francis	6·00	
	Constructed from Nicolet to Junction with Grand Trunk Railway at St. Grégoire	7·00	
	Yamaska to Sorel	10·00	
			23·00
Great Northern	From St. Jérôme to Moncalm	28·00	
	From junction with Lower Laurentian Railway westward to Shawenegan	20·00	
	Shawenegan Junction to Shawenegan Falls	4·50	
			52·50
Gulf Shore	Junction with Caraquet Railway at Pokemouche to Tracadie operated by Caraquet Ry		16·78
Hamilton, Grimsby and Beamsville (electric)	Hamilton to Beamsville		23·00
Hamilton and Dundas (electric)	Hamilton to Dundas		7·25
Hamilton Radial (electric)	Hamilton to Burlington and Guelph Line		12·00

TABLE showing Location of Railways, &c.—*Continued.*

Name of Railway.	Description	Distance. Miles.	Total.
Hampton and St. Martin, formerly St. Martin and Upham..	From Hampton on Intercolonial Ry. to St. Martin, County of St. John, N.B., on Bay of Fundy		29·00
Hereford	From International Boundary to Dudswell, County Wolfe, connects with Canadian Pacific Railway at Cookshire, Maine Central at International boundary, and with Quebec Central at Dudswell	48·50	
	Dudswell to Lime Quarries (Dominion Lime Company)	4·80	
			53·30
Hull Electric	Hull to Aylmer and Branches		13·63
Interprovincial Railway Bridge and approaches	Across the Ottawa River at City of Ottawa		1·42
Irondale, Bancroft and Ottawa	From Junction with Grand Trunk Railway, near Kinmount Station, to Bancroft Station		18·00
Joggins, now Canada Coals and Railway Co.	Maccan Station, I.C.R., to Joggins Coal Mine		12·00
Kaslo and Slocan	From Kaslo to Sandon, B.C.	28·80	
	From Junction to Cody	3·00	
			31·80
Kent Northern	Richibucto, N.B., to Kent Jct. Intercolonial Railway	27·00	
St. Louis Richibucto	Richibucto to St. Louis	7·00	
			34·00
Kingston and Pembroke	Main Line Kingston to Renfrew	103·10	
	Glendower Branch—Bedford to Zanesville Mine	4·00	
	Robertsville Branch—To Robertsville Mines	1·00	
	Branches—To Doran's Mills, Charcoal Works McLaren's Mills, Bethlehem Iron Mines, Lavant Mills, Clyde Forks Mills, Wilson's Mine, Caldwell's Mills, William's Mine, Cameron Bay	4·75	
	(Connects with Grand Trunk at Kingston, Canadian Pacific at Sharbot Lake and at Renfrew.)		
			112·85
Kingston, Napanee and Western.	Amalgamated with Bay of Quinté Railway:		
	Napanee to Tamworth	28·50	
	Yarker to Harrowsmith	7·00	
	Tamworth to Tweed	20·95	
	Harrowsmith to Sydenham	4·37	
			60·82
Lotbinière and Mégantic	Lyster Station, Grand Trunk, to St. Jean des Chaillons		30·34
L'Assomption	L'Epiphanie Station, C.P.R., to l'Assomption		3·00
Lake Erie and Detroit River	Walkerville, Ont., to Ridgetown	84·22	
Erie and Huron.	Rondeau to Sarnia	71·50	
			155·72
London and Port Stanley	London to Port Stanley on Lake Erie		24·00
Lake Manitoba Railway and Canal Co., now in Canadian Northern	From junction with Manitoba and North-western at Gladstone to Winnipegosis		124·74
Lower Laurentian (formerly St. Lawrence, Lower Laurentian and Saguenay)	From St. Tite, on C.P.R., to Rivière à Pierre, on Quebec and Lake St. John Railway		39·00
Manitoba and North western	Portage la Prairie to Yorkton	225·68	
	Shell River Branch—Binscarth to Russell	11·45	
	Leased—Saskatchewan and Western—Minnedosa to Rapid City	15·47	
			252·60
Metropolitan (Electric)	C.P.R. Junction, Toronto to New Market		28·00
Midland of Nova Scotia (formerly Stewiacke Valley).	From Windsor to Truro, N.S.—57½ miles under construction		

TABLE showing Location of Railways, &c.—*Continued.*

Name of Railway.	Description.	Distance. Miles.	Total.
Montfort and Gatineau Colonization	From Junction with Montreal and Western near St. Sauveur to Arundel		33·00
Massawippi Valley	From Lennoxville to Vermont boundary, there connecting with Connecticut and Passumpsic Rivers Railway; also connects with Grand Trunk and C.P.R., at Lennoxville	31·93	
	Branch—Stanstead Junction to Stanstead	3·51	
			35·46
Montreal and Vermont Junction.	From Junction with Stanstead, Shefford and Chambly Railway, 2½ miles east of St. Johns, P.Q., to Junction with Vermont and Canada Railway, at Vermont boundary; also connects at Stanbridge with Lake Champlain and St. Lawrence Junction Railway		23·60
Montreal, Portland and Boston, now Montreal and Province Line	Junction with Grand Trunk at St. Lambert to Farnham	32·00	
	Marieville to St. Césaire	8·60	
			40·60
Montreal and Atlantic (formerly South-eastern)	Main Line—West Farnham to Richford on International boundary	33·80	
	Northern Division—Sutton Junction to Sorel	95·50	
	Between Newport and Richford—Part of Line in Canada	10·00	
		139·30	
	Leased—Lake Champlain and St. Lawrence Junction—Stanbridge to St. Guillaume	60·70	
			200·00
	(Connects with Connecticut and Passumpsic, Grand Trunk and Stanstead, Shefford and Chambly Rys.).		
Montreal Park and Island electric)	City of Montreal and Suburbs		40·88
Montreal Terminal formerly Montreal Island Belt Line (electric)	Hochelaga to Bout de l'Isle	12·12	
	Branches along La Salle Avenue to Notre Dame	·55	
	To Dominion Cotton Mills	·66	
	To La Charette	·87	
			14·10
Nelson and Fort Sheppard	From West Arm of Kootenay Lake near Nelson, to Fort Sheppard on International boundary, B.C.		59·40
New Glasgow Iron, Coal and Railway Company, now Nova Scotia Steel Co	From Ferrona Junction, I.C.R., to Sunny Brae		12·50
New Brunswick and Prince Edward Island	From Sackville Station, Intercolonial Railway to Cape Tormentine		36·00
Niagara Falls Park and River Electric Railway	Queenston to Chippewa		13·68
	Niagara Falls, Wesley Park and Clifton Electric		3·00
Northern Pacific and Manitoba	Winnipeg to International boundary	65·94	
	Portage Junction to Portage la Prairie	52·52	
	Morris to Brandon	145·24	
	Departure to near Hartney	46·50	
	Connection with C.P.R. at Winnipeg	1·24	
	Spurs to Industries	4·63	
			316·07
Nosbonsing to Nipissing	From Lake Nosbonsing to Lake Nipissing		5·50
Nova Scotia Southern	Under construction—		
	Shelburne to New Germany	77·00	
	Indian Gardens to Liverpool	20·00	
	Sable River Junction to Lockport	20·00	
Ontario, Belmont and Northern	From Junction with Central Ontario Ry. to Iron Mines in Township of Belmont		9·60

TABLE showing Location of Railways, &c.—*Continued.*

Name of Railway.	Description.	Distance. Miles.	Distance. Total.
rford Mountain..	Eastman on C.P.R. to Lawrenceville and Kingsbury, Que	.....	26·50
Oshawa Electric Railway	From Port Oshawa, Lake Ontario to Grand Trunk Ry. Station and through town of Oshawa	.....	8·02
Ottawa and Gatineau..	Canadian Pacific Railway Junction to Hull, Que., to Gracefield	.....	56·50
Ottawa Valley in Atlantic and Lake Superior System	Lachute on C.P.R., to St. Andrews on Ottawa River.	.....	7·00
Ottawa and New York	From Ottawa to International Boundary near Cornwall	.....	56·79
Pembroke Southern leased to Canada Atlantic..	From Pembroke to Golden Lake	.....	21·00
Philipsburg..	Stanbridge Station of Canadian Pacific and Central Vermont Railways, to Philipsburg, Missisquoi Co..	.....	7·50
Pontiac and Renfrew...	From Wyman's Station, on Pontiac Pacific Junction Railway, to Bristol Iron Mines, County Pontiac, Que	.....	4·25
Pontiac Pacific Junction.	From Aylmer, Que., to Waltham	.....	70·60
Port Arthur, Duluth and Western	Port Arthur to Gunflint Lake on Minnesota boundary (Connects with the C. P. R. at Port Arthur and Fort William)	.....	85·50
Portage and North-western	Portage la Prairie to Beaver	20·02	
	Portage la Prairie to Oakland	9·21	
		.....	29·23
Qu'Appelle, Long Lake and Saskatchewan	From Canadian Pacific Railway at Regina, North-westerly to Long Lake and Prince Albert	.....	253·96
Quebec and Lake St. John...	Quebec to Roberval	191·00	
	Chambord Junction to Chicoutimi	51·00	
		.....	242·00
Quebec Central	Main Line—Sherbrooke to Harlaka Junction, Intercolonial Railway 5 miles from Levis, Que	137·50	
	Chaudière Branch, Beauce Junction to St. Francis	15·00	
	Angus Branch—East Angus to Angus Mills	1·00	
	Tring Mégantic—Tring Junction to Mégantic	60·00	
	(Connects with Grand Trunk, Canadian Pacific and Boston and Maine Rys. at Sherbrooke).	.....	213·50
Quebec, Montmorency and Charlevoix	Hedleyville, Parish of St. Roch, Quebec, to Cap Tourmente	.....	30·00
Red Mountain	From International boundary Line, B.C. to Rossland	.....	9·53
Restigouche and Western..	Campbellton, N.B., to St. Leonard's, 100 miles (under	const'n)	10·00
Rutland and Noyan	International Boundary to Noyan Jct.	.....	4·20
Stanstead, Shefford and Chambly	From Junction with Montreal and Vermont Junction Railway, near St. John, Que., easterly to Waterloo	.....	43·00
Shore Line (formerly Grand Southern), B.C	St. John to St. Stephen, N.B	.....	82·50
St. Catharines and Niagara Central	St. Catharines, Ont., to Niagara Falls	.....	12·27
St. John Bridge and Railway Extension	From St. John to Fairville, crosses St. John River at the Falls by a cantilever steel bridge, and connects Intercolonial Railway with New Brunswick Railway, C.P.R., included in Canadian Pacific System	.....	2·00
St. John Valley and Rivière du Loup	From Fredericton, N.B., to Woodstock, N.B., 66 miles, of which 6 miles are under construction	.....	
Salisbury and Harvey (formerly Albert Railway)	Salisbury to Albert, N.B.	.....	45·00
St. Lawrence and Adirondack...	From Jct. with Canada Atlantic near Valleyfield to International Boundary	19·80	
	Beauharnois to Junction with Canadian Pacific at Adirondack Junction	13·20	
		.....	33·00
South Shore (formerly Montreal and Sorel)	From Junction with Grand Trunk at St. Lambert to Yamaska	.....	54·50

TABLE showing Location of Railways, &c.—*Concluded*

Name of Railway.	Description.	Distance. Miles.	Total.
Sydney and Louisburg (Dominion Coal Co)	Sydney Harbour to Louisbourg Harbour	39·15	
	Branches to coal mines	9·81	
			48·96
Thousand Islands	Gananoque on St. Lawrence River to Gananoque Station, G.T.R.		4·33
Témiscouata	Rivière du Loup, Que., on Intercolonial, to Edmundston, N.B., on the New Brunswick Railway	81·00	
	Branch—Edmundston to Connors, on St. John River	32·00	
			113·00
Tilsonburg, Lake Erie and Pacific	From Port Burwell on Lake Erie to Junction with Canada Southern Railway, north of Tilsonburg		20·00
Toronto, Hamilton and Buffalo, including Brantford, Waterloo and Lake Erie	Main Line—Waterford Junction on Canada Southern to Welland Junction on Canada Southern, passing through the City of Hamilton	79·87	
	Branch—Chantlers to Fonthill	4·07	
			83·94
United Counties	Iberville Junction with Canadian Pacific Railway to St. Hyacinthe, thence to St. Robert Junction with Montreal and Atlantic, 4½ miles from Sorel		61·00
Victoria and Sydney	City of Victoria to Sydney, Vancouver Island		16·26
Winnipeg and Hudson Bay, now in Canadian Northern	Winnipeg to Port Nelson on Hudson Bay		
	(Constructed 40 miles, Winnipeg to St. Laurent on Lake Manitoba) not in operation		40·00
York and Carlton	Junction with Canada Eastern Ry. to Stanley, N.B., 6 miles under construction		

SUMMARY STATEMENT OF CAPITAL

FOR THE

FISCAL YEAR ENDED JUNE 30, 1900.

A. NOTE.—With regard to subsidies granted by Dominion Parliament, 60–61 and 63–64 Vic.

By 60–61 Vic., cap. 4, 1897, and 63–64 Vic., cap. 8, 1900.—A subsidy was authorized on certain mileage of this railway specified in the said Acts of Parliament, of $3,200 per mile, and a further subsidy beyond the sum of $3,200 per mile, of fifty per cent on so much of the average cost of the said specified mileage subsidized as is in excess of $15,000 per mile, such subsidy not exceeding in the whole the sum of $6,400 per mile.

The amounts of certain of the subsidies authorized by Parliament which are given in this statement, include the determined portion of the subsidies, viz., the amounts produced by the $3,200 per mile, but the other portion, being an undetermined amount, cannot be shown here.

Of the Railways shown in this statement the following is the mileage which may be entitled to the additional subsidies under these said Acts:—

Canadian Pacific—Extension of Pipestone Branch	50	miles.
Central Railway of New Brunswick	15	do
Coast Railway of Nova Scotia	61	do
Cobourg, Northumberland and Pacific	50	do
Drummond County	42½	do
East Richelieu Valley	24	do
Great Northern	44	do
Gulf Shore	5½	do
Ontario and Rainy River, now in Can. Northern	80	do
Ottawa, Arnprior and Parry Sound	56	do
Ottawa and Gatineau	20	do
Ottawa and New York	53·87	do
Pembroke Southern	24	do
Philipsburg Railway and Quarry Co	$0\frac{66}{100}$	do
Pontiac Pacific Junction	7½	do
Restigouche and Western	20	do
St. Lawrence and Adirondack	13½	do
St. Stephen and Milltown	$1\frac{14}{100}$	do
Tilsonburg, Lake Erie and Pacific	3½	do
United Counties	1	do
Inverness and Richmond	40	do
Montreal and Province Line	21	do
Nova Scotia Southern	97	do
Ontario and Rainy River	80	do
York and Carlton	6	do

B. NOTE.—Memorandum of adjustment with Statement No. 3, Part II., being Accountant of Department of Railways and Canals Statement of Railway Subsidies.

	$ cts.	$ cts.
Total of Dominion Government aid paid up. Statement No. 1		159,565,770 16
ADD—Atlantic and North-western Railway (portion in United States), not included in Statement No. 1		1,272,500 00
		160,838,270 16
LESS—Intercolonial Railway, including Windsor Branch (cost)	60,006,192 18	
Prince Edward Island Railway (cost)	3,843,633 28	
Canadian Pacific Railway. Construction of lines built by Dominion (not including surveys) and transferred to Canadian Pacific Company	31,103,234 58	
Fredericton and St. Mary's Bridge Co. (loan)	300,000 00	
Grand Trunk Railway (loan)	15,142,633 33	
Kent Northern Railway, rails (loan)	58,334 27	
Salisbury and Harvey Railway, including rails (loan)	29,391 01	
St. John Bridge and Railway Extension (loan)	433,900 00	
Windsor and Annapolis Railway	1,193,369 00	
		112,110,707 65
Agreeing with subsidy No. 3, accountant's statement		48,727,562 51

No. 1.—Summary Statement of Capital for

Number.	Name of Railway.	Length of Line: Completed (Rails Laid.)	Length of Line: Under Construction.	Ordinary Share Capital: Authorized.	Ordinary Share Capital: Subscribed.	Ordinary Share Capital: Paid up.	Preference Share Capital: Authorized.	Preference Share Capital: Subscribed.	Preference Share Capital: Paid up.
		Miles.	Miles.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
1	... and Coal Co.	164 62		100,000 00	100,000 00	100,000 00	1,500,000 00	1,000,000 00	1,000,000 00
2	[illegible]	16 00		150,000 00	150,000 00	125,920 00			
3	[illegible]	13 00	[illegible]	3,000,000 00	3,000,000 00	940,666 43			
4	... North-west	201 40		1,000,000 00	180,000 00	176,000 00	1,795,500 00	1,795,500 00	1,795,500 00
5, 6, 7, 8	... Lake Superior comprising ... 100 00, ... 23 00, ... 7 00, ... 4 00	130 00	23 .. / 82 ..	10,000,000 00	2,602,500 00	2,602,500 00			
9	... Kingston, Napanee and Western 60 82	64 82		1,250,000 00	144,500 00	144,500 00			
10	... and Nelson	15 16		1,000,000 00	1,000,000 00	1,000,000 00			
11	... Waterloo Electric	3 00		40,000 00	29,484 00	29,484 00			
12	... Junction	19 50							
13	... Norfolk and Port Burwell	34 39							
14	[illegible]	61 75	27 .0	1,212,500 00	1,212,500 00	1,212,500 00	3,637,500 00	1,212,985 00	1,212,985 00
15	... Westport and Sault Ste. Marie	15 00		1,125,000 00	1,125,000 00	1,125,000 00			
16	... and Moncton	32 00		250,000 00	250,000 00	250,000 00			
17	... of Lake Huron	161 00					11,972,000 00	2,555,657 00	2,555,657 00
18	... Edmonton	295 07		1,000,000 00	1,000,000 00	1,000,000 00			
19	... including Ottawa, Arnprior and Parry Sound ... Sound Colonization	398 80		6,200,000 00	6,200,000 00	6,158,300 00	1,000,000 00	1,000,000 00	1,000,000 00
20	... 223 00 ... and Ottawa 45 00	268 60							67,100 00
21	... Railway Company, formerly Joggins	12 00			350,000 00	350,000 00	100,000 00	67,100 ..	
22	[illegible]	136 00		1,000,000 00	1,000,000 00	1,000,000 00			
23	[illegible]	359 21		15,000,000 00	15,000,000 00	15,000,000 00			
24	... and Erie	—		60,000 00	60,000 00	60,000 00			
25	[illegible]	.. 95		50,000 00	50,000 00	50,000 00			
	[illegible]	216 70		24,750,000 00	7,000,000 00	7,000,000 00			
26	... Pacific	3,628 05		65,000,000 00	65,000,000 00	[illegible],000,000 00	32,500,000 00	29,321,666 67	29,321,666 67
27	... Nest Pass Branch	283 75							
	... Government Railways								
28	Intercolonial, including Windsor Branch, 32 miles	1,339 ..							
29	Prince Edward Island	210 00							
	Cost of railway lines built by the Dominion Government and transferred to the Canadian Pacific Railway Co. up to June 30, 1900								
30	Cap de la Madeleine	2 32		50,000 00	30,000 00	20,000 00			
31	Caraquet	68 00		950,000 00	950,000 00	950,000 00			
32	Carillon and Grenville	13 00		200,000 00	100,000 00	100,000 00			
33	Central Counties (leased to Canada Atlantic)	37 00		500,000 00	450,000 00	450,000 00			
34	Central Ontario	104 00	21 ..	450,000 00	450,000 00	450,000 00	300,000 00	300,000 00	300,000 00
35	Central of New Brunswick	15 66		900,000 00	900,000 00	900,000 00			
36	Central (Nova Scotia)	71 00			500,000 00	500,000 00			
37	Coast Railway, Nova Scotia—Now Halifax and Yarmouth	50 10	61 00	1,000,000 00	51,000 00	51,000 00			
38	Cobourg, Northumberland and Pacific		49 00	200,000 00	50,000 00	5,000 00			
39	*Columbia and Kootenay	60 50		1,000,000 00	250,000 00	25,000 00			
40	*Columbia and Western	159 20		1,000,000 00	1,000,000 00	1,000,000 00			
41	‡Cobourg, Blairton and Marmora	15 00							
42	*Credit Valley	175 70							
43	Cumberland Railway and Coal Co. 32 00; Springhill and Oxford Branch (See note) 11 00	*32 00	11 00	1,000,000 00	1,000,000 00	1,000,000 00			
	Drummond County—Now included in Intercolonial								
44	East Richelieu Valley	22 80		100,000 00	76,200 00	37,600 00			
45	Elgin and Havelock	28 00		125,000 00	125,000 00	42,000 00			
46	Esquimalt and Nanaimo	78 00		3,000,000 00	2,500,000 00	2,500,000 00			
47	*Fredericton	22 10		500,000 00	500,000 00	319,280 00			
48	Fredericton and St. Mary's Railway Bridge Co.	1·33		400,000 00	200,000 00	20,000 00			
49	Galt, Preston and Hespeler (Electric)	9·00		100,000 00	49,150 00	28,557 50			
50	‡Grand Trunk (in Canada)	884 25		113,482,437 50	100,356,584 39	100,356,584 39	89,245,202 10	89,244,198 10	89,244,198 10
	‡Grand Trunk Victoria Bridge at Montreal								
51	‡Grand Trunk, Georgian Bay and Lake Erie	171·00							
52	‡Owen Sound Branch, Parkhead to Owen Sound	12·42							
53	‡Grand Junction and Belleville and North Hastings	85 21							
54	Great Northern	52 50	88 00	3,000,000 00	3,000,000 00	310,000 00			
55	Great North-west Central	[illegible]							

Number.	Bonded Debt: Authorized.	Bonded Debt: Issued.	Bonded Debt: Sold.	Rate of Interest.	Dominion Government Aid: Loan.	Dominion Government Aid: Bonus.	Dominion Government Aid: Subscription to Shares or Bonds.	Dominion Government Aid: Paid up.	Province.	Province: Loan.
	$ cts.	$ cts.	$ cts.	p. c.	$ cts.	$ cts.	$ cts.	$ cts.		$
1	[illegible]5,000 00	4,915,824 87	4,915,824 87	4 & 5						
2	[illegible]59,588 93	159,588 93		6		50,460 00		50,460 00	New Brunswick	
3										
4	[illegible]85,066 00	3,885,066 00	3,885,066 00	4 & 5		*1,422,000 00 / 156,800 00		*782,100 00 / 156,800 00	Quebec	
5	[illegible]0,000 00					620,000 00		620,000 00	Quebec	
6						40,345 00		40,345 00	do	
7						21,600 00		21,600 00	do	
8	[illegible]0,500 00	1,010,500 00	742,648 24	4		208,732 80		208,732 80	Ontario	
9	[illegible]0 per mile.	720,000 00	720,000 00	5						
10	30,000 00	6,800 00	6,800 00	5						
11	$30[illegible]					62,400 00		62,400 00	Quebec	
12									Ontario	
13										
14	125,000 00	1,125,[illegible] 00	[illegible],000 00			105,200 00		105,200 00	Ontario	
15	310,000 00	310,000 00	[illegible]10,000 00	6		101,600 00		101,600 00	New Brunswick	
16	[illegible] 00	3,715,982 20	3,715,982 20	5½					Ontario	
17	[illegible]58,940 00	5,458,940 00	5,458,940 00	6						
18		4,450,000 00	4,450,000 00	5		A 1,214,867 20		1,214,867 20	Ontario / Quebec	
19		973,333 33	973,333 33	6		1,525,250 00		1,525,250 00	Ontario	
20						37,500 00		37,500 00	Nova Scotia	
21	1,854,174 60	1,854,174 60				374,839 84		374,839 84	New Brunswick	
22	20,000,000 00	19,575,000 00	19,575,000 00	5					Ontario	
23	600,000 00	66,000 00	66,000 00	6						
24	163,630 00	130,000 00	130,000 00	4		51,200 00		51,200 00	Ontario	
25	$20,000 per mile.	1,734,480 00	1,734,480 00	4		A *256,000 00			Manitoba	†256,0[illegible]
26	133,909,082 53	119,911,715 86	111,985,715 86	3½, 4 & 5		A 25,240,000 00		25,080,000 00	Manitoba / British Columbia	
27						3,630,000 00		3,116,250 00		
28						60,006,192 18		60,006,192 18		
29						3,843,653 28		3,843,653 28		
						31,103,234 58		31,103,234 58		
30						7,424 00		7,424 00		
31	500,000 00	500,000 00	500,000 00	6		221,000 00		221,000 00	New Brunswick	
32										
33	380,000 00	380,000 00	380,000 00	5					Ontario	
34	2,200,000 00	2,200,000 00	2,200,000 00	6					do	
35	540,000 00	540,000 00	540,000 00	6		A 185,100 00		142,400 00	New Brunswick	
36						235,200 00		235,200 00	Nova Scotia	
37	500,000 00	450,000 00				A 195,200 00		90,400 00	Nova Scotia	
38	735,000 00	735,000 00				A 160,000 00			Ontario	
39	$24,333.33 per m.	1,277,500 00	1,277,500 00	4		88,800 00		88,800 00		
40	5,477,500 00	5,477,500 00	5,477,500 00							
41									Ontario	26,0[illegible]
42									do	
43						39,850 00		39,850 00	Nova Scotia	
						A 423,936 00		*423,936 00	Quebec	
44						A 76,800 00		69,952 00	do	
45						82,652 82		82,652 82	New Brunswick	
46						750,000 00		750,000 00		
47	200,000 00	100,000 00	100,000 00	6					New Brunswick	
48	300,000 00	50,000 00	50,000 00	6	300,000 00	30,000 00		330,000 00		
49										
50	C. 167,253,906 75	C. 86,141,717 94	86,141,717 94	4, 5 & 6	15,142,633 33			15,142,633 33		
						‡300,000 00		271,628 25		
51		912,500 00	912,500 00	5					Ontario	
52	100,000 00	100,000 00	100,000 00	5		39,744 00		39,744 00	do	
53						21,888 00		21,888 00	do	
54	4,002,000 00	4,002,000 00	570,000 00	5		A 495,988 00		153,088 00	Quebec	

ital for the Year ended June 30, 1900.

Province	Provincial Government Aid. Loan.	Bonus.	Subscription to Shares or Bonds.	Paid up.	Municipal Aid. Loan.	Bonus.	Subscription to Shares or Bonds.	Paid up.	Number.	Capital from other Sources. Subscribed.	Paid up.	Total Capital. Subscribed.	Paid up.	Floating Debt. Amount.	Rate of Interest.	Total Cost of Railway and Rolling Stock.	Number.	Remarks.
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	p. c.	$ cts.		
									1			6,015,824 87	6,015,824 87	76,147 62		4,863,851 82	1	†Alberta Railway, 107 miles from Dunmore to Lethbridge, has been sold to Can. Pac Ry. Co., of which 1 89 miles has been abandoned by moving Lethbridge Junction westward. Dominion Land Grant.
unswick		48,680 00		48,680 00					2			408,728 93	225,060 00			193,000 00	2	
									3			3,000,000 00	940,666 43	100,128 66	Nil.	622,418 71	3	
c		711,122 02		629,192 08			325,000 00	325,000 00	4			8,475,488 02	7,819,658 08	Nil.		46,068,630 52	4	*Payable on 100 miles in Canada, between St. Lawrence River and Lennoxville, in half yearly instalments of $35,356. each for 20 years, commencing July 1, 1899. $1,270,560 bonus has in addition been paid by Dominion Government on the portion of this railway through State of Maine to Mattawamkeag. †Also included in C. P. Ry., $1,417,079 95.
		1,415,000 00		840,000 00		10,500 00			5								5	
		156,000 00		82,020 25		20,000 00			6			4,951,335 00	4,240,644 25	870,955 66	Various.	2,516,282 00	6	
		25,389 00		24,500 00		10,000 00		9,000 00	7								7	
						192,500 00		192,500 00	8			1,646,232 80	1,288,381 04	82,319 85	6	1,417,301 28	8	
		90,000 00																
									9			1,720,000 00	1,720,000 00	211,884 88	0 & 6	474,494 69	9	
									10	19,000 00	19,000 00	55,284 00	55,284 00	19,000 00	5½	54,199 92	10	
		179,073 00		179,073 00					11			241,473 00	241,473 00	Nil.			11	Amalgamated with Grand Trunk Railway (Beauharnois Junction).
		68,000 00		68,000 00					12			68,000 00	68,000 00	Nil.			12	do do (Brantford, Norfolk and Port Burwell).
									13			2,425,485 00	2,425,485 00	Nil.		2,398,010 55	13	
						116,000 00		116,000 00	14			2,471,290 00	2,471,290 00	107,921 13	0 & 6	*2,472,962 83	14	*Contractor paid by shares and bonds at par and the bonuses.
unswick		96,000 00		91,500 00					15			756,100 00	756,100 00	4,000 00		291,908 59	15	
						966,000 00		966,000 00	16			7,237,639 20	7,237,639 20	Nil.		7,237,639 20	16	Leased and partly owned by Grand Trunk Ry. Co. *Share capital converted into Grand Trunk Shares.
									17			6,458,940 00	6,458,940 00	Nil.		*3,717,882 00	17	* Exclusive of rolling stock. Dominion Land Grant.
io		*847,326 06		1,039,326 06		†1,152,000 00	32,000 00	184,000 00	18			14,089,093 26	14,047,393 26			17,708,947 01	18	Canada Atlantic system. * See pages 61 to 79 for particulars of bonuses.
		*192,000 00					12,500 00	12,500 00	19			4,020,083 33	4,020,083 00	Nil.			19	* Amalgamated with Canadian Pacific (Canada Central).
		1,479,000 00		1,479,000 00														
scotia		35,200 00		35,200 00					20			489,800 00	489,800 00	261 02		168,061 25	20	
unswick		400,000 00		400,000 00	20,000 00				21	331,571 69	331,571 69	3,980,586 13	2,106,411 53	Nil.		2,008,411 53	21	
		147,858 65		147,858 65		322,500 00		322,500 00	22			35,045,358 65	35,045,358 65	Nil.		28,565,705 66	22	
									23			126,000 00	126,000 00	Nil.			23	* Cost of railway cannot now be obtained.
						33,000 00		33,000 00	24			264,200 00	264,200 00	Nil.		269,200 00	24	
ba.	†256,000 00			256,000 00					25			9,246,480 00	8,990,480 00	Nil.		*18,600 per mile.	25	Can. Northern, comprising Lake Manitoba Ry. †Winnipeg Great Northern, Manitoba and South-western, and *Ontario and Rainy River. Dominion Land Grant.
ndia		300,377 50																
h Columbia		37,500 00		381,657 50		§572,500 00		§572,500 00	26			240,383,760 03	232,294,540 03	Nil.		†189,912,382 53	26	† Includes assigned lines, viz., Canada Central, Quebec, Montreal, Ottawa, and Occ., North Shore, St. Lawrence and Ottawa, Montreal and Western, 811,414,484 12. Dominion Land Grant.
									27			3,630,000 00	3,116,250 00	Nil.			27	
									28			60,006,192 18	60,006,192 18			60,006,192 18	28	I C R Windsor Branch Windsor Junction to Windsor, 32 miles, is operated by Dominion Atlantic.
									29			3,843,653 28	3,843,653 28			3,843,653 28	29	
												31,103,234 58	31,103,234 58			*31,103,234 58		* Cost of railway built by the Dominion and transferred to Can. Pac Ry. Co.
unswick		180,000 00		180,000 00					30			37,424 00	27,424 00	Nil.		*27,000 00	30	Exclusive of rolling stock.
									31			1,854,000 00	1,854,000 00	27,838 57		1,013,500 00	31	
									32			100,000 00	100,000 00	Nil.		*100,000 00	32	Road purchased *a la Mac* at sheriff's sale.
						24,000 00		24,000 00	33			854,300 00	854,300 00	74,000 00	0 & 6	*461,000 00	33	* Exclusive of rolling stock.
		126,500 00		126,500 00		93,500 00		93,500 00	34			3,170,000 00	3,170,000 00	Nil.		1,514,051 24	34	
unswick		139,000 00		139,000 00					35	102,229 33	102,229 33	1,866,329 33	1,823,629 33	102,229 33	6	1,721,400 00	35	
Scotia		132,261 08		132,261 08		88,874 17		88,874 17	36			1,256,335 25	1,256,335 25	Nil.		*1,452,656 52	36	From Return for 1895. Railway was sold by sheriff, and original share capital and bonds wiped out. Present company have not returned the Dominion and Provincial aid given to original company, which are, however, given in this statement.
Scotia		288,000 00		96,000 00		5,000 00			37			980,200 00	237,400 00	Nil.		891,051 19	37	
						93,500 00			38	10,547 00	10,547 00	1,049,047 00	15,547 00	Nil.			38	* Under construction.
									39			1,616,300 00	1,201,300 00	Nil.		1,302,339 45	39	British Columbia Land Grant.
									40			6,477,500 00	6,477,500 00	Nil.		5,851,923 78	40	do do
o.	26,000 00	18,740 00		41,740 00		113,500 00		113,500 00	41			158,240 00	158,240 00	Nil.			41	Amalgamated with Grand Trunk Ry. (Cobourg, Blanton and Marmora).
		531,000 00		531,000 00		1,085,000 00		1,085,000 00	42			1,616,000 00	1,616,000 00	Nil.			42	* Share capital and cost of railway included in Ontario and Quebec Railway.
Scotia		173,650 00		173,650 00					43			1,213,500 00	1,213,500 00			887,897 15	43	† The steel rails originally laid on the Springhill and Oxford Branch have been removed and placed on the main line.
		*347,429 54		*347,429 54		*15,000 00		*15,000 00				*786,356 54	*786,356 54					Drummond County Railway now in Intercolonial system; original share capital and bonds have been wiped out by sale to Dominion Government, but bonuses paid by Dominion and Quebec Governments and municipalities to original company are shown in this statement.
		115,215 00		115,215 00		6,500 00			44			274,715 00	222,767 00	Nil.		286,000 00	44	From Return of 1899, as no Return was received for 1900.
Brunswick		107,500 00		107,500 00		13,000 00		13,000 00	45			328,152 82	245,152 82	903 46		586,994 19	45	
Brunswick		230,000 00		230,000 00		80,000 00		80,000 00	46	148,515 32	148,515 32	3,398,515 32	3,398,515 32	148,515 32	6	3,028,874 67	46	British Columbia Land Grant.
									47			910,000 00	729,280 00	Nil.		721,500 00	47	
									48	19,060 98	19,060 98	509,060 98	419,060 98	19,060 98	6	419,586 75	48	
									49			49,150 00	28,557 50	100,000 00	5	123,794 69	49	
									50			299,885,133 76	299,885,133 76	*Nil.		§330,057,740 01	50	* No floating debt on capital account. † Including the railways amalgamated with Grand Trunk.
												†360,000 00	271,628 25	Nil.				‡ Subsidy Voted by 60-61 Vic., cap. 4, of 15 p. c. of cost of rebuilding Grand Trunk Victoria Bridge at Montreal.
o.		336,000 00		336,000 00		929,000 00		929,000 00	51			2,177,500 00	2,177,500 00	Nil.			51	Amalgamated with Grand Trunk (Grand Trunk, Georgian Bay and Lake Erie).
						85,500 00		85,500 00	52			225,244 00	225,244 00	Nil.		225,244 00	52	do do (Owen Sound Branch).
c		224,660 00		224,660 00		213,000 00	50,000 00	263,000 00	53			509,548 00	509,548 00	Nil.			53	do do (Grand Junction).
		524,875 00		123,625 00		247,000 00		6,000 00	54	102,734 00	102,734 00	8,372,597 00	1,565,447 00	102,734 00	6	1,565,959 00	54	See also Ottawa Valley Ry., 7 miles, which was originally included in Great Northern, but now forms part of Atlantic and Lake Superior Railway system.
									55	1,152,991 68	1,152,991 68	1,652,991 68	1,652,991 68	1,152,991 68		721,377 00	55	Dominion Land Grant.
io									56			13,256,702 67	13,256,702 67	Nil.			56	Amalgamated with Grand Trunk Ry. (Great Western).
Brunswick		41,950 00		41,950 00			193,000 00	193,000 00	57			240,000 00	240,000 00	54,513 38	5	*244,969 11	57	* Exclusive of rolling stock.
io		565,020 00		565,020 00		599,805 00			58			104,200 00	101,899 20	Nil.		*101,899 20	58	* do do Operated by Caraquet Railway.
						28,000 00		28,000 00	59			1,167,745 00	1,167,745 00	Nil.			59	Amalgamated with Grand Trunk Railway (Hamilton and North-western).
									60			270,300 00	270,300 00	32,323 36	5	299,000 00	60	

37	[illegible]ast Railway, Nova Scotia, New [illegible] and Yarmouth	50 10	61 00	1,000,000 00	51,000 00	51,000 00
38	Cataraug, Northumberland and Pacific		49 00	200,000 00	50,000 00	5,000 00
39	‡Columbia and Kootenay	60 50		1,000,000 00	250,000 00	25,000 00
40	Columbia and Western	159 20		1,000,000 00	1,000,000 00	1,000,000 00
41	‡Cobourg, Blairton and Marmora	15 00				
42	‡Credit Valley	175 70				
43	Cumberland Railway and Coal Co. 32 00; Spring Hill and Oxford Branch, [illegible] 11 00	2 00	4 00	1,000,000 00	1,000,000 00	1,000,000 00
	D[illegible] County. Now included in Intercolonial					
44	East Richelieu Valley	22 80		100,000 00	76,200 00	37,600 00
45	Elgin and Havelock	28 00		125,000 00	125,000 00	42,000 00
46	Esquimalt and Nanaimo	78 00		3,000,000 00	2,500,000 00	2,500,000 00
47	Fredericton	22 10		500,000 00	500,000 00	319,280 00
48	Fredericton and St. Mary's Railway Bridge Co.	1 33		400,000 00	200,000 00	20,000 00
49	Galt, Preston and Hespeler (Electric)	9 00		100,000 00	49,150 00	28,557 50
50	‡Grand Trunk of Canada	884 25		113,482,437 50	109,356,584 39	109,356,584 39
	*Grand Trunk Victoria Bridge at Montreal					
51	‡Grand Trunk, Georgian Bay and Lake Erie	171 00				
52	‡Owen Sound Branch, Parkhead to Owen Sound	12 42				
53	‡Grand Junction and Belleville and North Hastings	85 21				
54	Great Northern	52 50	58 00	3,000,000 00	3,000,000 00	310,000 00
55	Great North-west Central	51 00	20 00	2,000,000 00	500,000 00	500,000 00
56	‡Great Western	561 80				
57	Guelph Junction	15 00		30,000 00	10,000 00	1,000 00
58	Gulf Shore	16 78		300,000 00	6,250 00	6,250 00
59	‡Hamilton and North-western	172 00				
60	Hamilton, Grimsby and Beamsville (Electric)	23 00		200,000 00	157,300 00	157,300 00
61	Hamilton and Dundas (Electric)	7 25		100,000 00	100,000 00	100,000 00
62	Hamilton Radial (Electric)	12 00		1,000,000 00	75,000 00	75,000 00
63	Hull (Electric)	13 63		300,000 00	292,700 00	292,000 00
64	Hampton and St. Martins, formerly St. Martins and Upham	29 00		100,000 00	100,000 00	100,000 00
65	Harvey Branch	3 00		60,000 00	49,500 00	32,500 00
66	Hereford, including Dominion Lime Co.'s Line	53 30		800,000 00	800,000 00	800,000 00
67	Interprovincial Bridge and approaches, Ottawa		1 42			
68	Irondale, Bancroft and Ottawa	18 00		9,000,000 00	53,500 00	53,500 00
69	Inverness and Richmond		57 00	1,000,000 00	26,200 00	26,200 00
70	‡Jacques Cartier Union	6 50				
71	Kaslo and Slocan	31 80		1,000,000 00	1,000,000 00	1,000,000 00
72	Kent Northern 27 00	34 00		100,000 00	80,000 00	50,000 00
73	St. Louis and Richibucto 7 00			75,000 00	57,000 00	20,000 00
74	Kingston and Pembroke	112 85		2,500,000 00	2,242,500 00	2,204,000 00
75	L'Assomption	3 00		19,000 00	19,000 00	10,000 00
76	Lake Champlain and St. Lawrence Junction	60 70		600,000 00	600,000 00	600,000 00
77	Lake Erie and Detroit River, including Erie and Huron	155 72		1,400,000 00	400,000 00	131,000 00
78	*Lake Temiscamingue Colonization	45 80		100,000 00	50,000 00	12,500 00
79	‡London, Huron and Bruce	68 00				
80	London and Port Stanley	24 00		730,000 00	441,500 00	28,340 00
81	Lotbinière and Megantic	30 34		500,000 00	500,000 00	50,000 00
82	Lower Laurentian	39 00		1,500,000 00	500,000 00	500,000 00
83	Manitoba and North-western	237 13		12,000,000 00	5,837,500 00	5,837,500 00
84	Manitoba South-western Colonization	214 40		1,000,000 00	700,000 00	700,000 00
85	Massawippi Valley	35 46		800,000 00	735,000 00	735,000 00
86	Metropolitan Electric	28 00		500,000 00	450,000 00	450,000 00
87	Midland, Nova Scotia		57 50	1,000,000 00	104,300 00	104,300 00
88	‡Midland, Ontario	166 00				
89	Montfort and Gatineau Colonization	33 00		500,000 00	40,880 00	17,239 75
90	Montreal and Atlantic, formerly South-eastern	139 30		3,200,000 00	3,200,000 00	3,200,000 00
91	‡Montreal and Champlain Junction	61 73				
92	*Montreal and Lake Maskinonge	12 90		100,000 00	25,000 00	25,000 00
93	*Montreal and Ottawa	93 90		1,000,000 00	227,200 00	22,500 00
94	Montreal and Province Line, formerly Montreal, Portland and Boston	40 60		1,000,000 00	1,000,000 00	1,000,000 00
95	Montreal and Vermont Junction	23 60		1,000,000 00		
96	Montreal Park and Island (Electric)	40 88		1,000,000 00	720,900 00	720,900 00
97	Montreal Terminal, formerly Montreal Isl'nd Belt Line (Electric)	14 10		5,000,000 00	500,000 00	500,000 00
98	*Montreal and Western	166 90		10,000,000 00	300,000 00	5,000 00
99	*Nakusp and Slocan	36 30		300,000 00	300,000 00	300,000 00
100	Nelson and Fort Sheppard, B.C.	59 40		1,500,000 00	1,500,000 00	1,500,000 00
101	*New Brunswick	175 00		3,500,000 00	3,000,000 00	3,000,000 00
102	*New Brunswick and Canada	117 20		1,780,800 00	1,780,800 00	1,780,800 00
103	New Brunswick and Prince Edward Island	36 00		500,000 00	212,850 00	212,850 00
104	Nova Scotia Steel Co., formerly New Glasgow Iron, Coal and Railway Co.	12 50				
105	Niagara Falls Park and River Electric Railway	13 68		1,000,000 00	600,000 00	600,000 00
106	Niagara Falls, Wesley Park and Clifton Tramway	3 00		50,000 00	50,000 00	50,000 00
107	‡Northern	172 10				
108	‡North Simcoe	33 00				
109	‡Northern and Pacific Junction	111 37				
110	Northern Pacific and Manitoba	316 07		1,000,000 00	1,000,000 00	1,000,000 00
111	North Shore (Montreal to Quebec)	20[illegible] 50		1,000,000 00	1,000,000 00	500,000 00
112	Nosbonsing and Nipissing	5 50		250,000 00	250,000 00	250,000 00
113	Nova Scotia Southern		117 00	2,310,000 00	1,080,000 00	1,080,000 00
114	*Ontario and Quebec	474 50		2,000,000 00	2,000,000 00	2,000,000 00
115	Ontario, Belmont and Northern	9 60		250,000 00	130,000 00	115,421 25
116	Orford Mountain	26 50		1,000,000 00	50,000 00	5,000 00
117	Oshawa (Electric)	8 02		200,000 00	40,000 00	40,000 00
118	Ottawa and New York	56 79		[illegible],000,000 00	1,000,000 00	1,000,000 00
119	Ottawa and Gatineau	56 50		[illegible],000,000 00	1,000,000 00	504,000 00
120	Philipsburg Railway and Quarry Company's Railway	7 50		125,000 00	75,000 00	75,000 00
121	Pembroke Southern	21 00		250,000 00	178,000 00	107,800 00
122	Pontiac and Renfrew	4 25		250,000 00	100,000 00	20,000 00
123	Pontiac Pacific Junction	70 60		3,000,000 00	300,000 00	300,000 00
124	Port Arthur, Duluth and Western	85 50		1,200,000 00	1,200,000 00	1,200,000 00
125	Portage and North-western	29 23			270,000 00	270,000 00
126	Qu'Appelle, Long Lake and Saskatchewan	253 96		2,000,000 00	201,000 00	201,000 00
127	Quebec Central	213 50		3,381,603 33	3,381,603 33	3,381,603 33
128	Quebec and Lake St. John	242 00		6,000,000 00	4,074,000 00	4,074,000 00
129	Quebec, Montmorency and Charlevoix	30 00		1,000,000 00	1,000,000 00	1,000,000 00
130	*Quebec, Montreal, Ottawa and Occidental (Montreal to Ottawa) including Branches	154 90				
131	Restigouche and Western	10 00	100 00	500,000 00	500,000 00	500,000 00
132	Red Mountain	9 53		190,600 00	190,600 00	190,600 00
133	Rutland and Noyan	[illegible]				

			5000,000 00	450,000 00			37		A 195,200 00	90,400 00	Nova Scotia
			735,000 00	735,000 00			38		A 160,000 00		Ontario
			$24,333.33 per m.	1,277,500 00	1,277,500 00	4	39		88,800 00	88,800 00	
			5477,500 00	5,477,500 00	5,477,500 00		40				
							41				Ontario
							42				do
							43		39,850 00	39,850 00	Nova Scotia
									A 423,936 00	*423,936 00	Quebec
							44		A 76,800 00	69,952 00	do
							45		82,652 82	82,652 82	New Brunswick
							46		750,000 00	750,000 00	
			200,000 00	100,000 00	100,000 00	6	47				New Brunswick
			[illegible]00,000 00	50,000 00	50,000 00	6	48	300,000 00	30,000 00	330,000 00	
							49				
89,245,202 10	89,244,198 10	89,244,198 10	C.167 [illegible] 75	C. 86,141,717 94	86,141,717 94	4, 5 & 6	50	15,142,633 33		15,142,633 33	
									‡300,000 00	271,628 25	
				912,500 00	912,500 00	5	51				Ontario
			100,000 00	100,000 00	100,000 00	5	52		39,744 00	39,744 00	do
							53		21,888 00	21,888 00	do
			4,002,000 00	4,002,000 00	570,000 00	5	54		A 495,988 00	153,088 00	Quebec
			2,[illegible]00,000 00			5	55				
				C. 13,256,702 67	13,256,702 67	5	56				
			[illegible]32,500 00				57		46,000 00	16,000 00	Ontario
			50,000 00				58		A 56,000 00	53,699 20	New Brunswick
				C. 2,920 00	2,920 00	0	59				Ontario
			$10,0[illegible]0 per mile.	85,000 00	85,000 00	5	60				do
			100,000 00	100,000 00	100,000 00		61				
							62				
							63				
			[illegible]60,000 00	145,000 00	145,000 00		64		83,612 54	83,612 54	New Brunswick
							65		5,553 57	5,553 57	do
			[illegible]00,000 00	800,000 00	800,000 00	4	66		170,560 00	170,560 00	Quebec
			1,[illegible]00,000 00				67		212,500 00		Ontario
			1,[illegible]00,000 00	450,000 00			68		144,000 00	144,000 00	do
			$15,000 per mile.	450,000 00	450,000 00	5	69		A 297,600 00		Nova Scotia
							70				
			[illegible]54,000 00	750,000 00	750,000 00	6	71				
							72	58,331 27		58,331 27	New Brunswick
							73		22,400 00	22,400 00	do
1,150,000 00	1,150,000 00	1,150,000 00	1,128,500 00	572,000 00	572,000 00	3	74		48,000 00	48,000 00	Ontario
							75		11,200 00	11,200 00	Quebec
			600,000 00	378,000 00	378,000 00	5	76				do
			1,[illegible]40,000 00	1,640,000 00	1,640,000 00	5	77		434,731 00	434,731 00	Ontario
							78		310,335 95	310,335 95	Quebec
							79				Ontario
							80				do
							81		96,000 00	96,000 00	Quebec
			780,000 00				82		217,600 00	217,600 00	do
	415,000 00	415,000 00	4,700,000 00	3,409,100 00	3,409,100 00	5 & 6	83				Manitoba
			3,744,000 00	2,616,000 00	2,616,000 00	5	84				do
							85				Quebec
			150,000 00	450,000 00	50,000 00	5	86				
			1,[illegible]00,000 00				87		*219,350 00		Nova Scotia
				C. 7,449,406 66	7,449,406 66	5	88				Ontario
			495,000 00	231,000 00			89		167,440 00	167,440 00	Quebec
			1,065,000 00	†1,065,000 00		5	90				do
				C. 492,020 00	492,020 00	5	91		103,600 00	103,600 00	do
			100,000 00	100,000 00	100,000 00		92		41,280 00	11,280 00	do
			$17,500 per mile.	1,636,250 00	1,636,250 00	4	93		192,000 00	192,000 00	Ontario / Quebec
							94		A 67,200 00		Quebec
			200,000 00				95				
408,800 00	315,000 00	315,000 00	1,025,000 00	1,025,000 00	833,000 00	6	96				
			423,000 00	330,000 00	330,000 00	5	97				
							98		361,270 00	361,270 00	Quebec
			925,000 00	647,074 00	647,074 00	4	99		121,600 00	117,760 00	
			1,500,000 00	1,408,000 00	1,408,000 00	6	100				
			7,177,060 00	7,090,743 50	7,090,743 50		101				New Brunswick
*399,067 00	399,067 00	399,067 00	170,000 00	170,000 00	170,000 00	6	102				do
			400,000 00	100,000 00	100,000 00	6	103		113,440 00	113,440 00	do
							104		39,840 00	39,840 00	Nova Scotia
			600,000 00	600,000 00	600,000 00	5	105				
							106				
				C. 4,749,817 99	4,749,817 99	4, 5 & 6	107				Ontario
							108				do
							109		1,320,000 00	1,320,000 00	
			6,010,000 00	6,010,000 00	6,010,000 00	5	110				Manitoba
			5[illegible]25,000 00	616,120 00	616,120 00	5	111		*954,000 00 / 1,500,000 00	1,500,000 00	Quebec
							112				
			[illegible]60,000 00	700,000 00	700,000 00	4	113		A 310,400 00		Nova Scotia
			*19,502,591 33	*19,502,591 33	*19,502,591 33	5	114		196,000 00	196,000 00	Ontario
			100,000 00	100,000 00	100,000 00	6	115		30,720 00	30,720 00	do
			500,000 00				116		84,800 00	84,800 00	Quebec
			88,452 16	88,452 16	88,452 16	6	117		22,400 00	22,400 00	Ontario
			1,600,000 00	1,100,000 00	1,100,000 00	4 & 6	118		A 172,384 00	172,384 00	do
			12,000,000 00	1,136,000 00		5	119		A 396,800 00	284,128 00	Quebec
				20,000 00	20,000 00	6	120		A 23,712 00	23,712 00	do
							121		A 64,000 00	64,000 00	Ontario
							122		13,600 00	13,600 00	Quebec
			10,200,000 00				123		A 307,850 00	193,578 00	do
			1,392,000 00	1,392,000 00	1,392,000 00	5	124		271,200 00	271,200 00	Ontario
							125				
			3,809,140 00	3,809,140 00	3,809,140 00	6	126				
			3,289,866 67	*5,114,793 67	5,114,793 67	4 & 5	127		348,342 00	348,342 00	Quebec
			6,000,000 00	4,691,000 00	4,691,000 00	5	128		1,006,743 50	1,006,743 50	do
			1,000,000 00	1,000 000 00	1,000,000 00	5	129		96,000 00	96,000 00	do
							130		*1,440,000 00		do
			$15,000 per mile.	300,000 00	300,000 00	5	131		A 150,000 00	46,930 00	New Brunswick

					24,000 00		24,000 00	33			854,000 00	854,000 00	71,000 00	0 & 6	*461,609 00	33	Exclusive of rolling stock.
					93,500 00		93,500 00	34			3,170,000 00	3,170,000 00	Nil.		1,511,054 24	34	
	126,500 00		126,500 00					35	102,229 33	102,229 33	1,866,329 33	1,823,629 33	102,229 33	0	1,721,400 00	35	
	139,000 00		139,000 00		88,874 17		88,874 17	36			1,256,335 25	1,256,335 25	Nil.		*1,452,656 32	36	* From Return of 1895. Railway was sold by sheriff, and original share capital and bonds wiped out. Present company have not returned the Dominion and Provincial aid given to original company, which are, however, given in this statement.
	432,261 08		432,261 08														
					5,000 00			37			989,200 00	237,400 00	Nil.		891,031 19	37	
	288,000 00		96,000 00		93,500 00			38	10,547 00	10,547 00	1,049,047 00	15,547 00	Nil.		*	38	* Under construction.
								39			1,616,300 00	1,391,300 00	Nil.		1,369,939 15	39	British Columbia Land Grant.
								40			6,477,500 00	6,477,500 00	Nil.		5,851,973 78	40	do do
26,000 00	18,740 00		41,740 00		113,500 00		113,500 00	41			158,240 00	158,240 00	Nil.		*	41	Amalgamated with Grand Trunk Ry. (Cobourg, Blairton and Marmora).
	531,000 00		531,000 00		1,085,000 00		1,085,000 00	42			1,616,000 00	1,616,000 00	Nil.			42	* Share capital and cost of railway included in Ontario and Quebec Railway.
	173,650 00		173,650 00					43			1,213,500 00	1,213,500 00			887,897 15	43	* The steel rails originally laid on the Springhill and Oxford Branch have been removed and placed on the main line.
	*347,420 54		*347,420 54		*15,000 00		*15,000 00				*786,356 54	*786,356 54					Drummond County Railway now in Intercolonial system; original share capital and bonds have been wiped out by sale to Dominion Government, but bonuses paid by Dominion and Quebec Governments and municipalities to original company are shown in this statement.
					6,500 00			44			274,715 00	222,767 00	Nil.		286,000 00	44	From Return of 1899, as no Return was received for 1900.
	115,215 00		115,215 00		13,000 00		13,000 00	45			328,152 82	245,152 82	903 46		586,994 19	45	
	107,500 00		107,500 00					46	148,515 32	148,515 32	3,398,515 32	3,398,515 32	148,515 32	6	3,028,874 67	46	British Columbia Land Grant.
	230,000 00		230,000 00		80,000 00		80,000 00	47			910,000 00	729,280 00	Nil.		729,280 00	47	
								48	19,060 98	19,060 98	599,060 98	419,060 98	19,060 98	6	419,586 75	48	
								49			49,150 00	28,557 50	100,000 00	5	123,794 09	49	
								50			299,885,133 76	299,885,133 76	* Nil.		†330,657,710 04	50	* No floating debt on capital account. † Including the railways amalgamated with Grand Trunk.
											‡300,000 00	271,628 25	Nil.				‡ Subsidy Voted by 60-61 Vic., cap. 4, of 15 p. c. of cost of rebuilding Grand Trunk Victoria Bridge at Montreal.
	336,000 00		336,000 00		929,000 00		929,000 00	51			2,177,500 00	2,177,500 00	Nil.			51	Amalgamated with Grand Trunk (Grand Trunk, Georgian Bay and Lake Erie).
					85,500 00		85,500 00	52			225,244 00	225,244 00	Nil.		225,244 00	52	do do (Owen Sound Branch).
	224,660 00		224,660 00		213,000 00	50,000 00	263,000 00	53			509,548 00	509,548 00	Nil.			53	do do (Grand Junction).
	524,875 00		123,625 00		247,000 00		6,000 00	54	102,734 00	102,734 00	8,372,597 00	1,565,447 00	102,734 00	6	1,565,959 00	54	See also Ottawa Valley Ry., 7 miles, which was originally included in Great Northern, but now forms part of Atlantic and Lake Superior Railway system.
								55	1,152,991 68	1,152,991 68	1,652,991 68	1,652,991 68	1,152,991 68		721,377 00	55	Dominion Land Grant.
								56			13,256,702 67	13,256,702 67	Nil.			56	Amalgamated with Grand Trunk Ry. (Great Western).
						193,000 00	193,000 00	57			249,000 00	240,000 00	54,513 38	5	*244,969 11	57	* Exclusive of rolling stock.
	41,950 00		41,950 00					58			104,200 00	101,899 20	Nil.		*101,899 20	58	* do do Operated by Caraquet Railway.
	565,020 00		565,020 00		599,805 00		599,805 00	59			1,167,745 00	1,167,745 00	Nil.			59	Amalgamated with Grand Trunk Railway (Hamilton and North-western).
					28,000 00		28,000 00	60			270,300 00	270,300 00	32,323 36	5	299,000 00	60	
								61			230,000 00	200,000 00	Nil.		*207,770 54	61	* From Return of 1899
								62			75,000 00	75,000 00			81,402 14	62	
								63			292,700 00	292,000 00	496,523 32	5	699,416 86	63	
								64			474,212 54	474,212 54	502 77		245,000 00	64	
	145,600 00		145,600 00					65			64,053 57	47,053 57	Nil.		30,410 97	65	Harvey Branch. From Return of 1899
	9,000 00		9,000 00					66			1,873,560 00	1,831,060 00	Nil.		*1,831,060 00	66	* Exclusive of rolling stock.
	103,000 00		60,500 00					67			412,500 00		691,551 49	6½	692,266 50	67	Jointly owned by Pontiac Pac. Jct. Ry. and Ottawa and Gatineau Ry. Companies.
	50,000 00				150,000 00			68	768,787 00	768,787 00	1,581,287 00	1,071,287 00	1,071,287 00	6	753,530 79	68	
	165,000 00		105,000 00					69			1,145,800 00	476,200 00	Nil.		*	69	* Under construction.
	272,000 00				100,000 00			70					Nil.			70	Amalgamated with Grand Trunk (Jacques Cartier Union).
								71	49,395 15	49,395 15	1,799,395 15	1,799,395 15	49,395 15	Nil.	955,224 14	71	British Columbia Land Grant
	135,000 00		135,000 00					72			273,334 27	243,334 27	Nil.		296,000 00	72	
	21,000 00		21,000 00					73			100,400 00	63,400 00	Nil.		67,000 00	73	
	456,493 00		456,493 00		491,000 00		491,000 00	74	18,320 00	18,320 00	4,978,313 00	4,939,813 00	Nil.		4,065,856 00	74	
	7,350 00		5,512 50		1,500 00		1,500 00	75			39,050 00	28,212 50	5,600 00	7	29,999 31	75	
	250,280 00		250,280 00		51,000 00		36,000 00	76			1,279,280 00	1,264,280 00	Nil.		*	76	In Montreal and Atlantic system. No information as to actual cost of railway
	83,000 00		83,000 00		345,000 00		345,000 00	77	555,516 23	555,516 23	3,458,247 23	3,192,247 23	555,516 23	5	3,192,247 23	77	
	350,076 82		350,076 82					78			710,412 77	672,912 77	Nil.			78	* Included in Canadian Pacific Ry. (Lake Temiscamingue Colonization).
	178,630 00		178,630 00		311,500 00		311,500 00	79			490,130 00	490,130 00	Nil.			79	Amalgamated with Grand Trunk (London, Huron and Bruce).
				680,311 00		414,000 00	1,094,311 00	80	85,000 00	85,000 00	1,620,811 00	1,207,651 00	1,001,157 32	3½	1,046,636 78	80	
	126,994 00		126,994 00					81			722,994 00	272,994 00	Nil.		222,122 73	81	
	252,000 00		252,000 00			25,000 00		82	220,000 00	220,000 00	1,214,600 00	1,189,600 00	220,000 00		1,189,600 00	82	35 miles leased by Quebec and Lake St. John Ry., and 4 miles not under traffic.
					215,600 00		215,600 00	83			9,877,200 00	9,877,200 00	Nil.		*3,914,999 46	83	† Including Saskatchewan and Western Dominion Land Grant.
900,000 00			900,000 00					84			4,216,000 00	4,216,000 00	Nil.		*3,767,999 99	84	Dominion Land Grant. † Also $152,143 62 included in C. P. Ry.
						65,000 00	65,000 00	85			800,000 00	800,000 00	Nil.		800,000 00	85	
								86	527,922 00	527,922 00	1,427,922 00	1,027,922 00	527,922 00	6	110,000 00	86	
	192,000 00				30,000 00			87			545,650 00	101,300 00	Nil.		1,216,315 42	87	Midland, Nova Scotia. * This Dominion subsidy includes 15 p. c. of cost of Shubenacadie Bridge up to $33,750
	168,350 00		168,350 00		144,870 85		144,870 85	88			7,762,627 51	7,762,627 51	Nil.			88	Amalgamated with Grand Trunk (Midland).
	158,395 80		158,395 80					89			597,715 80	343,075 55	262,750 82	7	526,896 83	89	
	444,000 00		315,891 89			528,000 00	528,000 00	90	607,701 65	607,701 65	5,844,701 65	4,651,593 54	607,701 65	5	*4,850,307 13	90	* Cost to Montreal and Atlantic Ry. Co. and amounts shown by South-eastern Ry. Co. for subscription to shares and bonuses. † These bonds remain in the treasury of the Montreal and Atlantic Ry. Co.
	150,000 00		150,000 00		21,774 00		21,774 00	91			767,394 00	767,394 00	Nil.			91	Amalgamated with Grand Trunk (Montreal and Champlain Junction).
	87,750 00		87,750 00					92			254,030 00	254,030 00	35,500 00	6	*254,335 00	92	* As returned, 1899 (Montreal and Lake Maskinonge). 11 miles operated by C. P. R., balance, 1 90 miles, not in operation.
	100,000 00 182,210 00		100,000 00 182,210 00		Que. 5,300 00		5,300 00	93			2,342,960 00	2,138,260 00	Nil.		1,942,116 71	93	
	231,122 00		231,122 00		25,000 00		25 000 00	94			1,323,322 00	1,256,122 00	Nil.		1,000,000 00	94	Operated by Central Vermont Ry.
								95					Nil.			95	do do No reliable return of capital can be obtained, as the original books of the company have been lost or destroyed.
								96			2,060,900 00	1,868,900 00	324,118 26	0 & 6	1,075,011 43	96	
								97			830,000 00	830,000 00	39,003 87	0 & 6	887,488 39	97	
	472,500 00		472,500 00					98	401,711 24	401,711 24	1,535,481 24	1,240,481 24	Nil.		1,215,312 34	98	† 3 1 miles eastward from Labelle completed but not used.
								99			1,068,674 00	1,064,834 00	Nil.		*665,250 00	99	* Exclusive of rolling stock.
								100			2,908,000 00	2,908,000 00	Nil.		2,745,413 17	100	British Columbia Land Grant.
	76,000 00		76,000 00		23,000 00		23,000 00	101			10,189,743 50	10,189,743 50	Nil.		*†16,744,576 39	101	† Including securities of leased lines acquired, $1,759,333 13. Also $550,644 10 included in Canadian Pacific Railway.
	575,000 00		575,000 00		47,500 00		47,500 00	102			2,972,367 00	2,972,367 00	Nil.		†3,546,000 00	102	* Guaranteed 3½ p. c. Debenture Stock. † From Return of 1880. Books of company destroyed by fire at St. John in 1877.
	99,708 90		99,708 90					103			525,998 90	525,998 90	Nil.		302,729 68	103	
	40,000 00		40,000 00		4,000 00		4,000 00	104	*123,334 83	*123,334 83	207,174 83	207,174 83	Nil.		207,344 83	104	* From general capital of company which could not be divided.
								105	73,543 08	73,543 08	1,273,543 08	1,273,543 08	73,543 08	0 & 5	933,054 72	105	
								106			50,000 00	50,000 00				106	
	196,188 00		196,188 00		241,980 00	390,000 00	631,980 00	107			5,577,985 99	5,577,985 99	Nil.			107	Amalgamated with Grand Trunk (Northern).
	83,300 00		83,300 00					108			83,300 00	83,300 00	Nil.			108	do do (North Simcoe).
								109			1,320,000 00	1,320,000 00	Nil.			109	do do (Northern and Pacific Junction).
	633,800 00		632,750 00					110			7,643,800 00	7,642,750 00	Nil.		4,556,698 76	110	
2,546,000 00			2,546,000 00					111			6,616,120 00	5,162,120 00			†	111	* Dominion Govt. pay to Quebec Govt. 5 p. c. per annum on this amount. † Included in cost of Canadian Pacific Railway.
								112			250,000 00	250,000 00	Nil.		237,800 00	112	
	374,400 00				80,000 00			113			2,544,800 00	1,780,000 00	65,150 00	0 & 6	*	113	* Under construction.
					52,500 00		52,500 00	114			21,751,091 33	21,751,091 33			*†21,395,233 22	114	* Also $4,683,870 46 included in cost of C. P. Ry. † Includes cost of Credit Valley Ry. and West Ontario Pacific Ry. ‡ Debenture bonds (Ontario and Quebec)
	19,149 39		19,149 39					115			279,869 39	265,290 64	1,000 00	6	*265,290 64	115	* Exclusive of rolling stock.
	98,884 92		98,884 92					116	196,278 08	196,278 08	429,963 00	384,963 00	60,000 00	6½	384,963 00	116	
					5,000 00		5,000 00	117			155,852 16	155,852 16	22,619 66	6	182,112 27	117	
	796,520 00		634,410 53		10,000 00		10,000 60	118			2,282,384 00	2,282,384 00	Nil.		930,757 95	118	
	25,667 00		25,667 00					119			3,329,320 00	1,422,538 53	409,895 36	7	1,829,921 86	119	
	55,500 00		55,500 00					120			144,379 00	144,379 00	Nil.		65,488 79	120	
	17,433 60		17,433 60		20,000 00		20,000 00	121			317,500 00	247,300 00	Nil.		264,500 00	121	
	536,000 00		466,914 18					122			131,033 60	51,033 60	Nil.		46,856 84	122	
	261,000 00		255,571 00		101,000 00		100,000 00	123			1,244,850 00	1,060,492 18	564,793 47	7	1,527,806 07	123	
					40,000 00		40,000 00	124			3,164,200 00	3,158,771 00			2,911,448 90	124	Port Arthur, Duluth and Western. Sold to Canadian Northern in May, 1900. From Return of 1899
								125			270,000 00	270,000 00	Nil.		266,982 94	125	
	1,076,123 14		1,076,123 14					126			4,010,140 00	4,010,140 00	Nil.		*2,539,600 00	126	* Exclusive of rolling stock. Operated by Can. Pac. Ry. Dominion Land Grant.
	2,533,000 00		2,368,816 88		103,000 00		103,000 00	127			10,023,862 14	10,023,862 14	Nil.		8,432,591 77	127	* Including prior lien bonds, $801,540, and 4 p. c. debenture stock, $1,023,387

88	Midland, Ontario																		
89	Montfort and Gatineau Colonization	33 00	.	500,000 00	40,880 00	17,239 75													
90	Montreal and Atlantic, formerly South-eastern	139 30	.	3,200,000 00	3,200,000 00	3,200,000 00				1,065,000 00	11,065,000 00	....	5	90					do
91	Montreal and Champlain Junction	61 73									C. 492,020 00	492,020 00	5	91		103,600 00		103,600 00	do
92	Montreal and Lake Maskinonge	12 90	.	100,000 00	25,000 00	25,000 00				100,000 00	100,000 00	100,000 00		92		41,280 00		41,280 00	do
93	Montreal and Ottawa	93 90	..	1,000,000 00	227,200 00	22,500 00				$17,500 per mile.	1,636,250 00	1,636,250 00	4	93		192,000 00		192,000 00	Ontario / Quebec
94	Montreal and Province Line, formerly Montreal, Portland and Boston	40 60		1,000,000 00	1,000,000 00	1,000,000 00								94		A 67,200 00			Quebec
95	Montreal and Vermont Junction	23 60		1,000,000 00						200,000 00				95					
96	Montreal Park and Island Electric	40 88	.	1,000,000 00	720,900 00	720,900 00	408,800 00	315,000 00	315,000 00	1,025,000 00	1,025,000 00	833,000 00	6	96					
97	Montreal Terminal, formerly Montreal Island Belt Line Electric	14 10		5,000,000 00	500,000 00	500,000 00				123,000 00	330,000 00	330,000 00	5	97					
98	Montreal and Western	166 90		10,000,000 00	300,000 00	5,000 00								98		361,270 00		361,270 00	Quebec
99	Nakusp and Slocan	36 30	.	300,000 00	300,000 00	300,000 00				925,000 00	647,074 00	647,074 00	4	99		121,600 00		117,700 00	
100	Nelson and Fort Sheppard, B.C.	59 40	.	1,500,000 00	1,500,000 00	1,500,000 00				1,500,000 00	1,408,000 00	1,408,000 00	6	100					
101	New Brunswick	175 00		3,500,000 00	3,000,000 00	3,000,000 00				7,177,060 00	7,090,713 50	7,090,743 50		101					New Brunswick
102	New Brunswick and Canada	117 20		1,780,800 00	1,780,800 00	1,780,800 00	*399,067 00	399,067 00	399,067 00	170,000 00	170,000 00	170,000 00	6	102					do
103	New Brunswick and Prince Edward Island	36 00	.	500,000 00	212,850 00	212,850 00				400,000 00	100,000 00	100,000 00	6	103		113,440 00		113,440 00	do
104	Nova Scotia Steel Co., formerly New Glasgow Iron, Coal and Railway Co.	12 50		*	*	*								104		39,840 00		39,840 00	Nova Scotia
105	Niagara Falls Park and River Electric Railway	13 68		1,000,000 00	600,000 00	600,000 00				400,000 00	600,000 00	600,000 00	5	105					
106	Niagara Falls, Wesley Park and Clifton Tramway	3 00		50,000 00	50,000 00	50,000 00								106					
107	‡ Northern	172 10									C. 4,749,817 99	4,749,817 99	4, 5 & 6	107					Ontario
108	‡ North Simcoe	33 00												108					do
109	‡ Northern and Pacific Junction	111 37												109		1,320,000 00		1,320,000 00	
110	Northern Pacific and Manitoba	316 07		1,000,000 00	1,000,000 00	1,000,000 00				6,010,000 00	6,010,000 00	6,010,000 00	5	110					Manitoba
111	~~North Shore (Montreal to Quebec)~~	205 50		1,000,000 00	1,000,000 00	500,000 00				5[illegible]25,000 00	616,120 00	616,120 00	5	111		*954,000 00 / 1,500,000 00		1,500,000 00	Quebec
112	Nosbonsing and Nipissing	5 50		250,000 00	250,000 00	250,000 00								112					
113	Nova Scotia Southern		117 00	2,540,000 00	1,080,000 00	1,080,000 00				160,000 00	700,000 00	700,000 00	4	113		A 310,400 00			Nova Scotia
114	Ontario and Quebec	174 50		2,000,000 00	2,000,000 00	2,000,000 00				*19,502,591 33	*19,502,591 33	*19,502,591 33	5	114		196,000 00		196,000 00	Ontario
115	Ontario, Belmont and Northern	9 60		250,000 00	130,000 00	115,421 25				100,000 00	100,000 00	100,000 00	6	115		30,720 00		30,720 00	do
116	Orford Mountain	26 50		1,000,000 00	50,000 00	5,000 00				500,000 00				116		84,800 00		84,800 00	Quebec
117	Oshawa Electric	8 02		200,000 00	40,000 00	40,000 00				88,452 16	88,452 16	88,452 16	6	117		22,400 00		22,400 00	Ontario
118	Ottawa and New York	56 79		[illegible]000,000 00	1,000,000 00	1,000,000 00				1,000,000 00	1,100,000 00	1,100,000 00	4 & 6	118		A 172,384 00		172,384 00	do
119	Ottawa and Gatineau	56 50		[illegible]000,000 00	1,000,000 00	504,000 00				12,000,000 00	1,136,000 00		5	119		A 396,800 00		284,128 00	Quebec
120	Philipsburg Railway and Quarry Company's Railway	7 50		125,000 00	75,000 00	75,000 00					20,000 00	20,000 00	6	120		A 23,712 00		23,712 00	do
121	Pembroke Southern	21 00		250,000 00	178,000 00	107,800 00								121		A 64,000 00		64,000 00	Ontario
122	Pontiac and Renfrew	4 25		250,000 00	100,000 00	20,000 00								122		13,600 00		13,600 00	Quebec
123	Pontiac Pacific Junction	70 00		3,000,000 00	300,000 00	300,000 00				10,200,000 00				123		A 307,850 00		193,578 00	do
124	Port Arthur, Duluth and Western	85 50		1,200,000 00	1,200,000 00	1,200,000 00				1,392,000 00	1,392,000 00	1,392,000 00	5	124		271,200 00		271,200 00	Ontario
125	Portage and North-western	29 23			270,000 00	270,000 00								125					
126	Qu'Appelle, Long Lake and Saskatchewan	253 96		2,000,000 00	201,000 00	201,000 00				3,809,140 00	3,809,140 00	3,809,140 00	6	126					
127	Quebec Central	213 50		3,381,603 33	3,381,603 33	3,381,603 33				3,289,866 67	*5,114,793 67	5,114,793 67	4 & 5	127		348,342 00		348,342 00	Quebec
128	Quebec and Lake St. John	242 00		6,000,000 00	4,074,000 00	4,074,000 00				6,000,000 00	4,691,000 00	4,691,000 00	5	128		1,006,743 50		1,006,743 50	do
129	Quebec, Montmorency and Charlevoix	30 00		1,000,000 00	1,000,000 00	1,000,000 00				1,000,000 00	1,000 000 00	1,000,000 00	5	129		96,000 00		96,000 00	do
130	Quebec, Montreal, Ottawa and Occidental (Montreal to Ottawa) including Branches	154 90												130		*1,440,000 00			do
131	Restigouche and Western	10 00	100 00	500,000 00	500,000 00	500,000 00				$15,000 per mile.	300,000 00	300,000 00	5	131		A 150,000 00		46,930 00	New Brunswick
132	Red Mountain	9 53		190,600 00	190,600 00	190,600 00				238,250 00	217,000 00	217,000 00	6	132					
133	Rutland and Noyan	4 20		100,000 00	100,000 00	100,000 00								133					
134	Salisbury and Harvey, formerly Albert Railway	45 00		150,000 00	150,000 00	150,000 00				250,000 00	250,000 00		5	134	29,665 15			29,391 01	New Brunswick
135	Saskatchewan and Western	15 47		1,000,000 00	232,500 00	232,500 00	155,000 00	77,500 00	77,500 00	310,000 00	181,040 00	181,040 00	5	135					Manitoba
136	Shore Line, formerly Grand Southern, N.B.	82 50		500,000 00	500,000 00	101,000 00				800,000 00	800,000 00			136					New Brunswick
137	Shuswap and Okanagan	50 80		750,000 00	750,000 00	750,000 00				1,250,000 00	1,250,000 00	1,139,523 00	4	137		163,200 00		163,200 00	
138	South Shore, formerly Montreal and Sorel	54 50		1,000,000 00	300,000 00	300,000 00				1,000,000 00				138		437,047 76		124,647 76	Quebec
139	Stanstead, Shefford and Chambly	43 00		500,000 00	500,000 00	500,000 00				696,632 20	696,632 20	696,632 20		139					
140	St. Catharines and Niagara Central, now Niagara, St. Catharines and Toronto	12 27		1,000,000 00	550,000 00	550,00000					226,000 00	226,000 00	5	140		38,400 00		38,400 00	Ontario
141	St. Clair Tunnel	2 23		700,000 00	700,000 00	350,000 00				2,500,000 00	2,500,000 00	2,500,000 00	5	141		375,000 00		375,000 00	
142	*St. John Bridge and Railway Extension	2 00		200,000 00	200,000 00	53,293 60				125,000 00	125,000 00	125,000 00	5	142	433,900 00			433,900 00	New Brunswick
143	*St. John and Maine	92 10		2,676,666 66	2,654,153 44	2,654,153 44				243,333 33	216,664 00	216,664 00	5	143					do
144	St. John Valley and Rivière du Loup		6 00	100,000 00	133,600 00	31,932 00								144					
145	St. Lawrence and Adirondack	33 00		1,010,413 33	1,010,413 33	1,010,413 33				827,777 77	827,777 77	827,777 77	5 & 6	145		A 149,481 60		149,481 60	Quebec
146	*St. Lawrence and Ottawa	58 40		2,710,090 80			789,909 20	789,909 20	789,909 20	973,334 00	973,334 00	973,334 00	4	146					Ontario.
147	*St. Stephen and Milltown	4 60		50,000 00	50,000 00	50,000 00								147		A 14,848 00		14,848 00	New Brunswick
148	Sydney and Louisbourg (Dominion Coal Co.)	48 96			*	*								148		87,808 00		87,808 00	Nova Scotia
149	‡ South Norfolk	17 00												149		54,400 00		54,400 00	Ontario.
150	Temiscouata	113 00		1,000,000 00	1,000,000 00	991,000 00				2,258,133 30	2,258,133 30	2,258,133 30	5	150		645,950 00		645,950 00	Quebec / New Brunswick
151	Thousand Islands	4·33		250,000 00	60,000 00	60,000 00				58,000 00	58,000 00	58,000 00	6	151		24,400 00		24,400 00	Ontario
152	Tilsonburg, Lake Erie and Pacific	20 00		400,000 00	400,000 00	50,000 00				400,000 00	200,000 00			152		A 69,271 48		69,271 48	do
153	*Tobique Valley	28 00		40,000 00	40,000 00	29,900 00				280,000 00	280,000 00	280,000 00	5	153		134,016 00		134,016 00	New Brunswick
154	‡ Toronto Belt Line	12 79		250,000 00	50,000 00	50,000 00				650,000 00	462,500 00	462,500 00		154					
155	*Toronto Grey and Bruce	191 10		1,000,000 00	813,800 00	785,490 00				3,500,000 00	3,500,000 00	3,500,000 00	4	155		14,656 00		14,656 00	Ontario
156	‡ Toronto and Nipissing	85 00												156					do
157	‡ Lake Simcoe Junction	26 00												157					do
158	Toronto, Hamilton and Buffalo, including Brantford, Waterloo and Lake Erie	85 64		2,500,000 00	2,500,000 00	2,500,000 00				3,280,000 00	3,280,000 00	3,280,000 00	4	158		57,600 00		57,600 00	do
159	United Counties	61 00		1,000,000 00	100,000 00	100,000 00				1,000,000 00	200,000 00			159		A 208,000 00		188,816 00	Quebec
160	Victoria and Sydney, B.C.	16 26		500,000 00	223,000 00	110,500 00				300,000 00	300,000 00	300,000 00	5	160					
161	‡ Victoria	53 00												161					Ontario
162	‡ Waterloo Junction	10 25												162		32,800 00		32,800 00	do
163	‡ Wellington, Grey and Bruce	168 13									C. 475,960 00	475,960 00	As earned.	163					do
164	‡ Whitby, Port Perry and Lindsay	46·00												164					do
165	*West Ontario Pacific	26·60		500,000 00	210,000 00	21,000 00								165		60,000 00		60,000 00	do
	Dominion Atlantic, comprising—																		
166	Windsor and Annapolis 87 50													166		1,193,369 00		1,193,369 00	
167	Cornwallis Valley 14 00	†188 50		†1,119,333 00	†1,119,333 00	†1,119,333 00	†1,314,000 00	†1,314,000 00	†1,314,000 00	† 1,574,666 00	† 4,136,666 00	† 3,619,999 00	4	167		44,800 00		44,800 00	Nova Scotia
168	Yarmouth and Annapolis (Western Counties) .... 87·00													168		500,000 00		500,000 00	do
169	York and Carleton		6.00	60,000 00										169		A 19,200 00			New Brunswick
		17,824·33	758·92		289,703,801 49	279,368,512 02		130,957,582 97	130,957,582 97		394,062,462 98	373,716,703 69			15,964,533 05	150,044,770 10		159,565,770 16	

Railways marked ‡ are in Grand Trunk system. Railways marked * are in Canadian Pacific system. C. Grand Trunk—The $167,253,996.75—4 p. c. Debenture Stock authorized includes all securities marked C. of amalgamated lines; they are being gradually absorbed into it. A. See note on page 21. * See

		168,350 00		168,350 00		144,870 85		144,870 85	88			7,762,627 51	7,762,627 51	Nil.			88	Amalgamated with Grand Trunk (Midland).
		158,395 80		158,395 80					89			597,715 80	343,075 55	262,750 82	7	526,896 83	89	
		144,000 00		315,891 89			528,000 00	528,000 00	90	607,701 65	607,70	5,844,701 65	1,651,593 54	607,701 65	5	*4,850,307 13	90	* Cost to Montreal and Atlantic Ry. Co. and amounts shown by South-eastern Ry. Co. for subscription to shares and bonuses. † These bonds remain in the treasury of the Montreal and Atlantic Ry. Co.
		150,000 00		150,000 00		21,774 00		21,774 00	91			767,394 00	767,394 00	Nil.			91	Amalgamated with Grand Trunk (Montreal and Champlain Junction).
		87,750 00		87,750 00					92			254,030 00	254,030 00	35,500 00	6	*251,335 00	92	* As returned, 1899 (Montreal and Lake Maskinonge). 11 miles operated by C. P. R. Balance, 1·90 miles, not in operation.
		100,000 00 182,210 00		100,000 00 182,210 00		Que. 5,300 00		5,300 00	93			2,342,960 00	2,138,260 00	Nil.		1,942,116 71	93	
		231,122 00		231,122 00		25,000 00		25,000 00	94			1,323,322 00	1,256,122 00	Nil.		1,000,000 00	94	Operated by Central Vermont Ry.
									95					Nil.			95	do do No reliable return of capital can be obtained, as the original books of the company have been lost or destroyed.
									96			2,060,900 00	1,868,900 00	324,118 26	0 & 6	1,075,011 43	96	
									97			830,000 00	830,000 00	39,003 87	0 & 6	887,488 39	97	
		172,500 00		172,500 00					98	401,711 24	401,71	1,535,481 24	1,240,481 24	Nil.		1,215,312 34	98	† 3·1 miles eastwards from Labelle completed but not used.
									99			1,068,674 00	1,064,834 00	Nil.		*665,250 00	99	* Exclusive of rolling stock.
									100			2,908,000 00	2,908,000 00	Nil.		2,745,413 17	100	British Columbia Land Grant.
…wick		76,000 00		76,000 00		23,000 00		23,000 00	101			10,189,743 50	10,189,743 50	Nil.		*†16,744,576 39	101	† Including securities of leased lines acquired, $1,759,333 13. * Also $550,644 10 included in Canadian Pacific Railway.
		575,000 00		575,000 00		47,500 00		47,500 00	102			2,972,367 00	2,972,367 00	Nil.		13,546,000 00	102	* Guaranteed 3½ p. c. Debenture Stock. † From Return of 1880. Books of company destroyed by fire at St. John in 1877.
		99,708 90		99,708 90					103			525,998 90	525,998 90	Nil.		302,729 68	103	
S…		40,000 00		40,000 00		4,000 00		4,000 00	104	*123,334 83	*123,33	207,174 83	207,174 83	Nil.		207,344 83	104	* From general capital of company which could not be divided.
									105	73,543 08	73,54	1,273,543 08	1,273,543 08	73,543 08	0 & 5	933,054 72	105	
									106			50,000 00	50,000 00				106	
		196,188 00		196,188 00		241,980 00	390,000 00	631,980 00	107			5,577,985 99	5,577,985 99	Nil.			107	Amalgamated with Grand Trunk (Northern).
		83,300 00		83,300 00					108			83,300 00	83,300 00	Nil.			108	do do (North Simcoe).
									109			1,320,000 00	1,320,000 00	Nil.			109	do do (Northern and Pacific Junction).
…ba		633,800 00		632,750 00					110			7,643,800 00	7,642,750 00	Nil.		4,556,698 76	110	
	2,546,000 00			2,546,000 00					111			6,616,120 00	5,162,120 00			†	111	* Dominion Govt. pay to Quebec Govt. 5 p. c. per annum on this amount. † Included in cost of Canadian Pacific Railway.
									112			250,000 00	250,000 00	Nil.		237,800 00	112	
Scotia		374,400 00				80,000 00			113			2,544,800 00	1,780,000 00	65,150 00	0 & 6	*	113	* Under construction.
						52,500 00		52,500 00	114			21,751,091 33	21,751,091 33			*†21,395,233 22	114	* Also $4,683,870 16 included in cost of C. P. Ry. † Includes cost of Credit Valley Ry. and West Ontario Pacific Ry. ‡ Debenture bonds (Ontario and Quebec).
		19,149 39		19,149 39					115			279,869 39	265,290 64	1,000 00	6	*265,290 64	115	* Exclusive of rolling stock.
		98,884 92		98,884 92					116	196,278 08	196,278 08	429,963 00	384,963 00	60,000 00	6½	384,963 00	116	
						5,000 00		5,000 00	117			155,852 16	155,852 16	22,619 66	6	182,112 27	117	
						10,000 00		10,000 00	118			2,282,384 00	2,282,384 00	Nil.		930,757 95	118	
		796,520 00		634,410 53					119			3,329,320 00	1,422,538 53	409,895 36	7	1,829,921 86	119	
		25,667 00		25,667 00					120			144,379 00	144,379 00	Nil.		65,488 79	120	
		55,500 00		55,500 00		20,000 00		20,000 00	121			317,500 00	247,300 00	Nil.		264,500 00	121	
		17,433 60		17,433 60					122			131,033 60	51,033 60	Nil.		46,856 84	122	
		536,000 00		466,914 18		101,000 00		100,000 00	123			1,244,850 00	1,060,492 18	564,793 47	7	1,527,806 07	123	
		261,000 00		255,571 00		40,000 00		40,000 00	124			3,164,200 00	3,158,771 00			2,911,448 90	124	Port Arthur, Duluth and Western. Sold to Canadian Northern in May, 1900. From Return of 1899.
									125			270,000 00	270,000 00	Nil.		266,982 94	125	
									126			4,010,140 00	4,010,140 00	Nil.		*2,539,600 00	126	* Exclusive of rolling stock. Operated by Can. Pac. Ry. Dominion Land Grant.
		1,076,123 14		1,076,123 14		103,000 00		103,000 00	127			10,023,862 14	10,023,862 14	Nil.		8,432,591 77	127	* Including [illegible] bonds, $891,540, and 4 p. c. debenture stock, $1,023,[illegible]
		2,533,000 00		2,368,816 88		12,000 00	450,000 00	462,000 00	128			12,766,743 50	12,602,560 38	61,583 78		12,598,800 00	128	
		306,945 50		306,945 50					129			2,402,945 50	2,402,945 50	Nil.		2,053,316 99	129	Now owned by Quebec Railway Light and Power Co.
…unswick	1,176,956 00	727,000 00		1,903,956 00	2,434,000 00	25,000 00		796,644 62	130			5,802,956 00	2,700,600 62	Nil.			130	* Dominion Government pays to Quebec Government 5 p.c. per annum on this amount.
		23,000 00		23,000 00		5,000 00			131			978,000 00	869,930 00	Nil.		223,339 00	131	
									132			407,600 00	407,600 00	Nil.		407,614 83	132	
…unswick		455,000 00		455,000 00					133			100,000 00	100,000 00	Nil.		*100,000 00	133	* Exclusive of rolling stock.
…a.						70,000 00		70,000 00	134			954,665 45	704,391 01	Nil.		1,798,364 70	134	
…unswick		413,000 00		413,000 00		10,000 00		10,000 00	135			501,040 00	501,040 00	*			135	* Included in Manitoba and North-western. Dominion Land Grant.
					3,000 00			3,000 00	136			1,716,000 00	517,000 00	15,345 91		1,813,457 63	136	
									137			2,163,200 00	2,052,723 00	Nil.		*1,250,000 00	137	* Exclusive of rolling stock. From Return of 1899, as no Return received this year.
		276,645 00		276,645 00		25,000 00		25,000 00	138	6,320 54	6,320	1,045,013 30	732,613 30	546,470 56	0 & 6	*878,520 06	138	* As returned by South Shore Co. The South Shore Co. have not included in their Return a Dominion bonus of $93,757.57 and a Quebec bonus of $216,645 as these bonuses were paid to the Montreal and Sorel Ry. Co., but which are herein included.
									139			1,196,632 20	1,196,632 20	Nil.		*	139	* No reliable return of capital or cost of railway can be obtained, as the original books of the company were lost or destroyed. Operated by the Central Vermont Ry.
					40,000 00		100,000 00	140,000 00	140			954,400 00	954,400 00	Nil.		530,688 12	140	Railway sold by court April 15, 1899. Cost to original company, $463,702.04, cost by purchasers, $56,986 08.
…unswick		5,181 81		5,181 81					141	11,577 38	11,577 3	3,586,577 38	3,236,577 38	Nil.		3,236,577 38	141	
…do		880,000 00	300,000 00	1,180,000 00					142			764,081 81	617,375 41	Nil.		640,029 52	142	
							60,000 00	60,000 00	143			4,110,817 44	4,110,817 44			*2,698,589 00	143	* Cash paid to bondholders at foreclosure.
		65,216 00		65,216 00					144			133,600 00	31,932 00	Nil.		23,461 77	144	
									145			2,052,888 70	2,052,888 70	43,755 88	6	1,529,434 49	145	
…unswick		13,920 00		13,920 00	300,000 00		90,000 00	390,000 00	146			2,153,243 20	2,153,243 20			1,903,488 99	146	
…otia		87,808 00		82,000 00					147			78,768 00	78,768 00			59,399 17	147	
									148	*1,449,800 00	*1,449,800 00	1,625,416 00	1,619,608 00	Nil.		2,141,582 00	148	* From the general capital of the Dominion Coal Co.
…e Brunswick		241,500 00		241,500 00		65,000 00		65,000 00	149			119,400 00	119,400 00	Nil.			149	Amalgamated with Grand Trunk (South Norfolk).
		66,000 00		66,000 00		Que. 25,000 00		25,000 00	150			4,236,583 30	4,227,583 30	Nil.		2,022,000 80	150	
		38,564 00		38,564 00		10,000 00		10,000 00	151			152,400 00	152,400 00	Nil.		120,289 86	151	
…nswick		70,000 00		70,000 00		55,000 00		55,000 00	152			762,835 48	212,835 48	105,000 00	6	302,500 00	152	
									153			524,016 00	513,916 00			*326,200 00	153	* Exclusive of rolling stock (Tobique Valley).
		375,282 00		375,282 00					154			512,500 00	512,500 00	Nil.		512,500 00	154	In Grand Trunk system (Toronto Belt Line).
		105,212 00		105,212 00		988,000 00		988,000 00	155	322,583 30	322,583 30	6,014,321 30	5,986,011 30	Nil.		5,547,338 12	155	
		53,000 00		53,000 00		376,702 59		376,702 59	156			481,914 59	481,914 59	Nil.			156	Amalgamated with Grand Trunk (Toronto and Nipissing).
						100,000 00		100,000 00	157			153,000 00	153,000 00	Nil.			157	do do (Lake Simcoe Junction).
		210,000 00		207,565 00		268,000 00		265,500 00	158			6,105,600 00	6,103,100 00	366,887 52		6,449,832 54	158	1·70 miles, from Poulette St., Hamilton, to Desjardins Canal Junction. Leased to Can. Pac. Ry.
									159			718,000 00	496,381 00	550,000 00	6 & 7	1,010,000 00	159	
		312,000 00		312,000 00					160			523,000 00	410,500 00	145,511 27	6	435,585 11	160	
						186,000 00		186,000 00	161			498,000 00	498,000 00	Nil.			161	Amalgamated with Grand Trunk (Victoria).
		241,276 00		241,276 00		47,000 00		47,000 00	162			79,800 00	79,800 00	Nil.			162	do do (Waterloo Junction).
		94,957 59		94,957 59		682,000 00		682,000 00	163			1,399,236 00	1,399,236 00	Nil.			163	do do (Wellington, Grey and Bruce).
						222,094 93		222,094 93	164			317,052 52	317,052 52	Nil.			164	do do (Whitby, Port Perry and Lindsay).
						25,000 00		25,000 00	165			295,000 00	106,000 00			*	165	* Cost included with cost of Ontario and Quebec Railway.
…otia		44,800 00		44,800 00					166								166	† As returned by the Dominion Atlantic Co., which company have not included in their Return the aid paid by the Dominion and Nova Scotia Governments and municipalities to the several railways now comprised in the Dominion Atlantic Railway, which aid, however, is shown in this statement.
		679,197 45		679,197 45		27,685 00		27,685 00	167			9,370,533 54	8,883,866 54	Nil.		16,268,448 23	167	
						150,000 00		150,000 00	168	*160,683 09	*160,683 09						168	* Due the Dominion Government, being the amount expended by that Government in the construction of the Annapolis and Digby Railway over the grant of $500,000, which railway is included in Yarmouth and Annapolis or Western Counties Railway. Nova Scotia Land Grant.
…nswick		15,000 00							169			34,200 00		Nil.		*783 00	169	† Under construction.
	4,904,956 00	28,700,250 77	300,000 00	31,310,170 06	3,477,311 00	12,141,086 54	2,764,500 00	15,884,542 16		7,465,123 57	7,465,123 57	040,486,378 47	998,268,404 63					

…ge 21. * See note B. on page 22 with regard to Dominion aid paid to railways. § Canadian Pacific Railway—Municipalities giving bonuses, viz.: British Columbia, $37,50 North-west Territories, $25,000; Manitoba, $370,000; Ontario, $80,000; Quebec, $20,000; New Brunswick, $40,000; total, $572,500.

64 VI

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Total

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OF

No. 2.—Summary Statement of the different descriptions of Rolling Stock, for the Year ended June 30, 1900

Number	Name of Railway	Length of Line: Completed (Miles)	Length of Line: Under Construction (Miles)	Number of Engines: Owned	Number of Engines: Hired	Number of Sleeping Cars: Owned	Number of Sleeping Cars: Hired	Number of Palace or Drawing Room Cars: Owned	Number of Palace or Drawing Room Cars: Hired	Number of First Class Cars: Owned	Number of First Class Cars: Hired	Number of Second Class and Emigrant Cars: Owned	Number of Second Class and Emigrant Cars: Hired	Number of Baggage, Mail and Express Cars: Owned	Number of Baggage, Mail and Express Cars: Hired	Number of Cattle and Box Freight Cars: Owned	Number of Cattle and Box Freight Cars: Hired	Number of Refrigerator Cars: Owned	Number of Refrigerator Cars: Hired	Number of Flat Cars: Owned	Number of Flat Cars: Hired	Number of Coal and Dump Cars: Owned	Number of Coal and Dump Cars: Hired	Number of Conductors' Vans: Owned	Number of Conductors' Vans: Hired	Number of Tool Cars: Owned	Number of Tool Cars: Hired	Number of Snow Ploughs: Owned	Number of Snow Ploughs: Hired	Number of Flangers: Owned	Number of Flangers: Hired	Number	Remarks
1	Alberta Railway and Coal Company	64 62		12				2		1				2		23		*6		8		243		7		1		3		2		1	*6 iron water tank cars.
2	Albert Southern 16 00 Harvey Branch 3 00	19 00		3										1		1				7	1											2	
3	Algoma Central	13 00	29 00	6												20				50		40						1				3	
4	Atlantic and Lake Superior, comprising— Baie des Chaleurs 100 00 Great Eastern 23 00 Ottawa Valley 7 00	130 00	23 00 82 00	6						1		2		2		8				50						1		2		2		4	
5	Bay of Quinte Railway, including 4 00 Kingston, Napanee and Western 60 82	64 82		6						7		3		3		27				120		9		2				1		2		5	
6	Bedlington and Nelson	15 16																														6	Not in operation.
7	Berlin and Waterloo (Electric)	3 00								*8																						7	*Includes 5 motor cars.
8	British Yukon	64 75	27 00	14						2		6		1		82				64		4		6				1		1		8	
9	Brockville, Westport and Sault Ste. Marie	45 00		3						1		1		1		20				17	7											9	
10	Buctouche and Moncton	32 00		2						2		2				5				26		1						1				10	
11	Calgary and Edmonton	295 67																														11	Operated by C. P. Ry. and rolling stock owned by that company.
12	Canada Atlantic, including Ottawa, Arnprior and Parry Sound Leased lines, Central Counties Pembroke Southern	398 80 37 00 21 00		62	4			2		22		14		5		600	1,216	25		415		62		34		3		5		10		12	
13	Canada Coals and Railway Co., formerly Joggins	12 00		2						1		1				1						5						1				13	
14	Canada Eastern	136 00		11						5		2		2		12				88				2				5		1		14	
15	Canada Southern	382 19		127				2		42		21		30		2,020				203		133		80		*57		1		4		15	*35 oil tank cars, 5 boarding cars.
16	Canadian Northern, comprising Lake Manitoba Ry. and Canal Co.'s line, Winnipeg Great Northern Ry., Manitoba, South Eastern Ry., Ontario and Rainy River Ry.	216 70		14				1		4		2		2		254				351				4				1				16	
17	Canadian Government Railways Intercolonial, exclusive of Windsor Branch, 32 miles, but including Drummond County Prince Edward Island	1,300 94 210 00		228 21		*23		9 †1		102 17		112 14		73 6		2,899 200		65 2		2,319 125		1,975 18		99 3		9		64 8		22 7		17	*Includes 1 official and 1 paymaster's car. †Official car.
18	Canadian Pacific Railway, owned 4,369 75 Crow's Nest Pass Branch 288 75 Leased Lines— Fredericton 22 10 New Brunswick 175 00 New Brunswick and Canada 117 20 St. John and Maine 92 10 St. John Bridge and Railway extension 2 00 St. Stephen and Milltown 4 60 Tobique Valley 28 00 Cap de la Madeleine 2 32 †Montreal and Lake Maskinonge 12 90 Atlantic and North-west 201 40 Montreal and Ottawa 93 90 Ontario and Quebec 474 50 St. Lawrence and Ottawa 58 40 Credit Valley 175 70 §Guelph Junction 15 00 Toronto, Hamilton and B. R. 1 70 Toronto, Grey and Bruce 191 10 West Ontario Pacific 26 60 *Manitoba and North-western (see note) Manitoba South-western Colonization 214 40 Columbia and Kootenay 60 50 Nakusp and Slocan 36 30 Shuswap and Okanagan 50 80 Columbia and Western 159 20 ‡Great North-western Central	6,874 22		694	52	94		53		255	6	157 a56		157	7 b3	11,568 d37	1,786	350	207	4,076 c30 h122	20 k439	338	63 e60	362 f37		g416		89		i192		18	†1 90 miles not in operation. Includes 12 parlour, 21 dining, 20 official. a Combination. b Observation. c30 box baggage. d37 furniture cars. e60 ore cars. f37 oil, charcoal, locomotive flat cars. g Includes tool cars. h Ballast and dump cars. i Flangers, steam shovels, pile drivers, &c. § ½ mile not in operation. ‖ And 1 mile running powers. *252·6 miles of Manitoba and North-western in C. P. R. system for one month only. For the mileage, see Man. and N. W. Ry., No. 50. ‡51 miles operated by C. P. R., April 5 to June 30. For mileage, see Great North-west Central, No. 32.
19	Caraquet	68 00		2						1						2				15								1				19	
20	Carillon and Grenville	13 00		2						3		2		1		1				2												20	
21	Central Ontario 104 00 Ontario, Belmont and Northern 9 60	113 60	21 00	8						2		3		3		34				82				2		1		1		1		21	
22	Central of New Brunswick	45 66		3						2						1				18								1				22	
23	Central Railway, Nova Scotia, formerly Nova Scotia Central	74 00		5						4		1		2		13				49								1				23	
24	Cobourg, Northumberland and Pacific		49 00																													24	
25	Cumberland Railway and Coal Co. 32 00	32 00	14 00	8						2				2		2				28		286						1		1		25	
26	Dominion Atlantic, comprising— Windsor and Annapolis 87 50 Cornwallis Valley 14 00 Yarmouth and Annapolis (Western Counties) 87 00 Windsor Branch (Intercolonial) 32 00	220 50		21				*3		15		10		14		166				193		25		2				2		2		26	*Includes 1 dining car.
27	Elgin and Havelock	28 00		2						1		1		1		1				7								1		1		27	
28	Esquimalt and Nanaimo	78 00		7						5		4		3		11				42		25		3		28						28	
29	Fredericton and St. Mary's Railway Bridge Co.	1 33																														29	
30	Galt, Preston and Hespeler (Electric)	9 00								9																						30	
31	Grand Trunk 884 25 Great Western 561 80 Brantford, Norfolk and Port Burwell 34 39 Buffalo and Lake Huron 161 00 Grand Trunk, Georgian Bay and Lake Erie 171 00 Owen Sound Branch 12 42 London, Huron and Bruce 68 00 Waterloo Junction 10 25 South Norfolk 17 00 Wellington, Grey and Bruce 168 13 Northern 172 10 North Simcoe 33 00 Hamilton and North western 172 00 Northern Pacific Junction 111 37 Toronto Belt Line 12 79 Midland 166 00 Grand Junction 85 21 Toronto and Nipissing 85 00 Lake Simcoe Junction 26 00 ‡Victoria 53 00 Whitby, Port Perry and Lindsay 46 00 ‡Cobourg, Blairton and Marmora 15 00 Jacques Cartier Union 6 50 Montreal and Champlain Junction 61 73 Beauharnois Junction 19 50	3,153 44		710		7		*25		426		117		256		16,865		273		4,416		1,589		348		†333		68		37		31	*10 parlour cars, 5 dining cars, 10 official cars. †67 tool cars, 41 boarding cars, 135 dump cars, 90 cinder cars. ‡Not in operation.
32	Great North-west Central	51 00	20 00																													32	From July 1, 1899, to April 5, 1900, and from April 5 to June 30, 1900, included in C. P. R.
33	Gulf Shore	16 78																														33	Operated by rolling stock of Caraquet Ry.
34	Halifax and Yarmouth	50 10	61 00	4						7				2		8				28										1		34	Formerly the Coast Railway.
35	Hamilton and Dundas (Electric)	7 25		1						*5																						35	*3 motor and 2 trailers.
36	Hamilton, Grimsby and Beamsville (Electric)	23 00		2						9				4						4								1				36	
37	Hamilton Radial Railway (Electric)	12 00								*9										2								1				37	*8 motor, 1 trailer.
38	Hampton and St. Martin	29 00		1						1						1										2						38	
39	Hereford	53 30			3						1				2																	39	Including Dominion Lime Co.'s line.
40	Hull (Electric)	13 63		2						21				1																2		40	
41	Irondale, Bancroft and Ottawa	48 00		3						2						2				31										1		41	
42	Interprovincial Bridge and approaches		1 42																													42	
43	Inverness and Richmond		57 00																													43	
44	Kaslo and Slocan, B.C.	31 80		3						4						26				11		5		1				3		1		44	
45	Kent Northern, including St. Louis and Richibucto	34 50		2						1				1		1				4								2		1		45	
46	Kingston and Pembroke	112 85		9				1		7		5		5		22				150								2		2		46	
47	L'Assomption	3 00			1							2				1																47	
48	Lake Erie and Detroit River, including Erie and Huron 155 72 Leased lines, London and Port Stanley 24 00	179 72		18						15		21		6		44				165		50		4		2						48	
49	Lotbinière and Megantic	30 34		2						1		1				2				15								1				49	
50	Manitoba and North-western 237 13 Saskatchewan and Western 15 47	252 60		6	5			1		2	3	3		2	1	44	174	2		40	20			*12	1	2		1		1		50	For 11 months, balance 1 month in C.P. Ry. *Includes 8 boarding cars.
51	Massawippi Valley	35 46			7						5				4		250															51	
52	Metropolitan (Electric)	28 00		*1						16				2						5												52	*Electric engine.
53	Midland of Nova Scotia		57 50																	20												53	Line under construction and steel rails laid for 57½ miles.
54	Montfort and Gatineau Colonization	33 00		4						2				1		2				18				1				1		1		54	
55	Montreal and Atlantic, formerly South-eastern 139 30 Lake Champlain and St. Lawrence Junction 60 70	200 00		18		2				13		15		2		414		4		345				11				5				55	36·6 miles, Sorel to Drummondville, not in operation.
56	Montreal Park and Island (Electric)	40 88								*33	*8																	3				56	*33 owned and 8 hired are motor cars.
57	Montreal Terminal, formerly the Montreal Island Belt Line (Electric)	14 10		*1						13										1								2				57	*Electric locomotive.
58	Montreal and Province Line, formerly Montreal, Portland and Boston	40 60			2						4				1																	58	Leased by Central Vermont.
59	Montreal and Vermont Junction	23 60			9						12				5																	59	Operated by the equipment of Central Vermont Ry.
60	Nelson and Fort Sheppard	59 40					3									2				18		2		1		2						60	Operated by the equipment of Spokane Falls and Northern Ry.
61	New Brunswick and Prince Edward Island	36 00		3								2				4				33								1				61	*1 boarding and 1 bridge car.
62	Niagara, St. Catharines and Toronto, formerly St. Catharines and Niagara Central	12 27		2							1				1					6												62	
63	Niagara Falls Park and River (Electric)	13 68								*41				1								2										63	*Open and closed motor and trail cars.
64	Niagara Falls, Wesley Park and Clifton (Electric), formerly Horse Tramway	3 00								*4																						64	*Open and closed cars.
65	Northern Pacific and Manitoba	316 07		9				1		3		5		3		131				160				6								65	
66	Nosbonsing and Nipissing	5 50		1																56						1						66	
67	Nova Scotia Southern		117 00																													67	
68	Nova Scotia Steel Co.'s Line	12 50		3						*1						2				15		26	1					1				68	*Combination 1st and 2nd class.
69	Orford Mountain	26 50			2						1									13												69	
70	Oshawa (Electric)	8 02								*7				1						1								1				70	*Two motors included.
71	Ottawa and Gatineau	56 50		2	1					2		9		2		6				21				1				1		1		71	
72	Ottawa and New York	56 79			3					3																						72	
73	Philipsburg Railway and Quarry Co.'s Line	7 50		1	1					*1																						73	*Combination.
74	Pontiac and Renfrew	4 25																														74	Not in operation.
75	Pontiac Pacific Junction	70 60		4						1		1		1		5				48				1				1		1		75	
76	Port Arthur, Duluth and Western	85 50																														76	Purchased by Can. Northern Ry., May, 1900.
77	Portage and North-western	29 23																														77	Rolling stock furnished by the Northern Pacific and Manitoba Ry.
78	Qu'Appelle, Long Lake and Saskatchewan	253 96																														78	Operated by C. P. R., rolling stock owned by that company.
79	Quebec Central	213 50		19		1		1		8		7		*11		252				289				6		1		5		1		79	*Includes five combination cars.
80	Quebec and Lake St. John, comprising 242 00 Great Northern 20 00 Lower Laurentian 35 00	297 00		15 2	1	4				6 1		8		4 1		128 6		2		192 30		41		5				1 1		4		80	
81	Great Northern, portion not leased to Quebec and Lake St. John	32 50	88 00																													81	
82	Lower Laurentian, part not in operation	4 00																														82	
83	Quebec, Montmorency and Charlevoix	30 00		4						4		18				5				23								1				83	Owned by Quebec Ry., Light & Power Co.
84	Red Mountain	9 53		1						1						9				10				1								84	
85	Restigouche and Western	10 00	100 00																													85	Line under construction; steel rails laid for 10 miles.
86	Rutland and Noyan	4 20																														86	Not in operation.
87	Salisbury and Harvey	45 00		2						1				1		6				24				1				1		1		87	
88	Shore Line, New Brunswick	82 50		3						1				2						61								1		1		88	
89	Stanstead, Shefford and Chambly	43 00			2						4				1																	89	Operated by Central Vermont Ry.
90	St. Clair Tunnel, Yard and Approaches	2 23		4																		25	9									90	
91	St. John Valley and Rivière du Loup		6 00																													91	
92	St. Lawrence and Adirondack	33 00			9						1		1		2									3		8						92	
93	Sydney and Louisburg (Dominion Coal Co.)	18 96		18						2		5				1				23		809		5		1		1		1		93	
94	South Shore, formerly Montreal and Sorel	54 50		4						9		1		2		2				48								1		1		94	
95	Témiscouata	113 00		5				1		3		3		2		40		7		54						2		4		2		95	
96	Tilsonburg, Lake Erie and Pacific	20 00		1	1					1	28			1	1	2				3												96	
97	Thousand Islands	1 33		1										1						1												97	
98	Toronto, Hamilton and Buffalo	83 91		13				1		6		2		1		60				32		23		5		2				2		98	
99	United Counties 61 00 East Richelieu Valley 22 80	83 80		6						2		1		1	2	8				9								1		1		99	
100	Victoria and Sydney, B.C.	16 26		2						1				1		3				15												100	
101	York and Carleton		6 00																													101	
		17,821 33	758 92	2179	103	131	3	104		1213	74	610	1	632	30	39,112	3,426	736	207	14,947	679	5,739	133	1055	1	872	...	300	...	311			

SUMMARY STATEMENTS

RELATING TO MILEAGE, ROLLING STOCK, CHARACTERISTICS OF ROADS, OPERATIONS, PASSENGERS AND FREIGHT CARRIED, EARNINGS, OPERATING EXPENSES AND ACCIDENTS.

No. 3.—SUMMARY STATEMENT of Characteristics of

Number.	Name of Railway.	Length of Line.				Length of Siding.	Weight per Yard.	
		Completed. (Rails laid.)	Under Construction.	Iron Rails.	Steel Rails.		Iron Rails.	Steel Rails.
		Miles.	Miles.	Miles.	Miles.	Miles.	Lbs.	Lbs.
1	Alberta Railway and Coal Co.	64·62	.....	.....	64·62	14·35	.....	35
2	Albert Southern	16·00	.....	.....	19·00	·47	.....	56
	Harvey Branch	3·00						
3	Algoma Central.	13·00	29·00	..	13·00	5·50	.....	.....
4	Atlantic & Lake Superior, comprising—							
	Baie des Chaleurs	100·00						
	Great Eastern	23·00	23·00	...	130·00	4·00	.....	56
	Ottawa Valley	7·00	82·00					
5	Bay of Quinte	4·00						
	Kingston, Napanee & Western	60·82	.....	.....	64·82	7·00	.....	56 & 60
6	*Bedlington and Nelson.	15·16	.....	.....	15·16	·93	.....	60
7	Berlin and Waterloo (Electric).	3·00	.....	.....	3·00	.....	.....	60 & 45
8	British Yukon	64·75	27·00	.....	64·75	4·15	.....	45
9	Brockville, Westport & Sault Ste. Marie	45·00	....	....	45·00	2·00	.....	56
10	Buctouche and Moncton.	32·00	.....	.....	32·00	2·50	.....	54 & 56
11	†Calgary and Edmonton.	295·07	.....	.....	295·07	9·81	.....	56
12	Canada Atlantic, including Ottawa, Arnprior and Parry Sound	398·80	....	....	398·80	91·66	.....	73, 72, 56
	Leased lines—							
	Central Counties	37·00	.....	....	37·00	6·00	....	56
	Pembroke Southern	21·00	....	....	21·00	2·00	.....	56
13	Canada Coods and Railway Co., formerly Joggins	12·00	....	....	12·00	2·00	.....	56
14	Canada Eastern.	136·00	.....	....	136·00	6·50	.....	56 to 60
15	‡Canada Southern.	382·19	.....	.....	382·19	170·26	.....	60, 65, 80
16	||Canadian Northern, including Lake Manitoba Ry. and Canal Co.'s Line, Winnipeg Great Northern, Manitoba South Eastern and Ontario and Rainy River	216·70	....	....	216·70	6·27	.....	56
17	Canadian Government Railways—							
	Intercolonial, exclusive of Windsor Branch (32 miles), but including Drummond Co.	1,300·94	....	....	1,300·94	189·20	.....	56, 58 67, 80
	Prince Edward Island.	210·00	.....	58·50	151·50	16·19	38	50, 52, 56
18	¶Canadian Pac. Ry. (owned)	4,369·75						
	Crow's Nest Pass Br'ch "	288·75						
	Leased lines—							
	Fredericton	22·10						
	New Brunswick	175·00						
	New Brunswick and Canada	117·20						
	St. John and Maine	92·10						
	St. John Bridge and Railway Extension.	2·00						
	St. Stephen and Milltown	4·60						
	Tobique Valley	28·00						
	Cap de la Madeleine	2·32						
	§Montreal and Lake Maskinongé	12·90						
	Atlantic and North-west	201·40	6,874·22	.....	6,874·22	888·18	....	50, 52, 56, 60, 72, 73, 80, 100...
	Montreal and Ottawa	93·90						
	Ontario and Quebec.	474·50						
	St. Lawrence and Ottawa	58·40						
	Credit Valley	175·70						

* Not in operation. † Operated by C. P. R. ‡ 95·21 double track. ‖ 7 elevators and

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Roads, &c., for the year ended June 30, 1900.

Number of Ties per Mile.	Nature of Rail Fastenings.	Number of Grain Elevators.	Number of Level Crossings. Guarded.	Number of Level Crossings. Not guarded.	Number of Overhead Bridges.	Height of Overhead Bridges above rail level.	Number of Level Crossings of other Railways.	Number of Junctions with other Railways.	Number of Junctions with Branch Lines.	Radius of Sharpest Curve.	Number of Feet per Mile of heaviest gradient.	Gauge of Railway.	Number.
						Feet.				Feet.		Ft.	
2640	Plain fishplates			2				2		573	52	3·0	1
2640	"			11				2		955	120	4·8½	2
3000	Angle bars			8				1		478	132	4·8½	3
2640	Angle and fishplates			61	4	22		4		717	67	4·8½	4
3000	Angle irons			50			1	4		955	90	4·8½	5
2640	Angle bars			1				2		521	52	4·8½	6
2640	Plain fishplates						2			48	211	4·8½	7
2816	Angle bars							1		359	206	3·0	8
2640	Fisher bridge joint			35				2		717	58	4·8½	9
2640	Plain fishplates			12			1			816	74	4·8½	10
2640	Angle bars and fishplates	9		167				3		1,146	52	4·8½	11
2816	" "	2	11	193	4	22	11	9	3	955	66	4·8¼	12
2600	Plain fishplates			31			2	2		573	53	4·8½	
2640	"			16				1		955	79	4·8½	
3000	"			7				1		955	79	4·8½	13
2640	Fish and angle plates		1	35			1	4	1	955	80	4·8½	14
3000	Joint splice, 4 and 6 bolts		10	416	19	21·67	17	16	10	913	75	4·8½	15
2640	Plain angle bars	23		146				1	1	1,720	26	4·8½	16
2640 2112	Angle fishplates	2	9	495	30	18½–35	9	29	22	694	65	4·8½	17
2640	Fish plates and and angle bars			964	2	17¼				396	90	3·6?	
2640 3168	Fishplates, angle bars and Bonzanos joints	12	32	4,589	74	19 to 22	57	72	79	214	237	4·8½	18

16 warehouses. § 1·90 miles not in operation. ¶ 34·84 miles double track.

No. 3.—SUMMARY STATEMENT of Characteristics of

Number.	Name of Railway.	Length of Line. Completed. (Rails laid.)	Under Construction.	Iron Rails.	Steel Rails.	Length of Siding.	Weight per Yard. Iron Rails.	Steel Rails.
		Miles.	Miles.	Miles.	Miles.	Miles.	Lbs.	Lbs.
	Can. Pac.—Leased lines—*Con.*							
	*Guelph Junction 15 00							
	†Toronto, Hamilton & Buffalo 1·70							
	Toronto, Grey and Bruce. 191·10							
	West Ontario Pacific..... 26·60							
	‡Manitoba & North-western.							
	Manitoba South-western Colonization ..... 214·40							
	Columbia and Kootenay. .. 60·50							
	Nakusp and Slocan ..... 36·30							
	Shuswap and Okanagan . 50·80							
	Columbia and Western.... 159·20							
	Great North-west Central .							
19	Caraquet.....	68·00	.....	....	68·00	3·25	.....	50
20	Carillon and Grenville.	13·00	.....	....	13·00	·25	65	.....
21	Central Ontario..... 104·00							
	Ontario, Belmont & Northern 9·60	113·60	21	....	113·60	11·00	.....	42·56
22	Central of New Brunswick	45·66	.....	....	45·66	2·00	.....	52·56
23	Central Ry. of Nova Scotia, formerly Nova Scotia Central.....	74·00	.....	....	74·00	3·50	.....	56
24	Cobourg, Northumberland and Pacific.	.....	49	.....	.....	.....	.....	.....
25	Cumberland Ry. and Coal Co.	32·00	14	....	32·00	15·00	.....	56·67
26	Dominion Atlantic, comprising—							
	Windsor and Annapolis..... 87·50							
	Cornwallis Valley..... 14·00							
	Yarmouth and Annapolis (Western Counties).. . 87·00	220·50	.....	.....	220·50	20·50	.....	56,60,67,72
	Windsor Branch of Intercolonial ..... 32·00							
27	Elgin and Havelock.....	28·00	.....	.....	28·00	2·00	44	56
28	Esquimalt and Nanaimo	78·00	.....	.....	78·00	3·38	.....	54, 56, 60
29	Fredericton and St. Mary's Ry. Bridge.	1·33	.....	.	1·33	17	.....	56
30	Galt, Preston and Hespeler (Electric).	9·00	.....	4 50	4·50	.....	.....	56
31	¶ Grand Trunk. 884 25							
	Great Western ..... 561·80							
	Brantford, Norfolk and Port Burwell 34 39							
	Buffalo and Lake Huron.... 161·00							
	Grand Trunk, Georgian Bay and Lake Erie..... 171·00							
	Owen Sound Branch . .... 12·42							
	London, Huron and Bruce.. 68·00							
	Waterloo Junction. ..... 10·25							
	South Norfolk . ..... 17·00							
	Wellington, Grey and Bruce. 168·13							
	Northern ..... 172·10							
	North Simcoe ..... 33·00							
	Hamilton & North-western. 172·00							
	Northern Pacific Junction . 111·37	3,153·44	.....	.....	3,153·44	723·48	.....	56 to 100
	Toronto Belt Line ..... 12·79							
	Midland .... 166·00							

*¼ mile not in operation. †Also 1 mile running power. ‡252·60 of Manitoba and North-western only in April 5 to June 30 (for balance of year see Great North-west Central, No. 32.) ¶423·5 miles of double

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Roads, &c., for the year ended June 30, 1900—*Continued.*

Number of Ties per Mile.	Nature of Rail Fastenings.	Number of Grain Elevators.	Number of Level Crossings.		Number of Overhead Bridges.	Height of Overhead Bridges above rail level.	Number of Level Crossings of other Railways.	Number of Junctions with other Railways.	Number of Junctions with Branch Lines.	Radius of Sharpest Curve.	Number of Feet per Mile of heaviest gradient.	Gauge of Railway.	
			Guarded.	Not guarded.									Number.
						Ft.				Ft.		Ft.	
2600	Fishplates			12				1	1	1,000	60	4·8½	19
1760	Chairs		1	8	1	16	1			1,910	100	5'6"	20
2640	Fishplates and bolts			94			2	5		955	105	4·8½	21
2640	Fishplates			21	2			1		876	74	4·8½	22
2640	Angle bars			32	1	20	1			819	80	4·8½	23
													24
2600	Fishplates and angle bars			17						820	160	4·8½	25
2640	Plain fishplates		1	109	4	22		3	2	637	79	4·8½	26
2000	"			24			1	1		717	90	4·8½	27
2992	Angle fishplates and bolts			17	1	23	1	2		573	80	4·8½	28
2564	Angle fishplates			6				2		1,433	50	4·8½	29
2112	Straight ties			3			1			72		4·8½	30
3200	Angle bars and fishplates	10	86	2,953	239	16" 5' to 40" 6'	47	51	76	1,100 to 600	53	4·8½	31

C.P.R. system for 1 month (for the 11 months see M. & N. W., No. 50. | 51 miles operated by C.P.R.—track.

No. 3.—Summary Statement of Characteristics of

Number.	Name of Railway.	Length of Line.				Length of Siding.	Weight per Yard.	
		Completed. (Rails laid.)	Under Construction.	Iron Rails.	Steel Rails.		Iron Rails.	Steel Rails.
		Miles.	Miles.	Miles.	Miles.	Miles.	Lbs.	Lbs.
	Grand Trunk—*Con.*							
	Grand Junction	85 21						
	Toronto and Nipissing	85 00						
	Lake Simcoe Junction	26·00						
	Victoria	53 00						
	Whitby, Port Perry and Lindsay	46·00						
	*Cobourg, Blairton and Marmora	15 00						
	Jacques Cartier Union	6·50						
	Montreal and Champlain Junction	61 73						
	Beauharnois Junction	19 50						
32	†Great North-west Central	51·00	20·00	...	51·00	5·06	...	56
33	‡Gulf Shore	16·78	...	...	16·78	1·01	...	56
34	Halifax and Yarmouth (formerly C ast Railway)	50·10	61·00	...	50·10	2·83	...	56
35	Hamilton and Dundas (Electric)	7·25	...	...	7·25	...	...	60
36	Hamilton, Grimsby & Beamsville (Elec.)	23·00	...	...	23·00	...	...	50, 65
37	Hamilton Radial (Electric)	12·00	...	...	12·00	·50	...	65
38	Hampton and St. Martin's	29·00	...	...	29·00	2·50	...	56
39	Hereford, including Dominion Lime Co.'s Line	53·30	...	...	53·30	8·32	...	56
40	§Hull (Electric)	13·63	...	...	13·63	2·00	...	56
41	Irondale, Bancroft and Ottawa	48·00	...	...	48·00	2·50	...	56
42	Interprovincial Bridge and Approaches	...	1·42	...	...	...	...	...
43	Inverness and Richmond	...	57·00	...	...	...	...	...
44	Kaslo and Slocan, B C	31·80	...	...	31·80	1·20	...	45
45	Kent Northern, including St. Louis and Richibucto	34·00	...	...	34·00	2·00	...	56
46	Kingston and Pembroke	112·85	...	9·75	103·10	21·00	50 to 84	56
47	L'Assomption	3·00	...	...	3·00	·25	...	56
48	Lake Erie and Detroit River, including Erie and Huron	155 72	...	...	179·72	33·58	...	51, 56, 70
	London & Port Stanley, leased	24 00						
49	Lotbinière and Megantic	30·34	...	...	30·34	6·35	...	56
50	*Manitoba and North-western	237 13	...	...	252·60	23·90	...	56
	Saskatchewan and Western	15 47						
51	Massawippi Valley	35·46	...	...	35·46	6·86	...	60
52	Metropolitan (Electric)	28·00	...	...	28·00	2·00	...	56
53	††Midland of Nova Scotia	...	57·50	...	...	1·00	...	60
54	Montfort and Gatineau Colonization	33·00	...	...	33·00	...	...	56
55	‡‡Montreal & Atlantic, formerly South-eastern	139·30	...	...	200·00	28·00	...	56,60,72,73
	Lake Champlain & St. Lawrence Junction, leased	60·70						
56	Montreal Park and Island (Electric)	40·88	...	...	40·88	·98	...	56
57	Montreal Terminal, formerly the Montreal Island Belt Line (Electric)	14 10	...	...	14 10	...	...	56, 65
58	§§Montreal and Province Line, formerly Montreal, Portland and Boston	40·60	...	8 60	32·00	1·00	38	56
59	**Montreal and Vermont Junction	23·60	...	...	23·60	2·00	...	60 to 72

*Not in operation. †From July 1, 1899, to April 5, 1900; from April 5, 1900, to June 30, 1900, in ** For 11 months, bal. 1 month in C P R. ** 37 elevators and 48 warehouses. †† Line under con 14·10 miles double track. §§ Leased by Central Vermont. ** Leased by Central Vermont.

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Roads, &c., for the Year ended June 30, 1900—*Continued.*

Number of Ties per Mile.	Nature of Rail Fastenings.	Number of Grain Elevators.	Number of Level Crossings. Guarded.	Number of Level Crossings. Not guarded.	Number of Overhead Bridges.	Height of Overhead Bridges above rail level.	Number of Level Crossings of other Railways.	Number of Junctions with other Railways.	Number of Junctions with Branch Lines.	Radius of Sharpest Curve.	Number of Feet per Mile of heaviest gradient.	Gauge of Railway.	Number.
						Ft.				Ft.		Ft.	
2640	Fishplates	16			24			3		955	61	4·8½	32
2600	"				19				1	573	53	4·8½	33
2640	Angle bars				31			1		955	79	4·8½	34
2600	"		1		2	14·6	2	1		38	158	4·8½	35
2347	Fishplates and angle bars				35		2	1		450	237	4·8½	36
2640	Angle bars		3		3	16·0	5	1		105	158	4·8½	37
2640	Fishplates				18			1		955	90	4·8½	38
2800	"				58		2	3		955	66	4·8½	39
2640	"		1		3	22	2	2	3	193	264	4·8½	40
2640	Flat fishplates				16			1		1,000	60	4·8½	41
										573	53	4·8½	42
													43
2640	2 angle bars and 4 bolts		1		13	22·6			1	193	172	3·0"	44
2432	Fishplates and bolts				10			1	1	1,000	60	4·8½	45
2640	Plain and angle fishplates				56	3 16 & 21	6	6	13	955	79	4·8½	46
2500	Fishplates				1			1		955	20	4·8½	47
2800	Plain angle bars			3	236	5 20 to 21	11	10		637	60	4·8½	48
2640					10		1	2		717	80	4·8½	49
2700	Fish and angle bars	**85			188		1	3	2	955	105	4·8½	50
2800	Plain fishplates			1	20	19	1	2	1	546	76	4·8½	51
2600	Angle bars				40	22				383	454	4·8½	52
2640	"				25		1	2		882	58·4	8½	53
2600	Plain fishplates				20	22		1		573	158	4·8½	54
2640	Fishplates and angle bars				164	19·6	6	6	2	441	140	4·8½	55
2640	Angle bars			1	23	20	3			40	318	4·8½	56
2640	Angle plates				11		5	1	3	573	26	4·8½	57
3000	Fishplates and bolts				21		3	1	2			4·8½	58
3000	" "				51			3			52	4·8½	59

cluded in C.P.R. ‡Operated by rolling stock of Caraquet Ry. §6·85 double track. struction and steel rails laid for 57½ miles. ‡‡36·6 miles—Sorel to Drummondville not in operation.

No. 3.—SUMMARY STATEMENT of Characteristics of

Number.	Name of Railway.	Length of Line.				Length of Sidings.	Weight per Yard.	
		Completed. (Rails laid.)	Under Construction.	Iron Rails.	Steel Rails.		Iron Rails.	Steel Rails.
		Miles.	Miles.	Miles.	Miles.	Miles.	Lbs.	Lbs.
60	*Nelson and Fort Sheppard	59·40			59·40	3·20		56
61	New Brunswick & Prince Edward Island	36·00			36·00	1·50		56
62	Niagara, St. Catharines and Toronto, formerly St. Catharines and Niagara Central	12·27			12·27	2·77		56
63	†Niagara Falls Park and River (Electric)	13·68			13·68	·89		56
64	Niagara Falls, Wesley Park and Clifton (Electric), formerly horse tramway	3·00			3·00			30
65	Northern Pacific and Manitoba	316·07			316·07	43·34		56
66	Nosbonsing and Nipissing	5·50			5·50	1·25		56
67	Nova Scotia Southern		117·00					
68	Nova Scotia Steel Co.'s Line	12·50			12·50	3·87		56
69	Orford Mountain	26·50			26·50	1·00		56
70	Oshawa (Electric)	8·02			8·02			64
71	Ottawa and Gatineau	56·50			56·50	2·00		56
72	Ottawa and New York	56·79			56·79	3·24		65
73	Philipsburg Ry. and Quarry Co.'s Line	7·50			7·50			56
74	Pontiac and Renfrew (not in operation)	4·25			4·25	·75		56
75	Pontiac Pacific Junction	70·60			70·60	3·50		56
76	‡Port Arthur, Duluth and Western	85·50			85·50	4·00		56
77	Portage and North-western	29·23			29·23	1·75		56
78	Qu'Appelle, Long Lake & Saskatchewan	253·96			253·96	7·75		56
79	Quebec Central	213·50			213·50	20·50		50, 60, 70
80	Quebec and Lake St. John 242·00 Great Northern 20·00 Lower Laurentian 35·00	297·00			297·00	19·50		56, 60
81	Great Northern (portion not leased to Quebec and Lake St. John)	32·50	88·00		32·50	3·00		56, 70
82	Lower Laurentian (not in operation)	4·00			4·00			
83	Quebec, Montmorency and Charlevoix	30·00			30·00	2·00		56
84	Red Mountain	9·53			9·53	·85		56
85	§Restigouche and Western	10·00	100·00		10·00			56
86	•Rutland and Novan	4·20			4·20			60
87	Salisbury and Harvey	45·00		36·50	8·50	6·00	56	56
88	Shore Line, New Brunswick	82·50			82·50	2·50		50
89	**Stanstead, Shefford and Chambly	43·00		12·00	31·00	2·00	60	60
90	††St. Clair Tunnel, Yard and Approaches	2·23			2·23	11·00		100
91	St. John Valley and Riviere du Loup		6·00					
92	St. Lawrence and Adirondack	33·00			33·00	5·30		72–80
93	Sidney & Lounsbourg (Dom. Coal Co.)	48·96			48·96	4·00		56–80
94	South Shore, formerly Montreal & Sorel	54·50			54·50	3·00		56
95	Temiscouata	113·00			113·00	3·00		56
96	Tilsonburg, Lake Erie and Pacific	20·00			20·00	2·50		56–65
97	Thousand Islands	4·33			4·33	1·00		56
98	‡‡Toronto, Hamilton and Buffalo	83·94			83·94	17·57		56,65,70,80
99	United Counties 61·00 East Richelieu Valley 22·80	83·80			83·80	6·00		56
100	Victoria and Sydney, B.C.	16·26			16·26	1·20		50
101	York and Carleton		6·00					
	Total	17,824·33	758·92	129·85	17,694·48	2,558·07		

*Operated by Spokane Falls and Northern Ry. †11·43 miles double track. ‡Purchased by construction and steel rails laid for 10 miles. •Not in operation. **Operated by Central Vermont

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Roads, &c., for the year ended June 30, 1900—*Concluded.*

Number of Ties per Mile.	Nature of Rail Fastenings.	Number of Grain Elevators.	Number of Level Crossings. Guarded.	Number of Level Crossings. Not guarded.	Number of Overhead Bridges.	Height of Overhead Bridges above rail level.	Number of Level Crossings of other Railways.	Number of Junctions with other Railways.	Number of Junctions with Branch Lines.	Radius of Sharpest Curve.	Number of Feet per Mile of heaviest gradient.	Gauge of Railway.	Number.
						Feet.				Ft.		Ft.	
2640	Angle bars	..	..	..	..	..	..	1	..	478	132	4·81/2	60
2400	Fishplates	..	..	26	..	..	..	1	..	750	66	4·81/2	61
2640	Continuous rail joint	..	..	20	3	22	2	2	..	717	79	4·81/2	62
2640	Standard angle bar plates	..	1	16	2 14 & 221	..	..	2	1	115	300	4·81/2	63
..	..	..	2	..	..	..	..	..	..	..	..	..	64
2640	Angle bars and bolts	73	1	273	..	..	5	2	4	574	63	4·81/2	65
3000	Fishplates	..	..	2	..	..	1	1	..	955	132	4·81/2	66
..	..	..	..	..	..	..	..	..	..	717	80	4·81/2	67
2640	Bar with bolt	..	..	5	..	..	..	1	1	955	79	4·81/2	68
2640	Fishplates	..	..	17	..	..	..	1	..	955	74	4·81/2	69
2640	Angle iron	..	..	28	..	..	1	1	..	80	211	4·81/2	70
2640	Plain fishplates	..	..	44	..	..	..	1	..	574	106	4·81/2	71
2750	40-lb. angle bar with 6⅝" bolt	..	..	72	1	22	3	3	..	2,865	40	4·81/2	72
2816	Plain fishplates	..	..	7	..	..	..	1	1	955	51	4·81/2	73
2640	"	..	..	..	..	..	..	1	..	717	106	4·81/2	74
2640	Plain plates and angle bars	..	..	52	..	..	..	1	..	1,146	52	4·81/2	75
2640	Fishplates	..	..	..	..	..	3	1	..	573	95	4·81/2	76
2640	Angle bars and bolts	..	..	29	..	..	2	1	1	2,262	15	4·81/2	77
2640	Fishplates and angle bars	6	..	53	..	..	..	1	1	1,146	65	4·81/2	78
2640	Fish angle plate	..	..	115	..	..	2	7	2	882	76	4·81/2	79
2640	Plain fishplates	1	2	56	..	..	..	3	2	717	105	4·81/2	80
2640	Plain and angle fishplates	..	..	33	1	16	1	2	..	2,292	66	4·81/2	81
..	..	..	..	..	..	..	..	..	..	..	..	..	82
2640	Plain and angle fishplates	..	1	10	..	..	..	2	..	1,433	42	4·81/2	83
2640	Angle bars	..	..	..	..	..	..	..	..	288	184	4·81/2	84
2600	Fishplates	..	..	7	..	..	..	1	..	..	79	4·81/2	85
2640	Angle bars	..	..	2	..	..	..	2	..	637	26	4·81/2	86
2600	Fishplates and sleeves	..	..	27	1	15	..	1	..	717	80	4·81/2	87
2992	Plain fishplate	..	..	15	5	23	3	3	..	573	85	4·81/2	88
2640	Fishplates, bolts and chairs	..	..	42	1	18	3	4	..	1,910	40	4·81/2	89
..	Angle bars	..	..	..	..	..	..	..	..	..	105	4·81/2	90
..	..	..	..	..	..	..	..	..	..	..	..	..	91
3000	36" angle bars with 6 bolts	..	..	26	1	22	2	2	3	1,146	57	4·81/2	92
3000	Angle bars, 4 and 6 bolts	..	..	21	2	18	2	2	7	1,433	70	4·81/2	93
2640	Plain fishplates	..	..	25	..	..	..	4	..	1,910	28	4·81/2	94
2640	"	..	..	38	..	..	1	2	1	819	79	4·81/2	95
2640	Plain angle bars	..	..	19	1	21	1	2	1	955	52	4·81/2	96
3000	"	..	..	8	..	..	..	1	..	410	84	4·81/2	97
3000	"	..	6	122	13	22	1	6	2	955	80	4·81/2	98
2464	Plain fishplates	..	..	53	..	..	5	5	..	717	40	4·81/2	99
2464	8" plain fishplates	..	..	13	..	..	..	..	..	637	105	4·81/2	100
..	..	..	..	..	..	..	..	..	..	..	..	..	101
		239	169	12,879	431	..	244	346	251	..	..	..	

Canadian Northern Ry. May, 1900. Owned by Quebec Ry., Light and Power Co. § Line under Ry. ††6,000 feet in length, 19 ft. 10 in. inside diameter. ‡‡4·76 miles of double track.

No. 4.—Summary Statement of the Operations of the

Number.	Name of Railway.	Mileage.	Train Mileage.			
			Passenger Trains.	Freight Trains.	Mixed Trains.	Total Train Mileage.
1	Alberta Railway and Coal Co.	64·62	7,142	24,090	12,408	43,640
2	Albert Southern	16·00				
	Harvey Branch	3·00	19·00	.....	5,600	5,600
3	*Atlantic and Lake Superior, comprising—					
	Baie des Chaleurs	98·00				
	Great Eastern, 23 miles not under traffic		98·00	.....	64,400	64,400
	Ottawa Valley, 7 miles not under traffic					
4	Baie of Quinté Railway and Navigation Co.	4·00				
	Kingston, Napanee & Western	60·82	64·82	.....	136,816	136,816
5	Berlin and Waterloo (Electric)	3·00	72,760	.....	.....	72,760
6	British Yukon	64·75	1,880	10,641	16,917	29,438
7	Brockville, Westport & Sault Ste. Marie	45·00	1,136	3,910	28,170	33,216
8	Buctouche and Moncton	32·00	.....	.....	20,672	20,672
9	Calgary and Edmonton	295·07	.....	70,036	107,430	177,466
10	Canada Atlantic, including Ottawa, Arnprior and Parry Sound	398·80				
	Leased—Central Counties	37·00				
	Pembroke Southern	21·00	456·80	523,334	928,270	164,757	1,616,361
11	Canada Coals & Ry. Co., formerly Joggins	12·00	.....	.....	21,347	21,347
12	Canada Eastern	136·00	90,854	95,228	4,500	190,582
13	Canada Southern	382·19	1,235,808	2,487,490	160,303	3,883,601
14	*Canadian Northern, comprising Lake Manitoba Railway and Canal Co.'s line, Winnipeg Great Northern, Manitoba South Eastern, Ontario and Rainy River	216·70	.....	.....	75,367	75,367
15	Canadian Government Railways—					
	*Intercolonial	1,300·94	1,630,054	.....	3,843,656	5,473,710
	Prince Edward Island	210·00	99,830	.....	163,195	263,025
16	Canadian Pacific Ry., owned 4,369·75					
	Crow's Nest Pass Branch 288·75					
		4,658·50				
	Leased lines—					
	Fredericton	22·10				
	New Brunswick	175·00				
	New Brunswick & Canada	117·20				
	St. John and Maine	92·10				
	St. John Bridge and Ry. Extension	2·00				
	St. Stephen and Milltown	4·60				
	Tobique Valley	28·00				
	Cap de la Madeleine	3·00				
	Montreal and Lake Maskinongé	11·00	.....	.....	.....	.....
	Atlantic and North-west	201·40				
	Montreal and Ottawa	93·90				
	Ontario and Quebec	474·50	6,873·00	6,941,896	9,935,898	1,686,418	18,564,212
	St. Lawrence and Ottawa	58·40				
	Credit Valley	175·70				
	Guelph Junction	15·00	.....	.....	.....	.....
	Toronto, Hamilton and Buffalo	1·70	.....	.....	.....	.....
	Toronto, Grey and Bruce	191·10				
	West Ontario Pacific	26·60				
	Manitoba and North-western. See note.					

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Year and Mileage, for the Year ended June 30, 1900.

Engine Mileage.	Total Number of Passengers Carried.	Tons of Freight of 2,000 lbs. Handled.	Rate of Speed of Passenger Trains—Miles per Hour.	Rate of Speed of Freight Trains—Miles per Hour.	Number.	Remarks.
104,992	2,944	53,679	18	14	1	
5,600	1,000	4,025	16	16	2	
64,400	11,592	16,371	14	14	3	Lines in operation 8 months.
136,816	64,848	311,879	.....	.....	4	
.....	275,000	.....	7	.....	5	
38,817	18,854	23,121	15	15	6	
33,344	29,076	15,802	20	20	7	
21,312	9,788	21,491	16	.....	8	
177,466	30,165	77,724	21	21	9	Operated by C.P.R.
2,015,921	311,109	1,459,616	.....	.....	10	
24,705	7,042	47,476	20	15	11	
201,060	44,027	138,235	30	18	12	
5,101,304	591,097	4,552,426	42	26	13	
88,367	24,564	68,220	.....	.....	14	Also running powers over Manitoba and North-western Ry., from Portage la Prairie to Gladstone Junction—36 miles.
6,828,005	1,791,754	2,151,208	25	15	15	Running powers over Grand Trunk—
355,591	147,471	62,247	22	15		Point Levis to Hadlow..... 1·50 Chaudière Curve to Chaudière ..... 1·18 Ste. Rosalie Junction to Montreal... 37·62 40·30
.....	.....	.....	.....	.....		1·90 miles not in operation.
25,293,301	3,947,315	6,922,499	30	18	16	
.....	.....	.....	.....	.....		½-mile not in operation.
.....	.....	.....	.....	.....		Also running powers one mile.
						Manitoba and North-western, in C. P. R. for month of June 1900 only. For mileage see Manitoba and North-western, No. 45.

No. 4.—SUMMARY STATEMENT of the Operations of the Year

Number	Name of Railway.	Mileage.	Train Mileage. Passenger Trains.	Freight Trains.	Mixed Trains.	Total Train Mileage.
	Can. Pac.—Leased lines—*Con.*—					
	Manitoba South-western Colonization	214·40				
	Columbia and Kootenay	60·50				
	Nakusp and Slocan	36·30				
	Shuswap and Okanagan	50·80				
	Columbia and Western	159·20				
	Great North-west Central, from April 5 to June 30, 1900					
17	Caraquet	68·00			42,100	42,100
18	Carillon and Grenville	13·00	4,500	500	1,000	6,000
19	Central Ontario	104·00	113·60	15,400	8,210	82,310	105,920
	Ontario, Belmont and Northern	9·60				
20	Central of New Brunswick	45·66			31,200	31,200
21	Central of Nova Scotia (formerly Nova Scotia Central)	74·00			49,106	49,106
22	Cumberland Railway and Coal Co.'s line	32·00			71,608	71,608
23	Dominion Atlantic, comprising—					
	Windsor and Annapolis	87·50				
	Cornwallis Valley	14·00				
	Yarmouth and Annapolis	87·00	220·50	220,964	304,729	525,693
	Windsor Branch, Intercolonial	32·00				
24	Elgin and Havelock	28·00			17,502	17,502
25	Esquimalt and Nanaimo	78·00	99,297	124,707	31,868	255,872
26	Fredericton & St. Mary's Ry. Bridge	1·33				
27	Galt, Preston and Hespeler (Electric)	9·00	70,000	10,560		80,500
28	Grand Trunk	884·25				
	Great Western	561 80				
	Brantford, Norfolk and Port Burwell	34·39				
	Buffalo and Lake Huron	161·00				
	Grand Trunk, Georgian Bay and Lake Erie	171·00				
	Owen Sound Branch	12·42				
	London, Huron and Bruce	68 00				
	Waterloo Junction	10·25				
	South Norfolk	17 00				
	Wellington, Grey and Bruce	168·13				
	Northern	172·10				
	North Simcoe	33·00	3,138 44	5,824,058	9,649,082	1,015,221	16,488,361
	Hamilton and North-western	172·06				
	Northern Pacific Junction	111·37				
	Toronto Belt Line	12·79				
	Midland	166 00				
	Grand Junction	85·21				
	Toronto and Nipissing	85·00				
	Lake Simcoe Junction	26·06				
	Victoria	53 00				
	Whitby, Port Perry & Lindsay	46 00				
	Jacques Cartier Union	* 6·50				
	Montreal & Champlain Junction	61·73				
	Beauharnois Junction	19·50				
29	Great North-west Central	51·00	16·78	498	1,904	11,316	13,718
						2,996	2,996
30	Gulf Shore					
31	Halifax and Yarmouth (formerly Coast Line of Nova Scotia)	50·10	7·25	4,196	2,324	36,834	43,354
32	Hamilton and Dundas (Electric)			77,996			77,996
33	Hamilton, Grimsby and Beamsville (Electric)	23·00		236,000			236,000

and Mileage, for the Year ended June 30, 1900—*Continued.*

Engine Mileage.	Total Number of Passengers Carried.	Tons of Freight of 2,000 lbs. Handled.	Average Rate of Speed of Passenger Trains—Miles per Hour.	Average Rate of Speed of Freight Trains—Miles per Hour.	Number.	Remarks.
.....	.....	.....	.....	.....		Mileage of Great North-west Central, 51 miles
42,100	4,305	13,050	15	15	17	completed, 20 miles under construction.
6,500	6,006	205	30	25	18	Worked as an independent railway, from
121,448	65,866	155,636	25	20	19	July 1, 1899, to April 5, 1900.
32,780	5,892	11,138	15	15	20	
53,801	45,012	28,632	20	20	21	Running powers over 33 miles of Dominion
136,045	19,779	559,785	20	20	22	Atlantic Ry.
525,693	218,470	222,871	30	15	23	Running powers over I. C. R.—Halifax to Windsor Junction, 14 miles.
17,502	4,532	14,513	15	.....	24	
255,872	124,588	277,025	27	20	25	
.....	.....	.....	.....	.....	26	Included in the Canada Eastern Ry., which
80,500	228,050	17,143	10	6	27	company run their trains across this bridge paying tolls.
19,968,153	6,214,374	9,621,705	35	25	28	
15,118	4,977	28,518	25	17	29	From July 1, 1899, to April 5, 1900—Balance
2,996	478	3,963	15	15	30	of year included in Canada Pacific Ry.
48,056	45,269	12,234	24	15	31	
....	194,795	887	14	.....	32	
....	259,590	4,695	15	12	33	

No. 4.—Summary Statement of the Operations of the Year

Number.	Name of Railway.	Mileage.	Train Mileage.			
			Passenger Trains.	Freight Trains.	Mixed Trains.	Total Train Mileage.
34	Hamilton Radial (Electric)	12·00	174,240			174,240
35	Hampton and St. Martins	29·00			19,200	19,200
36	Hereford	53·30	21,185	50,026	21,691	92,902
37	Hull (Electric)	13·63	343,880	17,775		361,655
38	Irondale, Bancroft and Ottawa	48·00			30,048	30,048
39	Kaslo and Slocan	31·80	758		24,903	25,661
40	Kent Northern, including St. Louis and Richibucto	34·00			18,366	18,366
41	Kingston and Pembroke	112·85	65,104	12,896	61,974	139,974
42	L'Assomption	3·00			6,880	6,880
43	Lake Erie and Detroit River ..... 84·22 Erie and Huron ..... 71·50 London and Port Stanley ... 24·00	179·72	232,776		114,402	347,178
44	Lotbiniere and Megantic	30·34			14,898	14,898
45	Manitoba and North western ... 237·13 Saskatchewan and Western .. 15·47	252·60	63,657	73,069	21,993	158,719
46	Massawippi Valley	35·46	74,942	68,503	19,742	163,187
47	Metropolitan (Electric)	28·00	275,000			275,000
48	Montfort and Gatineau Colonization	33·00	20,698	30,803		51,501
49	Montreal and Atlantic, formerly South-eastern .. 102·70 Lake Champlain and St. Lawrence Junction.. 60·70	163·40	121,517	206,129	113,238	440,884
50	Montreal Terminal, formerly Montreal Island Belt Line (Electric)	14·10	213,331	10,826	8,461	232,618
51	Montreal Park and Island (Electric)	40·88	693,107			*693,107
52	Montreal and Province Line	40·60	20,906	1,773	28,859	51,538
53	Montreal and Vermont Junction	23·60	61,911	103,149	7,440	172,500
54	Nelson and Fort Sheppard	59·40	29,574	10,527	15,240	55,341
55	New Brunswick & Prince Edward Island	36·00	2,760	12,846	22,572	38,178
56	Niagara, St. Catharines and Toronto	12·27			26,160	26,160
57	Niagara Falls Park and River (Electric)	13·68	277,686			277,686
58	Niagara Falls, Wesley Park and Clifton Electric)	3·00				
59	Northern Pacific and Manitoba	316·07	118,915	99,742	54,348	273,005
60	Nosbonsing and Nipissing	5·50		14,100		14,100
61	Nova Scotia Steel Co.'s Ry	12·50			16,000	16,000
62	Orford Mountain	26·50	17,430	4,200	9,050	30,680
63	Oshawa (Electric)	8·02	37,705	10,920		48,625
64	Ottawa and Gatineau	56·50	19,525	1,080	38,215	58,820
65	Ottawa and New York	56·79	50,917	1,222	35,166	87,305
66	Philipsburg Railway and Quarry Co.	7·50	648	1,032		1,680
67	Pontiac and Pacific Junction	70·60	2,206	825	45,515	48,546
68	Port Arthur, Duluth and Western	85·50	632	1,193	11,654	13,479
69	Portage and North-western	29·63	3,883		3,997	7,880
70	Qu'Appelle, Long Lake & Saskatchewan	253·96			65,361	65,361
71	Quebec Central	213·50	141,817	170,291	109,554	421,662
72	Quebec and Lake St. John ... 242·00 Great Northern, St. Tite to St. Boniface ..... 20·00 Lower Laurentian, Rivière à Pierre to St. Tite ..... 35·00	297·00	137,538	105,910	62,118	305,566
73	Quebec, Montmorency and Charlevoix	30·00	49,604	11,238		60,842
74	Red Mountain	9·53	4,227	7,182	3,602	15,011
75	Salisbury and Harvey	45·00			28,170	28,170
76	Shore Line, New Brunswick	82·50	1,403		53,945	55,348

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and Mileage, for the Year ended June 30, 1900—*Continued.*

Engine Mileage.	Total Number of Passengers Carried.	Tons of Freight of 2,000 lbs. Handled.	Average Rate of Speed of Passenger Trains—Miles per Hour.	Average Rate of Speed of Freight Trains—Miles per Hour.	Number.	Remarks.
.....	364,965	775	20	.....	34	
19,200	6,613	13,483	15	15	35	
92,902	16,448	91,312	26	15	36	
17,775	493,862	89,655	23	22	37	
31,300	6,590	16,327	18	18	38	
32,364	15,185	13,751	12	12	39	
18,366	5,725	3,664	18	18	40	
139,974	37,659	110,303	25	18	41	
6,880	4,880	434	15	15	42	
641,600	469,433	439,117	35	22	43	
17,570	5,097	29,467	20	20	44	
219,928	43,645	143,715	27	15	45	For 11 months up to June 1, 1900. The month of June is included in Can. Pac. Railway.
209,393	91,515	330,530	25	12	46	Also running powers on G. T. R., Sherbrooke
275,000	349,631	500	20	.....	47	to Lennoxville, 2·95 miles.
51,501	6,704	10,048	15	12	48	
529,207	175,410	636,041	30	18	49	
.....	335,840	15,547	20	12	50	
.....	1,268,508	.....	15	.....	51	*Motor cars.
51,538	69,357	64,261	30	12	52	
172,506	113,782	977,364	40	15	53	
61,774	26,438	26,936	20	12	54	
42,500	16,292	36,889	20	15	55	
29,460	17,850	51,748	20	20	56	
.....	503,876	.....	9	.....	57	
.....	.....	.....	.....	.....	58	No record kept by the company.
438,783	93,197	306,828	28	14	59	
15,200	.....	290,600	.....	20	60	
35,000	5,729	205,582	15	.....	61	
30,680	4,649	30,379	25	15	62	
48,625	103,865	52,011	.....	.....	63	
60,410	60,938	24,962	30	20	64	
87,305	57,765	30,576	35	18	65	
1,680	500	5,593	25	18	66	
61,223	31,399	17,864	30	20	67	
14,033	3,939	13,440	25	15	68	Sold to Canadian Northern in May, 1900. The return for portion of year prior to sale not having been received in time, a proportion of traffic returned in 1899 has been inserted for the period prior to sale.
18,433	919	2,785	28	14	69	
65,361	6,494	28,830	17	17	70	
544,832	157,821	323,629	25	15	71	Running powers on Intercolonial Railway. Harlaka Junction to Lévis, 5 miles.
417,478	.....	300,477	26	16	72	
62,650	261,178	17,448	21	21	73	
19,146	25,093	144,741	15	10	74	
31,660	10,684	35,497	18	18	75	
55,648	12,058	10,886	25	20	76	

No. 4.—Summary Statement of the Operations of the Year

Number.	Name of Railway.	Mileage.	Train Mileage.			
			Passenger Trains.	Freight Trains.	Mixed Trains.	Total Train Mileage.
77	Stanstead, Shefford and Chambly	43·00	25,756	11,449	27,778	64,983
78	St. Clair Tunnel	2·23				
79	St. Lawrence and Adirondack	33·00	126,901	19,711	49,807	196,419
80	Sydney and Louisbourg, Dom. Coal Co.	48·96	42,255	130,648		172,903
81	South Shore, formerly Montreal & Sorel	54·50	37,584		28,170	65,754
82	Temiscouata	113·00	452		85,276	85,728
83	Tilsonburg, Lake Erie and Pacific	20·00	13,000	7,000		20,000
84	Thousand Islands	4·33	19,890			19,890
85	Toronto, Hamilton and Buffalo	83·94	162,855	113,667		276,522
86	United Counties 61·00 / East Richelieu Valley 22·80	83·80	56,320	384	55,088	111,792
87	Victoria and Sydney, B.C.	16·26			24,240	24,240
		17,656·80	20,922,098	24,662,906	9,592,367	55,177,871

and Mileage, for the Year ended June 30, 1900.—*Concluded.*

Engine Mileage.	Total Number of Passengers Carried.	Tons of Freight of 2,000 lbs. Handled.	Average Rate of Speed of Passenger Trains—Miles per Hour.	Average Rate of Speed of Freight Trains—Miles per Hour.	Number.	Remarks.
64,983	849,896	1,066,901	30	12	77	
84,636	.....	.....	.....	.....	78	
167,321	164,546	253,473	30	15	79	Running powers—Grand Trunk.... ..13·20
172,903	75,631	2,082,933	27	17	80	" C. P. Ry..... 8·70
66,654	71,251	14,344	34	22	81	
85,927	19,766	48,625	26	17	82	
20,000	18,572	12,970	30	30	83	
19,890	23,789	22,340	.....	.....	84	
427,462	190,579	535,852	35	20	85	
111,792	33,202	49,680	30	15	86	Also running powers on South Shore, St.
24,240	21,783	17,051	25	25	87	Robert to Sorel, 5 miles.
67,712,252	21,500,175	35,946,183				

No. 5.—Summary Statement of Description of

Number.	Name of Railway.	Mileage.	Flour.		Grain.		Live
			Barrels.	Tons.	Bushels.	Tons.	No.
1	Alberta Railway and Coal Co.	64·62	150	15	8,654	106	167
2	Albert Southern	16·00	19·00	150	15	...	...
	Harvey Branch	3·00					
3	Atlantic & Lake Superior, comprising—						
	Baie des Chaleurs	98·00					
	Great Eastern, not under traffic	23·00	98·00	8,995	899	15,087	256	105
	Ottawa Valley " "	7·00					
4	Bay of Quinté Ry. and Navigation Co.	4·00	64·82	28,530	2,853	181,019	4,978	6,702
	Kingston, Napanee & Western	60·82					
5	Berlin and Waterloo (Electric)	3·00	...	...	...	...	...
6	British Yukon	64·75	6,822	682	75,831	1,213	4,158
7	Brockville, Westport & Sault Ste. Marie	45·00	16,637	1,630	113,140	3,375	12,368
8	Buctouche and Moncton	32·00	...	...	61,000	1,523	...
9	Calgary and Edmonton	295·07	21,510	2,151	992,610	18,700	32,249
10	Canada Atlantic, including Ottawa, Arnprior & Parry Sound	398·80					
	Leased—		456·80	703,025	70,302	15,053,238	376,331	42,907
	Central Counties	37·00					
	Pembroke Southern	21·00					
11	Canada Coals & Ry. Co., formerly Joggins	12·00	1,244	122	7,037	117	1
12	Canada Eastern	136·00	73,711	7,371	112,112	1,906	609
13	Canada Southern	382·19	2,069,210	206,921	39,726,764	883,286	671,512
14	Canadian Northern, comprising—						
	Lake Manitoba Ry. and Canal Co's Line						
	Winnipeg Great Northern		216·70	26,924	2,692	672,246	18,169	3,496
	Manitoba South Eastern						
	Ontario and Rainy River						
15	Canadian Government Railways—						
	Intercolonial		1,300·94	1,234,076	123,407	2,720,453	54,958	92,813
	Prince Edward Island		210·00	26,481	2,648	617,544	10,595	19,675
16	Canadian Pacific—						
	Owned	4,369·75					
	Crows Nest Pass Branch & B. C. Southern	288·75	4658 50				
	Leased lines—						
	Fredericton	22·10					
	New Brunswick	175·00					
	New Brunswick & Canada	117·20					
	St. John and Maine	92·10					
	St. John Bridge and Railway Extension	2·00					
	St. Stephen and Milltown	4·60					
	Tobique Valley	28·00					
	Cap de la Madeleine	3·00					
	Montreal & L. Maskinongé	11·00	...	...	...	...	...
	Atlantic and North-west	201·40					
	Montreal and Ottawa	93·90					
	Ontario and Quebec	474·50					
	St. Lawrence and Ottawa	58·40	6,873·00	3,819,172	381,919	43,153,465	1,150,210	876,687
	Credit Valley	175·70					
	Guelph Junction	15·00	...	...	...	...	...
	Toronto, Hamilton and Buffalo	1·70	...	...	...	...	...
	Toronto, Grey and Bruce	191·10					
	West Ontario Pacific	26·60					
	Manitoba & North-west'rn		...	...	...	...	...
	Manitoba South-western Colonization	214·40					
	Columbia and Kootenay	60·50					
	Nakusp and Slocan	36·30					

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Freight carried for the Year ended June 30, 1900.

Stock.	Lumber of all kinds except Firewood.		Firewood.		Manufactured Goods.	All other Articles.	Total Weight Carried.	Number.	Remarks.
Tons.	Feet.	Tons.	Cords.	Tons.	Tons.	Tons.	Tons.		
119	893,626	1,564	18	31	104	51,740	53,679	1	
.....	1,500,000	4,010	.....	.....	.....	.....	4,025	2	
52	12,803,248	12,802	.....	.....	1,375	987	16,371	3	Line in operation 8 months.
2,721	57,468,000	100,569	32,205	48,308	68,732	83,918	311,879	4	
.....	.....	.....	.....	.....	.....	.....	.....	5	
2,079	1,414,350	1,683	.....	.....	14,038	3,426	23,121	6	
1,589	426,796	683	.....	.....	6,155	2,370	15,802	7	
.....	4,351,500	3,250	4,280	8,560	2,060	6,098	21,491	8	
13,546	7,288,620	9,824	638	956	22,270	10,277	77,724	9	Operated by C.P.R.
10,727	374,906,000	515,497	48,154	79,455	109,235	298,069	1,459,616	10	
1	217,000	310	.....	.....	861	46,065	47,476	11	
308	30,345,000	45,518	10,128	12,660	31,096	39,376	138,235	12	
165,192	141,374,757	218,424	56,184	90,597	667,851	2,320,155	4,552,426	13	Also running powers over Manitoba and North-western Ry.
1,964	7,097,225	10,646	5,876	8,815	1,224	24,710	68,220	14	Portage la Prairie to Gladstone Jct., 36 miles.
5,214	379,350,074	474,188	49,638	86,867	507,024	899,550	2,151,208	15	Running power over Grand Trunk—
2,130	2,621,130	4,598	2,098	3,688	.....	38,588	62,247		Point Lévis to Hadlow.... 1·50 Chaudière curve to Chaudière.. 1·18 St. Rosalie Junction to Montreal...37·62 40·30
.....	.....	.....	.....	.....	.....	.....	.....		1·90 miles not in operation.
231,193	938,325,432	1,233,379	206,903	354,536	1,957,735	1,613,527	6,922,499	16	
.....	.....	.....	.....	.....	.....	.....	.....		¾-mile not in operat'n.
.....	.....	.....	.....	.....	.....	.....	.....		Running power one mile.
.....	.....	.....	.....	.....	.....	.....	.....		Manitoba and North-western in C.P.R. for one month only, for mileage see Man and N.W. below, No. 45.

No. 5.—SUMMARY STATEMENT of Description of

Number.	Name of Railway.	Mileage.	Flour.		Grain.		Live
			Barrels.	Tons.	Bushels.	Tons.	No.
	Can. Pac.—Leased lines—*Con.*						
	Shuswap and Okanagan.. 50·80						
	Columbia and Western...159·20						
	Great North-west Central from April 5 to June 30, 1900						
17	Caraquet	68·00	6,500	650	1,400	28	200
18	Carillon and Grenville	13·00					150
19	Central Ontario	104·00					
	Ontario, Belmont & Northern 9·60	113·60	11,633	1,140	207,440	5,186	3,830
20	Central of New Brunswick	45·66					
21	Central of Nova Scotia, formerly Nova Scotia Central	74·00	12,428	1,242	6,399	111	343
22	Cumberland Ry. and Coal Co's. Line..	32·00	12,439	1,242	43,336	736	20
23	Dominion Atlantic, comprising—						
	Windsor and Annapolis..... 87·50						
	Cornwallis Valley ..... 14·00						
	Yarmouth and Annapolis... 87·00	220·50	153,751	15,375			11,387
	Windsor Branch of Intercolonial ..... 32·00						
24	Elgin and Havelock	28·00	2,999	299	4,671	79	635
25	Esquimalt and Nanaimo	78·00	2,320	232	15,720	393	5,093
26	Fredericton and St. Mary's Railway Bridge	1·33					
27	Galt, Preston and Hespeler (Electric).	9·00					
28	Grand Trunk .. .. 884·25						
	Great Western..... 561·80						
	Brantford, Norfolk and Port Burwell..... 34·39						
	Buffalo and Lake Huron ...161·00						
	Grand Trunk, Georgian Bay and Lake Erie..... 171·00						
	Owen Sound Branch..... 12·42						
	London, Huron and Bruce.. 68·00						
	Waterloo Junction..... 10·25						
	South Norfolk..... 17·00						
	Wellington, Grey and Bruce.168·13						
	Northern..... 172·10						
	North Simcoe..... 33·00	3,138·44	5,434,000	543,400	60,124,600	1,503,115	1,647,665
	Hamilton & North-western .172·00						
	Northern Pacific Junction .111·37						
	Toronto Belt Line..... 12·79						
	Midland ..... 166·00						
	Grand Junction ..... 85·21						
	Toronto and Nipissing..... 85·00						
	Lake Simcoe Junction..... 26·00						
	Victoria..... 53·00						
	Whitby, Port Perry and Lindsay..... 46·00						
	Jacques Cartier Union..... 6·50						
	Montreal and Champlain Junction ..... 61·73						
	Beauharnois Junction..... 19·50						
29	Great North-west Central	51·00	1,340	134	704,600	21,145	870
30	Gulf Shore	16·78	3,000	300	1,000	17	10
31	Halifax and Yarmouth (formerly Coast Line of Nova Scotia)	50·10	13,526	1,353	13,059	326	64
32	Hamilton and Dundas (Electric)	7·25					
33	Hamilton, Grimsby and Beamsville (Electric)	23·00			7,500	225	
34	Hamilton Radial (Electric)	12·00					
35	Hampton and St. Martin's	29·00					
36	Hereford	53 30	7,680	768	30,688	548	300
37	Hull (Electric)	13·63	61,149	6,003	454,746	16,961	7,206

SESSIONAL PAPER No. 20

Freight carried for the Year ended June 30, 1900—*Continued.*

Stock.	Lumber of all kinds except Firewood.		Firewood.		Manufactured Goods.	All other Articles.	Total Weight Carried.	Number.	Remarks.
Tons.	Feet.	Tons.	Cords.	Tons.	Tons.	Tons.	Tons.		
									Mileage of Great N. W. Central 51 miles completed, 20 miles under construction worked as an independent road, July 1, '99, to Apl. 5, 1900
100	8,000,000	10,300	110	160	1,150	662	13,050	17	
50	.....	.....	.....	.....	45	110	205	18	
1,915	11,928,000	14,910	30,947	61,893	44,665	25,927	155,636	19	
.....	2,711,200	3,389	749	1,293	.....	6,456	11,138	20	
54	6,758,500	10,057	2,255	3,398	4,202	9,568	28,632	21	Running power over Dom. Atl. 33 miles.
10	9,640,000	12,058	.....	.....	4,213	*541,526	559,785	22	Tons of coal, 541,526.
2,719	30,443,000	48,662	1,400	2,200	41,995	*111,920	222,871	23	Apples, potatoes, hay, produce, minerals. Running power over I.C.R., Halifax to Windsor Jct., 14 miles.
102	7,194,600	11,991	143	286	1,355	401	14,513	24	
908	12,150,231	21,411	7,112	8,890	6,284	238,907	277,025	25	
.....	.....	.....	.....	.....	.....	.....	.....	26	Included in Canada Eastern Ry., which Co. run their trains across this bridge, paying tolls.
.....	.....	.....	.....	.....	.....	17,143	17,143	27	
329,533	722,970,500	1,445,941	335,513	223,675	1,103,302	4,472,739	9,621,705	28	
230	1,190,000	1,787	891	1,336	3,274	612	28,518	29	From July 1, 1899, to April 5, 1900, bal. of year included in C.P.R. Ry.
5	2,000,000	2,200	100	150	.....	1,291	3,963	30	
32	4,811,333	7,217	123	184	2,158	964	12,234	31	
.....	.....	.....	.....	.....	.....	887	887	32	
.....	.....	.....	.....	.....	.....	4,470	4,695	33	
.....	100,000	100	.....	.....	.....	675	775	34	
.....	887,440	11,093	70	100	.....	2,290	13,483	35	
323	15,289,800	25,483	19,395	38,790	11,749	13,651	91,312	36	
924	42,060,540	52,073	2,193	3,018	9,157	1,519	89,655	37	

No. 5.—SUMMARY STATEMENT of Description of

Number.	Name of Railway.	Mileage.	Flour.		Grain.		Live
			Barrels.	Tons.	Bushels.	Tons.	No.
38	Irondale, Bancroft and Ottawa	48·00	3,570	357	9,466	237	2,668
39	Kaslo and Slocan	31·80	729	70	6,606	111	62
40	Kent Northern, including St. Louis and Richibucto	34·00	2,785	278	1,800	30	11
41	Kingston and Pembroke	112·85	8,700	870	37,500	1,125	360
42	L'Assomption	3·00	665	60	800	15	.....
43	Lake Erie and Detroit River, including Erie & Huron 155·72 Leased London & Pt. Stanley 24·00	179·72	145,384	15,702	1,494,445	37,334	110,543
44	Lotbiniere and Megantic	30·34	1,620	162	730	22	72
45	†‡Manitoba and North-west'n. 237·13 Saskatchewan and Western branch 15·47	252·60	104,390	10,439	2,767,863	76,533	14,975
46	Massawippi Valley	35·46	33,580	3,358	1,381,300	27,626	27,750
47	Metropolitan (Electric)	28·00	.....	.....	.....	.....	.....
48	Montfort and Gatineau Colonization	33·00	4,500	450	8,400	138	.....
49	Montreal and Atlantic, formerly South-eastern 102·70 Lake Champlain and St. Lawrence Junction 60·70	163·40	542,630	54,263	3,293,296	77,002	28,031
50	Montreal Terminal, formerly the Montreal Island Belt Line (Electric)	14·10	5,060	506	.....	.....	.....
51	Montreal Park and Island (Electric)	40·88	.....	.....	.....	.....	.....
52	Montreal and Province Line	40·60	2,400	240	28,264	792	180
53	Montreal and Vermont Junction	23·60	503,550	50,355	9,679,600	268,878	50,812
54	Nelson and Fort Sheppard	59·40	2,050	205	8,000	296	190
55	New Brunswick and Prince Edward Island	36·00	14,507	1,450	31,900	640	1,293
56	Niagara, St. Catharines and Toronto	12·27	4,780	479	6,539	1,510	.....
57	Niagara Falls Park and River (Electric)	13·68	.....	.....	.....	.....	.....
58	Niagara Falls, Wesley Park and Clifton (Electric)	3·00	.....	.....	.....	.....	.....
59	Northern Pacific and Manitoba	316·07	14,230	1,423	4,632,528	137,233	6,820
60	Nosbonsing and N'pissing	5·50	.....	.....	.....	.....	.....
61	Nova Scotia Steel Company's Ry	12·50	1,031	103	2,984	52	35
62	Orford Mountain	26·50	3,500	350	12,688	583	989
63	Oshawa (Electric)	8·62	2,150	215	74,037	2,036	3
64	Ottawa and Gatineau	56·50	17,750	1,775	60,210	1,124	5,988
65	Ottawa and New York	56·79	5,645	565	69,759	1,953	8,038
66	Philipsburg Junction and Quarry Co. Railway	7·50	.....	.....	.....	.....	.....
67	Pontiac Pacific Junction	70·60	213,612	2,136	144,526	3,374	6,884
68	Port Arthur, Duluth and Western	85·50	.....	43	.....	224	.....
69	Portage and North-western	29·63	.....	.....	75,004	2,237	.....
70	Qu'Appelle, Long Lake and Saskatchewan	253·96	10,076	1,007	359,676	10,588	8,774
71	Quebec Central	213·50	154,961	15,496	38,273	1,148	37,900
72	Quebec and Lake St. John 242·00 Great Northern (St. Tite to St. Boniface) 20·00 Lower Laurentian (Riv. à Pierre to St. Tite) 35·00	297·00	56,292	5,629	69,908	1,398	2,289
73	Quebec, Montmorency and Charlevoix	30·00	6,649	668	11,555	348	72
74	Red Mountain	9·53	2,480	248	3,200	94	162

† 11 months up to June 1. ‡ Month of June included in C. P. R

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Freight carried for the Year ended June 30, 1900—*Continued.*

Stock.	Lumber of all kinds except Firewood.		Firewood.		Manufactured Goods.	All other Articles.	Total Weight Carried.	Number.	Remarks.
Tons.	Feet.	Tons.	Cords.	Tons.	Tons.	Tons.	Tons.		
667	558,000	838	1,438	2,517	2,708	9,003	16,327	38	Sundries, tan bark, pulpwood, ties, logs, &c.
31	824,048	1,286	36	60	1,022	11,171	13,751	39	
5	.....	.....	524	524	2,827	.....	3,664	40	
180	35,200,000	52,800	9,790	18,075	33,128	4,125	110,303	41	
.....	60,000	94	.....	.....	89	176	434	42	
15,759	72,684,500	91,810	8,903	13,355	29,011	236,146	439,117	43	
23	9,020,000	13,676	7,061	8,853	59	6,672	29,467	44	
6,491	8,529,300	8,862	1,476	1,787	30,060	9,543	143,715	45	
3,210	137,244,000	188,711	.....	.....	29,306	87,319	330,530	46	Running power in G. T. R., Sherbrooke to Lennoxville, 2·95 miles.
.....	.....	.....	.....	.....	.....	500	500	47	
.....	2,509,000	4,200	975	2,000	960	2,300	10,048	48	
9,165	52,919,691	69,410	9,569	14,319	229,436	182,446	636,041	49	
.....	1,153,000	2,479	.....	.....	1,162	11,400	15,547	50	
.....	.....	.....	.....	.....	.....	.....	.....	51	
45	6,824,000	10,245	194	290	2,131	50,518	64,261	52	
12,703	25,467,000	47,602	643	1,102	113,750	482,974	977,364	53	
85	1,800,000	2,709	1,462	2,193	3,600	18,048	26,936	54	
122	9,960,000	17,690	1,178	2,225	2,317	12,445	36,889	55	
.....	745,327	2,105	468	679	9,327	37,648	51,748	56	
.....	.....	.....	.....	.....	.....	.....	.....	57	Passengers only.
.....	.....	.....	.....	.....	.....	.....	.....	58	"
3,751	19,821,133	30,361	23,151	40,514	25,773	67,773	306,858	59	
.....	27,680,000	290,600	.....	.....	.....	.....	290,600	60	
1	1,288,000	1,736	56	40	375	*203,275	205,782	61	*190,298 tons ore, pig iron, coal, slag and sundries.
253	8,576,000	9,180	5,285	8,517	808	10,688	30,379	62	
1	3,126,286	5,471	742	1,113	10,468	32,707	52,011	63	
1,206	2,871,000	4,795	1,482	2,166	8,795	5,101	24,962	64	
643	2,740,000	3,426	3,430	6,003	903	17,083	30,576	65	
.....	35,900	54	37	56	235	5,248	5,593	66	
798	2,824,000	3,707	549	915	4,581	2,355	17,864	67	
30	.....	4,760	.....	5,760	353	2,270	13,440	68	Sold to Canadian Northern in May, 1900. The return for portion of year prior to sale not having been received in time a proportion of traffic returned in 1899 has been inserted for period prior to sale.
.....	466,200	70	95	161	91	226	2,785	69	
3,863	2,970,145	3,773	1,696	2,545	6,063	891	28,830	70	
2,857	84,308,000	126,463	5,648	10,588	5,745	161,332	323,629	71	Running powers on I. C. R., Harlaka Junction to Lévis, 5 miles.
780	83,196,000	120,411	*23,800	42,840	18,000	111,419	300,477	72	*14,300 cords pulpwood included.
61	1,172,400	1,758	2,786	2,856	2,884	8,873	17,448	73	* Includes 95,757 tons of ore.
54	4,800,000	9,120	5,500	9,600	2,512	*123,113	144,741	74	

No. 5.—SUMMARY STATEMENT of Description of

Number.	Name of Railway.	Mileage.	Flour.		Grain.		Live
			Barrels.	Tons.	Bushels.	Tons.	No.
75	Salisbury and Harvey	45·00	4,645	464	21,085	358	356
76	Shore Line, New Brunswick	82·50	3,692	369	15,134	1,257	35
77	Stanstead, Shefford and Chambly	43·00	605,220	60,522	3,803,695	108,677	57,436
78	St. Clair Tunnel	2·23					
79	St. Lawrence and Adirondack	33·00	29,800	2,980	121,160	3,029	506
80	Sydney and Louisburg, Dominion Coal Co's	48·96	18,000	1,800	38,000	650	50
81	South Shore, formerly Montreal and Sorel	54·50	1,416	158	28,960	492	372
82	Temiscouata	113·00	15,227	1,522	31,782	616	624
83	Tilsonburg, Lake Erie and Pacific	20·00	3,884	384	23,765	613	9,988
84	Thousand Islands	4·33	1,790	179	28,691	789	1,100
85	Toronto, Hamilton and Buffalo	83·94	30,670	3,067	663,683	15,133	46,040
86	United Counties 61·00 Leased East Richelieu Valley 22·80	83·80	15,570	1,557	122,250	2,445	1,252
87	Victoria and Sydney, B.C.	16·26	754	75	17,983	378	1,751
		17,656·80	16,359,292	1,617,744	194,355,404	4,863,711	3,856,663

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Freight carried for the Year ended June 30, 1900—*Concluded.*

Stock.	Lumber of all kinds except Firewood.		Firewood.		Manufactured Goods.	All other Articles.	Total Weight Carried.	Number.	Remarks.
Tons.	Feet.	Tons.	Cords.	Tons.	Tons.	Tons.	Tons.		
178	11,044,000	13,805	1,885	3,534	218	16,940	35,497	75	
35	1,338,000	2,676	390	780	3,846	1,923	10,886	76	
14,359	32,758,000	61,460	781	1,179	122,803	697,901	1,066,901	77	
.....	.....	.....	.....	.....	.....	.....	.....	78	Running powers, G. T. R., 13·2, C. P. R., 8·70 miles.
253	46,104,000	69,156	3,026	2,017	9,313	166,725	253,473	79	
14	2,400,000	3,600	.....	.....	300	*2,076,569	2,082,933	80	*2,042,933 tons coal.
53	751,100	1,126	64	112	1,108	11,295	14,344	81	
312	24,732,430	30,916	3,269	4,103	2,487	8,609	48,625	82	
988	798,351	2,382	594	1,003	600	7,000	12,970	83	
440	1,617,714	2,831	.....	.....	8,019	10,082	22,340	84	
7,387	6,051,794	9,558	3,898	5,931	40,598	454,178	535,852	85	
626	6,668,000	9,953	2,087	3,652	1,250	30,197	49,680	86	Running powers on South Shore, St. Robert to Sorel, 5 miles.
144	234,400	410	6,484	12,968	647	2,429	17,051	87	
861,413	3,255,327,753	5,653,492	957,575	1,276,778	5,383,777	16,289,268	35,946,183		

No. 6.—SUMMARY STATEMENT of Earnings

Number.	Name of Railway.	Mileage.	Passenger Traffic.	Freight Traffic.	Mails and Express Freight.
			$ cts.	$ cts.	$ cts.
1	Alberta Railway and Coal Co.	64·62	6,872 19	41,303 50	1,086 94
2	Albert Southern	16·00	19 00	1,203 00	.....
	Harvey Branch	3·00			
3	Atlantic and Lake Superior, comprising—				
	Baie des Chaleurs	98·00			
	Great Eastern, 23 miles not under traffic		98·00	9,617 39	13,401 00	4,612 94
	Ottawa Valley 7 " "				
4	Bay of Quinte Ry. and Navigation Co.	4·00	64 82	22,144 17	164,027 50	8,322 70
	Kingston, Napanee and Western	60·82			
5	Berlin and Waterloo (Electric)		3·00	11,538 00	.....	255 36
6	British Yukon		64 75	42,481 68	253,439 26	691 04
7	Brockville, Westport and Sault Ste. Marie		45·00	13,338 20	16,903 20	2,708 69
8	Buctouche and Moncton		32·00	4,409 96	10,564 91	.....
*9	Calgary and Edmonton		295·07	92,247 73	223,632 82	9,221 16
10	Canada Atlantic, including Ottawa, Arnprior & Parry Sound	398·80	456 80	258,322 34	1,489,363 90	29,507 31
	Leased Central Counties	37·00			
	Pembroke Southern	21·00			
11	Canada Coals and Railway, formerly the Joggins		12 00	2,204 38	17,437 00	591 40
12	Canada Eastern		136·00	30,599 61	101,547 18	3,996 00
13	Canada Southern		382 19	931,933 93	3,426,539 60	248,690 21
14	Canadian Northern, comprising—					
	Lake Manitoba Ry. and Canal Co.'s line					
	Winnipeg Great Northern		216·70	51,802 77	125,738 58	2,876 81
	Manitoba South-Eastern					
	Ontario and Rainy River					
15	Canadian Government Railways—					
	Intercolonial		1,300 94	1,404,469 87	2,912,790 52	222,325 01
	Prince Edward Island		210·00	72,998 42	83,627 41	17,734 90
16	Canadian Pacific Railway—					
	owned	4,369 75	4,058 50			
	Crows Nest Branch and B. C. Southern	288 75				
	Leased lines—					
	Fredericton	22·10				
	New Brunswick	175 00				
	New Brunswick and Canada	117·20				
	St. John and Maine	92·10				
	St. John Bridge & Ry. Extension	2 00				
	St. Stephen and Milltown	1·60				
	Tobique Valley	28·00				
	Cap de la Madeleine	3 00				
	Montreal and Lake Maskinonge	11·00	.....	.....	.....	.....
	Atlantic and North-west	201·40				
	Montreal and Ottawa	93·90				
	Ontario and Quebec	474 50	6,873·00	7,518,360 05	19,203,477 00	1,291,153 10
	St. Lawrence and Ottawa	58 40				
	Credit Valley	175·70				
	Guelph Junction	15·00	.....	.....	.....	.....
	Toronto, Hamilton and Buffalo	1·70	.....	.....	.....	.....
	Toronto, Grey and Bruce	191·10				
	West Ontario Pacific	26 60				
	Manitoba and North-western	.....				
	Manitoba South-western Colonization	214 40				
	Columbia and Kootenay	60·50				
	Nakusp and Slocan	36·30				
	Shuswap and Okanagan	50 80				
	Columbia and Western	159 20				
	Great North-west Central, from April 5 to June 30, 1900					
17	Caraquet		68 00	3,739 63	13,854 11	1,968 45
18	Carillon and Grenville		13·00	1,543 48	163 94	....

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for the Year ended June 30, 1900.

Other Sources.	Total Gross Earnings.	Total Net Earnings.	Proportion of Earnings to Working Expenses.	Earnings per Train Mile.	Number.	Remarks.
$ cts.	$ cts.	$ cts.	p. c.	Cts.		
103,817 70	153,080 35	60,835 71	166	350·78	1	
.....	1,263 00	244 50	83	21 48	2	
37 55	27,668 88	1,087 75	104	42 96	3	Line in operation 8 months.
4,819 54	199,313 91	96,658 53	194	145·68	4	
76 58	11,869 94	1,112 48	110	16·31	5	
4,579 66	301,191 64	201,421 13	302	1,023 13	6	
156 61	33,106 70	4,947 18	118	99 67	7	
485 33	15,460 20	2,402 49	87	74·30	8	
1,024 58	326,126 29	128,264 66	165	183·76	9	* Operated by C. P. R.
91,946 03	1,869,139 58	366,036 70	124	115 64	10	
203 29	20,436 07	11,374 81	226	95 73	11	
1,553 80	137,696 59	38,069 16	138	72 25	12	
14,431 49	4,621,595 23	280,015 67	106	119 00	13	
3,055 64	183,473 80	86,681 34	189	243 44	14	Also running powers over Manitoba and North-western Railway, Portage la Prairie to Gladstone Junction, 36 miles.
12,486 31	4,552,071 71	120,667 02	103	83 16	15	Running powers over the Grand Trunk—
378 00	174,738 83	46,193 08	79	66 43		Point Levis to Hadlow.. .. 1·50 Chaudière curve to Chaudiere.. 1·18 Ste. Rosalie to Montreal.. .. 37·62 40·30
.....	.....	.....	.....	.....		1·90 miles not in operation.
2,180,182 42	30,193,172 57	12,443,284 17	170	162 64	16	
.....	.....	.....	.....	.....		¼ mile not in operation.
.....	.....	.....	.....	.....		Also running powers, 1 mile.
						Manitoba and North-western in C. P. R. for month of June, 1900, only, for mileage "See" Manitob and North-western below. No. 45.
298 60	19,860 79	517 75	103	47·17	17	Mileage of Great N. W. Central, 51 miles completed, 20 miles under construction, worked as an independent railroad from July 1, 1899, to April 5, 1900.
.....	1,707 42	1,993 33	46	28 45	18	

No. 6.—Summary Statement of Earnings

Number.	Name of Railway.	Mileage.	Passenger Traffic.	Freight Traffic.	Mails and Express Freight.
			$ cts.	$ cts.	$ cts.
19	Central Ontario	104·00	113·60	93,486 06	9,279 88
	Ontario, Belmont and Northern	9·60			
20	Central of New Brunswick	45·66	3,316 39	5,612 74	1,194 52
21	Central of Nova Scotia, formerly Nova Scotia Central	74 00	26,610 22	23,118 56	2,733 24
22	Cumberland Ry. and Coal Co.'s line	32 00	9,059 44	13,271 37	2,431 02
23	Dominion Atlantic, comprising—				
	Windsor and Annapolis	87·50			
	Cornwallis Valley	14 00	220·50	478,889 58	292,302 56	49,023 76
	Yarmouth and Annapolis	87·00			
	Windsor Branch of Intercolonial	32·00			
24	Elgin and Havelock	28·00	1,441 42	5,976 50	743 05
25	Esquimalt and Nanaimo	78·00	81,645 70	95,803 76	2,920 32
26	Fredericton and St. Mary's Ry. Bridge Co.	1·33	894 21	3,898 15	.....
27	Galt, Preston and Hespeler (Electric)	9·00	13,330 78	6,844 29	.....
28	Grand Trunk	884·25			
	Great Western	561 80			
	Brantford, Norfolk and Port Burwell	34·39			
	Buffalo and Lake Huron	161 00			
	Grand Trunk, Georgian Bay and Lake Erie	171·00			
	Owen Sound Branch	12·42			
	London, Huron and Bruce	68·00			
	Waterloo Junction	10·25			
	South Norfolk	17 00			
	Wellington, Grey and Bruce	168·13			
	Northern	172 10	3,138 44	5,478,775 18	13,329,694 80	936,840 04
	North Simcoe	33·00			
	Hamilton and North-western	172·00			
	Northern and Pacific Junction	111·37			
	Toronto Belt Line	12 79			
	Midland	166·00			
	Grand Junction	85·21			
	Toronto and Nipissing	85 00			
	Lake Simcoe Junction	26·00			
	Victoria	53·00			
	Whitby, Port Perry and Lindsay	46·00			
	Jacques Cartier Union	6 50			
	Montreal and Champlain Junction	61·73			
	Beauharnois Junction	19 50			
29	Great North-west Central	51·00	5,458 84	35,404 60	363 00
30	Gulf Shore	16·78	210 04	1,647 28	.....
31	Halifax and Yarmouth, formerly Coast Line of Nova Scotia	50 10	19,511 64	8,882 03	54 76
32	Hamilton and Dundas (Electric)	7·25	20,685 26	1,862 92	.....
33	Hamilton, Grimsby and Beamsville (Electric)	23 00	35,934 09	5,759 79	2,791 81
34	Hamilton Radial (Electric)	12 00	31,088 50	1,496 37	.....
35	Hampton and St. Martins	29·00	3,498 51	6,033 26	.....
36	Hereford	53·30	11,368 85	34,770 56	1,295 34
37	Hull (Electric)	13·63	35,804 57	16,380 78	600 00
38	Irondale, Bancroft and Ottawa	48·00	4,349 95	13,536 62	845 09
39	Kaslo and Slocan	31·80	15,163 99	31,862 41	1,514 50
40	Kent Northern, including St. Louis and Richibucto	34 00	3,5:6 87	6,479 44	912 44
41	Kingston and Pembroke	112·85	30,936 05	112,479 36	8,847 02
42	L'Assomption	3 00	964 28	200 14	.....
43	Lake Erie and Detroit River, including Erie and Huron	155 72	179·72	143,011 54	231,260 17	12,979 63
	Leased London and Port Stanley	24·00			
44	Lotbinière and Mégantic	30 34	1,917 83	11,470 71	.....
45	Manitoba and North-western	237·13	252·60	89,082 60	240,883 51	10,774 60
	Saskatchewan and Western	15·47			

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for the Year ended June 30, 1900—*Continued.*

Other Sources.	Total Gross Earnings.	Total Net Earnings.	Proportion of Earnings to Working Expenses.	Earnings per Train Mile.	Number.	Remarks.
$ cts.	$ cts.	$ cts.	p. c.	Cts.		
8,969 12	144,621 85	52,195 72	156	136 53	19	
492 18	10,615 83	- 9,881 02	51	34 02	20	
977 45	53,439 47	12,298 42	129	108 82	21	Running powers over Dominion Atlantic.
94,077 63	119,439 46	64,847 68	219	166 79	22	33 miles.
. . . . .	820,215 90	160,362 16	124	156 02	23	Running powers over I. C. R., Halifax to Windsor Junction, 14 miles.
. . . . .	8,160 97	- 903 46	90	46 62	24	
3,491 12	183,860 90	- 22,765 17	89	71 85	25	
500 00	5,292 36	3,836 33	363	. . . .	26	Receipts from tolls on trains run by Canada Eastern Ry.
132 27	20,307 34	6,242 93	144	25 23	27	
684,856 66	20,430,166 68	7,430,795 67	157	123 90	28	
829 54	42,055 98	13,201 57	146	306 57	29	From July 1, 1899, to April 5, 1900, bal.
. . . . .	1,857 32	849 83	184	61 99	30	of year included in C. P. R.
333 07	28,781 50	2,037 39	107	66 38	31	
. . . . .	22,548 18	7,413 46	148	28 90	32	
2,679 20	47,164 89	22,887 89	194	19 98	33	
200 00	32,784 87	14,181 22	176	18 81	34	
153 90	9,685 67	- 117 53	99	50 44	35	
15 50	47,450 25	- 23,387 48	67	51 07	36	
12,169 29	64,954 64	31,993 11	197	17 96	37	
. . . . .	18,731 66	- 2,017 40	90	06 23	38	
774 06	49,314 96	12,363 26	133	192 17	39	
. . . . .	10,898 75	3,133 75	140	59 34	40	
10,955 63	163,218 06	44,364 11	137	116 61	41	
. . . . .	1,164 42	- 160 58	88	16 92	42	
30,830 50	418,081 84	136,610 87	149	120 42	43	
69 51	13,458 05	1,895 24	116	90 33	44	
8,341 82	349,082 53	94,407 76	137	219 93	45	For 11 months to June 1, month of June included in C. P. R.

No. 6.—SUMMARY STATEMENT of Earnings

Number.	Name of Railway.	Mileage.	Passenger Traffic.	Freight Traffic.	Mails and Express Freight.
			$ cts.	$ cts.	$ cts.
46	Massawippi Valley	35 46	42,877 92	88,763 24	2,971 86
47	Metropolitan (Electric)	28 00	46,345 77	1,820 00	1,166 67
48	Montfort and Gatineau Colonization	33 00	3,645 31	11,035 94	315 57
49	Montreal and Atlantic, formerly South Eastern 102 70 Lake Champlain and St. Lawrence Junct. 60 70	163 40	112 791 65	250,929 19	11,284 72
50	Montreal Terminal, formerly Montreal Island Belt Line (Electric)	14 10	31,222 74	2,975 22	500 00
51	Montreal Park and Island (Electric)	40 88	114,777 53		
52	Montreal Province Line	40 60	24,843 09	28,269 18	3,065 77
53	Montreal and Vermont Junction	23 60	52,239 71	121,991 94	5,128 05
54	Nelson and Fort Sheppard	59 40	54,028 41	48,476 44	4,558 50
55	New Brunswick and Prince Edward Island	36 00	5,580 82	14,693 95	860 67
56	Niagara, St. Catharines and Toronto	12 27	4,629 72	22,813 28	191 30
57	Niagara Falls Park and River (Electric)	13 68	52,600 84		
58	Niagara Falls, Wesley Park and Clifton (Electric)	3 00	3,922 15		167 20
59	Northern Pacific and Manitoba	316 07	96,986 49	284,554 18	9,229 28
60	Nosbonsing and Nipissing	5 50		52,049 70	
61	Nova Scotia Steel Co.'s Ry	12 50	1,185 45	16,771 90	53 00
62	Orford Mountain	26 50	1,854 66	15,053 48	525 84
63	Oshawa (Electric)	8 02	5,669 63	24,861 77	1,243 80
64	Ottawa and Gatineau	56 50	34,953 46	33,955 94	3,429 87
65	Ottawa and New York	56 79	33,225 08	26,896 88	745 12
66	Phipsburg Junction and Quarry Co.'s Ry	7 50	115 55	1,893 60	
67	Pontiac Pacific Junction	70 60	21,062 78	19,717 15	3,424 46
68	*Port Arthur, Duluth and Western	85 50	3,304 83	10,894 72	
69	Portage and North-western	29 23	405 32	1,529 49	140 00
70	Qu'Appelle, Long Lake and Saskatchewan	253 96	25,245 92	71,909 88	2,998 59
71	*Quebec Central	213 50	161,916 54	337,985 33	18,358 72
72	Quebec and Lake St. John 242 00 Great Northern (St. Tite to St. Boniface) 20 60 Lower Laurentian (Riv. a Pierre to St. Tite) 35 00	297 60	91,837 48	224,652 67	13,250 73
73	Quebec, Montmorency and Charlevoix	30 00	47,477 51	16,457 84	1,094 08
74	Red Mountain	9 53	72,117 35	15,747 09	958 64
75	Salisbury and Harvey	45 00	6,433 68	15,427 68	2,444 12
76	Shore Line, New Brunswick	82 50	13,278 14	14,116 54	3,233 46
77	Stanstead, Sheffard and Chambly	43 00	19,231 06	47,925 41	2,773 40
78	St. Clair Tunnel	2 23	42,685 00	194,165 15	167 50
79	*St. Lawrence and Adirondack	33 00	79,315 58	105,043 38	5,044 78
80	Sydney and Louisburg—Dominion Coal Co.'s	48 96	25,027 96	197,538 79	600 00
81	South Shore, formerly Montreal and Sorel	54 50	31,974 21	15,763 80	2,111 89
82	Témiscamata	113 00	20,520 30	48,541 61	9,476 58
83	Tilsonburg, Lake Erie and Pacific	26 60	3,914 51	6,826 99	380 80
84	Thousand Islands	4 33	5,248 29	14,433 55	2,215 37
85	Toronto, Hamilton and Buffalo	83 94	99,644 91	252,500 01	4,728 35
86	United Counties 61 00 Leased East Richelieu Valley 22 80	83 80	21,089 39	36,845 99	1,654 75
87	Victoria and Sydney, B.C.	16 26	9,167 45	8,346 35	407 17
	Total	17,656 80	1,581,452 11	45,643,699 42	3,012,486 65

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for the Year ended June 30, 1900—*Concluded.*

Other Sources.	Total Gross Earnings.	Total Net Earnings.	Proportion of Earnings to Working Expenses.	Earnings per Train Mile.	Number.	Remarks.
$ cts.	$ cts.	$ cts.	p. c	Cts.		
....	134,613 02	40,559 61	143	82 48	46	Running power on G. T. R., Sherbrooke
210 69	49,543 13	26,081 10	211	18 01	47	to Lennoxville, 2·95 miles.
475 23	15,472 05	- 930 57	94	30 04	48	
9,838 39	384,843 95	37,112 10	110	87 28	49	
5,479 36	40,177 32	15,792 65	165	17 27	50	
4,114 69	118,892 22	46,586 91	164	17 15	51	
24 00	56,202 04	19,911 50	155	109 04	52	
251 27	179,610 97	32,719 88	122	104 12	53	
620 45	107,683 80	43,020 26	167	194 58	54	
20 00	21,155 44	8,445 78	166	55 41	55	
.....	27,625 30	3,716 81	115	105 60	56	
9,881 87	62,482 71	24,535 86	165	22 50	57	
....	4,089 35	4,089 35			58	
1,177 45	391,947 40	185,578 21	68	143 56	59	
....	52,049 70	4,529 05	110	369 14	60	
5,400 00	23,410 35	3,458 04	117	146 31	61	
263 85	17,697 83	1,677 26	110	57 68	62	
1,701 94	33,477 14	13,173 24	164	68 84	63	
860 25	73,199 52	20,092 11	138	124 40	64	
3,022 96	63,890 04	- 3,058 55	95	73 18	65	
5,270 48	7,279 63	5,447 75	397	433 37	66	
1,900 69	46,105 08	- 1,797 10	96	94 91	67	
282 50	14,482 05	- 3,866 42	79	107 44	68	*Sold to Canadian Northern in May, 1900.
10 00	2,084 81	8,379 79	20	26 45	69	The return for portion of year prior to sale not having been received in time, a proportion of traffic returned in 1899 has been inserted for the period prior to sale.
548 29	100,702 68	- 14,776 56	87	154 07	70	
1,088 00	519,348 59	168,343 20	148	123 16	71	Running powers on I. C. R., Harlake Junction to Levis, 5 miles.
9,544 64	339,285 52	95,457 88	139	111 03	72	
585 80	65,615 23	28,439 65	177	1078 44	73	
325 75	89,148 83	55,566 58	206	593 89	74	
227 78	24,533 26	- 411 00	98	87 09	75	
715 89	31,344 03	4,349 52	88	56 63	76	
324 00	70,253 87	14,049 40	125	108 14	77	
23 00	237,040 65	130,579 03	222	289 07	78	
....	189,493 74	106,470 05	228	96 42	79	Running powers—
115,815 89	548,082 64	282,316 65	206	317 50	80	Grand Trunk..... 13·20
5,578 65	54,528 55	16,351 43	143	82 92	81	C. P. R 8 70
....	78,238 49	15,958 69	125	91 26	82	
....	11,122 30	3,293 30	142	55 61	83	
1,375 90	23,273 11	9,994 83	175	117 00	84	
34,498 37	391,461 64	140,737 55	156	141 56	85	
193 66	59,783 79	- 1,572 47	98	53 47	86	Running powers on South Shore, St. Robert to Sorel, 5 miles.
....	17,920 97	- 141 87	99	73 93	87	
3,502,682 27	70,740,270 45	23,040,471 83				

No. 7.—SUMMARY STATEMENT of Operating

Number.	Name of Railway.	Mileage.	Maintenance of Line, Buildings, &c.	Working and Repairs o Engines.
			$ cts.	$ cts.
1	Alberta Railway and Coal Co.	64·62	28,440 16	13,644 97
2	Albert Southern	16·00	19·00	159 50	1,288 09
	Harvey Branch	3·00		
3	Atlantic and Lake Superior, comprising—			
	Baie des Chaleurs, 98 miles			
	Great Eastern, 23 miles not under traffic	98·00	7,674 60	11,997 20
	Ottawa Valley, 7 " "			
4	Bay of Quinté Railway and Navigation Co.	4·00		
	Kingston, Napanee and Western	60·82	64·82	26,881 96	35,828 78
5	Berlin and Waterloo (Electric)	3·00	325 97	
6	British Yukon	64·75	33,547 49	18,729 10
7	Brockville, Westport and Sault Ste. Marie	45·00	19,597 11	7,607 61
8	Buctouche and Moncton	32·60	5,801 45	5,557 95
9	Calgary and Edmonton	295·07	98,854 87	46,751 96
10	Canada Atlantic, including Ottawa, Arnprior and			
	Parry Sound	398·80		
	Leased Central Counties	37·00	456·80	243,788 60	563,446 06
	Pembroke Southern	21·00		
11	Canada Coals and Railway Co., formerly Joggins	12·00	2,389 26	4,176 19
12	Canada Eastern	156·00	29,597 75	41,963 88
13	Canada Southern	382·19	589,727 81	1,036,815 07
14	Canadian Northern, comprising—			
	Lake Manitoba Railway and Canal Co.'s Line			
	Winnipeg Great Northern Ry.	216·70	35,428 02	24,911 57
	Manitoba South Eastern			
	Ontario and Rainy River			
15	Canadian Government Railways—			
	Intercolonial	1,300 94	962,978 41	1,385,069 90
	Prince Edward Island	210·00	65,201 09	72,886 18
16	Canadian Pacific Railway, owned 4,369 75	4,658 50		
	Crow's Nest Pass Branch 288 75			
	Leased lines—			
	Fredericton	22·10		
	New Brunswick	175·00		
	New Brunswick and Canada	117·20		
	St. John and Maine	92·10		
	St. John Bridge and Railway Extension	2·00		
	St. Stephen and Milltown	4·60		
	Tobique Valley	28·00		
	Cap de la Madeleine	3·00		
	*Montreal and Lake Maskinongé	11·00		
	Atlantic and North-west	201·40		
	Montreal and Ottawa	93·90		
	Ontario and Quebec	474·50	6,873 00	3,765,391 14	5,524,747 06
	St. Lawrence and Ottawa	58·40		
	Credit Valley	175·70		
	†Guelph Junction	15·00		
	‡Toronto, Hamilton and Buffalo	1·70		
	Toronto, Grey and Bruce	191·10		
	West Ontario Pacific	26·60		
	§Manitoba and North-western			
	Manitoba South-western Colonization	214·40		
	Columbia and Kootenay	60·50		
	Nakusp and Slocan	36·30		
	Shu-swap and Okanagan	50·80		
	Columbia and Western	159·29		
	¶Great North-west Central from April 5 to June 30, 1900			
17	Caraquet	68·00	5,412 90	7,175 18
18	Grenville and Carillon	13·00	1,435 00	2,210 00

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Expenses for the Year ended June 30, 1900.

Working and Repairs of Cars.	General Operating Expenses.	Total.	Cost of operating per train mile.	Number.	Remarks.
$ cts.	$ cts.	$ cts.	Cents.		
3,208 44	46,951 05	92,244 62	211 37	1	
.....	.....	1,447 50	25 84	2	
983 90	5,926 03	26,581 13	41 27	3	Line in operation 8 months.
10,730 94	29,213 70	102,655 38	75 03	4	
355 97	10,075 52	10,755 46	14 78	5	
4,048 90	43,445 02	99,770 51	338 91	6	
1,080 80	8,874 60	28,150 52	84 77	7	
746 55	5,736 74	17,862 69	86 41	8	
9,258 70	42,996 10	197,861 63	111 49	9	Operated by C. P. R.
132,261 89	563,606 33	1,503,102 88	92 99	10	
556 76	1,939 05	9,061 26	42 44	11	
4,675 02	23,390 78	99,627 43	52 27	12	
648,103 93	2,066,932 75	4,341,579 56	111 79	13	
11,032 02	25,420 85	96,792 46	128 43	14	Also running powers over Manitoba and North-western Ry., Portage la Prairie to Gladstone Jct., 36 miles.
710,695 11	1,372,661 27	4,431,404 69	80 95	15	Running powers over Grand Trunk—
17,926 80	64,917 74	220,931 81	83 99		Pt. Levis to Hadlow ..... 1·50
					Chaudiere Curve to Chaudiere 1 18
					Ste. Rosalie Jct. to Montreal. 37 62
					40 30
1,322,751 09	7,136,999 11	17,749,888 40	95 61	16	* 1·90 miles not in operation. † ½ mile not in operation. ‡ Running powers one mile. § Manitoba and North-western, in C. P. R. for month of June, 1900, only. For mileage see Manitoba and North-western below, No. 45. ¶ Mileage of Great North-west Central 51 miles completed, 20 miles under construction worked as an independent railway from July 1, 1899, to April 5, 1900. See No. 29.
696 69	6,058 27	19,343 04	45 94	17	
35 00	20 75	3,700 75	61 67	18	

No. 7.—Summary Statement of Operating

Number.	Name of Railway.	Mileage.	Maintenance of Line, Buildings, &c.	Working and Repairs of Engines.
			$ cts.	$ cts.
19	Central Ontario	104·00		
	Ontario, Belmont and Northern	9·60	113·60	31,078 53	31,322 37
20	Central of New Brunswick	45·66	9,000 44	2 859 83
21	Central of Nova Scotia, formerly Nova Scotia Central, running powers over Dominion Atlantic, 33 miles	74·00	18,444 61	10,052 51
22	Cumberland Railway and Coal Co.'s line	32·00	17,367 14	16,387 60
23	Dominion Atlantic, comprising—			
	Windsor and Annapolis	87·50		
	Cornwallis Valley	14·00		
	Yarmouth and Annapolis	87·00	220·50	143,142 57	268,065 34
	Windsor Branch, Intercolonial	32·00		
24	Elgin and Havelock	28·00	3,527 33	2,648 65
25	Esquimalt and Nanaimo	78·00	73,154 97	44,630 44
26	Fredericton to St. Mary's Railway Bridge	1·33	1,446 90	
27	Galt, Preston and Hespeler (Electric)	9·00	2,261 89	5,792 04
28	Grand Trunk	884·25		
	Great Western	561·80		
	Brantford, Norfolk and Port Burwell	34·39		
	Buffalo and Lake Huron	161·00		
	Grand Trunk, Georgian Bay and Lake Erie	171·00		
	Owen Sound Branch	12·42		
	London, Huron and Bruce	68·00		
	Waterloo Junction	10·25		
	South Norfolk	17·00		
	Wellington, Grey and Bruce	168·13		
	Northern	172·10		
	North Simcoe	33·00		
	Hamilton and North-western	172·00	3,138 44	2,714,895 28	4,603,623 96
	Northern Pacific Junction	111·37		
	Toronto Belt Line	12·79		
	Midland	166·00		
	Grand Junction	85·21		
	Toronto and Nipissing	85·00		
	Lake Simcoe Junction	26·00		
	Victoria	53·00		
	Whitby, Port Perry and Lindsay	46·00		
	Jacques Cartier Union	6·50		
	Montreal and Champlain Junction	61·73		
	Beauharnois Junction	19·50		
29	Great North-west Central, from July 1, 1899, to April 5, 1900, balance of year included in C.P.R.	51·00	14,171 33	4,983 33
30	Gulf Shore	16 78	451 30	299 60
31	Halifax and Yarmouth, formerly Coast Line of Nova Scotia	50·10	6,693 85	9,827 40
32	Hamilton and Dundas (Electric)	7·25	2,159 13	5,838 18
33	Hamilton, Grimsby and Beamsville (Electric)	23·00	4,748 00	5,371 00
34	Hamilton Radial (Electric)	12·00	1,398 30	5,447 05
35	Hampton and St. Martin's	29·00	3,927 14	1,883 10
36	Hereford	53·30	21,683 91	21,190 01
37	Hull (Electric)	13 63	5,474 23	767 20
38	Irondale, Bancroft and Ottawa	48·00	8,177 00	5,179 31
39	Kaslo and Slocan	31·80	13,624 65	8,794 24
40	Kent Northern, including St. Louis and Richibucto	34·00	1,740 00	2,855 00
41	Kingston and Pembroke	112 85	35,525 62	33,067 42
42	L'Assomption	3·00	33 00	775 15
43	Lake Erie and Detroit River, including Erie and Huron	155 72		
	Leased London and Port Stanley	24·00	179·72	60,540 65	96,909 65
44	Lotbinière and Mégantic	30 34	3,949 69	4,276 76
45	Manitoba and North-western	237 13		
	Saskatchewan and Western	15 47	252·60	83,668 60	85,192 03

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Expenses for the Year ended June 30, 1900—*Continued.*

Working and Repairs of Cars.	General Operating Expenses.	Total.	Cost of operating per train mile.	Number.	Remarks.
$ cts.	$ cts.	$ cts.	Cents.		
4,590 12	25,435 11	92,426 13	87 26	19	
985 10	7,651 48	20,496 85	65 69	20	
1,864 53	10,779 40	41,141 05	83 78	21	
4,955 91	15,881 13	54,591 78	76 23	22	
17,797 86	230,847 97	659,853 74	125 52	23	Running powers over I.C.R., Halifax to Windsor Jct., 14 miles.
.. .. ..	2,888 45	9,064 43	51 79	24	
20,669 54	68,171 12	206,626 07	80 75	25	
.. .. ..	9 13	456 05	.. ..	26	
.. .. ..	6,010 48	14,064 41	17 47	27	
1,258,492 07	4,422,358 80	12,999,371 01	78 83	28	
529 12	9,170 63	28,854 41	210 33	29	
.. .. ..	256 59	1,007 40	33 62	30	
666 61	9,556 25	26,744 11	61 68	31	
1,755 95	5,381 46	15,134 72	19 40	32	
2,921 00	11,237 00	24,277 00	10 28	33	
1,999 26	9,759 04	18,603 65	10 67	34	
312 62	3,680 34	9,803 20	51 05	35	
14,036 91	13,926 90	70,837 73	76 24	36	
5,515 13	21,204 97	32,961 53	09 11	37	
777 00	6,615 75	20,749 06	06 90	38	
1,575 07	12,957 74	36,951 70	143 99	39	
125 00	3,045 00	7,765 00	42 27	40	
4,747 98	45,512 93	118,853 95	84 91	41	
109 50	407 35	1,325 00	19 25	42	
19,015 29	105,005 38	281,470 97	81 07	43	
416 01	2,920 35	11,562 81	77 61	44	
14,429 70	71,384 44	254,674 77	160 45	45	† For 11 mos. up to June 1, month of June included in C.P.R.

No. 7.—Summary Statement of Operating

Number.	Name of Railway.	Mileage.	Maintenance of Line, Buildings, &c.	Working and Repairs of Engines.
			$ cts.	$ cts.
46	Massawippi Valley	35·46	16,766 28	43,871 81
47	Metropolitan (Electric)	28·00	2,749 11	
48	Montfort and Gatineau Colonization	33·00	4,529 06	6,279 60
49	Montreal and Atlantic, formerly South-eastern	102·70		
	Lake Champlain and St. Lawrence Junction	60·70	163·40	85,508 89	127,434 03
50	Montreal Terminal, formerly Montreal Island Belt Line (Electric)	14·40	1,015 06	*7,408 65
51	Montreal Park and Island (Electric)	40·88	7,313 37	18,953 38
52	Montreal and Province Line	40·60	11,759 92	10,634 32
53	Montreal and Vermont Junction	23·60	21,087 22	53,798 15
54	Nelson and Fort Sheppard	59·40	28,116 66	17,836 99
55	New Brunswick and Prince Edward Island	36·00	5,232 03	4,124 44
56	Niagara, St. Catharines and Toronto	12·27	2,971 41	8,424 47
57	Niagara Falls Park and River (Electric)	13·68	5,939 00	6,228 75
58	Niagara Falls, Wesley Park and Clifton (Electric)	3·00		
59	Northern Pacific and Manitoba	316·07	327,511 08	82,913 41
60	Nosbonsing and Nipissing	5·50	*16,370 00	3,200 00
61	Nova Scotia Steel Co.'s Railway	12·50	6,131 00	8,721 99
62	Orford Mountain	26·50	6,069 41	6,313 99
63	Oshawa Electric Railway	8·02	3,286 13	6,600 88
64	Ottawa and Gatineau	56·50	14,148 45	16,009 62
65	Ottawa and New York	56·79	11,316 11	16,363 95
66	Philipsburg Junction and Quarry Co.'s Railway	7·50	475 00	428 03
67	Pontiac and Pacific Junction	70·60	20,945 90	11,050 34
68	Port Arthur, Duluth and Western	85·50	8,914 64	3,542 64
69	Portage and North-western	29·63	4,072 70	1,575 87
70	Qu'Appelle, Long Lake and Saskatchewan	253·96	74,257 67	23,398 69
71	Quebec Central	213·50	96,587 48	96,357 76
72	Quebec and Lake St. John	242·00		
	Great Northern, St. Tite to St. Boniface	20·00		
	Lower Laurentian, Riv. à Pierre to St. Tite	35·00	297·00	58,772 92	80,386 53
73	Quebec, Montmorency and Charlevoix	30·00	10,259 88	11,204 29
74	Red Mountain	9·53	6,769 22	13,835 74
75	Salisbury and Harvey	45·00	11,676 80	7,369 47
76	Shore Line of New Brunswick	82·50	12,659 26	9,224 33
77	Stanstead, Shefford and Chambly	43·00	15,896 06	17,386 94
78	St. Clair Tunnel	2·23	9,149 55	64,169 21
79	St. Lawrence and Adirondack	33·00	20,740 21	26,654 38
80	Sydney and Louisbourg—Dominion Coal Co.'s	48·96	85,113 08	60,861 72
81	South Shore, formerly Montreal and Sorel	54·50	10,311 70	12,488 98
82	Temiscouata	113·00	21,609 90	21,307 30
83	Tilsonburg, Lake Erie and Pacific	20·00	1,640 00	3,280 00
84	Thousand Islands	4·33	1,891 34	4,486 00
85	Toronto, Hamilton and Buffalo	83·94	44,850 29	70,030 42
86	United Counties	61·00		
	East Richelieu Valley	22·80	83·80	12,947 03	23,422 42
87	Victoria and Sydney, B.C	16·26	5,814 29	6,683 59
	Total	17,656·80	10,259,093 66	15,097,108 29

Expenses for the Year ended June 30, 1900—*Concluded.*

Working and Repairs of Cars.	General Operating Expenses.	Total.	Cost of operating per train mile.	Number.	Remarks.
$ cts.	$ cts.	$ cts.	Cents.		
7,624 49	25,790 83	94,053 41	57 63	46	Running powers on G.T.R., Sherbrooke to Lennoxville, 2·95 miles.
*17,957 92	2,755 00	23,462 03	8 53	47	*Motor cars and trailers.
120 49	5,473 47	16,402 62	31 84	48	
18,324 53	116,464 40	347,731 85	78·87	49	
1,010 12	14,951 44	24,384 67	10 48	50	*Engines, fuel generators, electric current motors.
12,706 61	33,331 95	72,305 31	10 43	51	
3,962 51	9,933 79	30,290 54	70 41	52	
34,020 82	37,984 90	146,801 69	85 15	53	
1,814 75	16,805 14	64,663 54	116 84	54	
724 55	2,628 64	12,709 66	33 29	55	
65 19	12,447 42	23,908 49	91·39	56	
2,588 81	23,190 29	37,946 85	13 66	57	
				58	
30,239 43	136,861 69	577,525 61	211·54	59	
3,280 00	24,670 65	47,520 65	337 02	60	*And steamers.
345 00	1,754 32	19,052 31	124 70	61	
368 08	3,239 09	16,020 57	52 21	62	
838 28	9,578 61	20,303 90	41 75	63	
3,112 60	19,836 74	53,107 41	90 28	64	
1,405 47	37,863 08	66,948 59	76 68	65	
5 50	923 35	1,831 88	109 04	66	
2,246 50	13,659 44	47,902 18	98 67	67	
					Sold to Canadian Northern in May, 1900. The return for portion of year prior to sale not having been received in time a proportion of traffic returned in 1899 has been inserted for the period prior to the sale.
639 55	5,251 64	18,348 47	136 12	68	
549 38	4,266 65	10,464 60	132 79	69	
3,238 97	14,583 91	115,479 24	176 67	70	
23,694 08	134,366 07	351,005 39	83 24	71	Running powers on I.C.R., Harlaka Jct. to Levis, 5 miles.
12,135 12	92,533 07	243,827 64	79 79	72	
3,796 05	11,915 36	37,175 58	61 10	73	
1,429 10	11,548 19	33,582 25	223 71	74	
1,622 14	4,275 85	24,944 26	88 54	75	
2,423 83	11,386 13	35,693 55	64 48	76	
5,621 22	17,300 25	56,204 47	86 49	77	
961 11	32,181 75	106,461 62	125 78	78	
2,274 00	33,265 10	82,933 69	42 22	79	Running powers, Grand Trunk, 13·20, C.P.R., 8·70.
21,121 98	149,569 21	266,663 99	154 22	80	
2,495 89	12,880 55	38,177 12	58 06	81	
3,361 55	16,001 05	62,279 80	72 64	82	
50 00	2,859 00	7,829 40	39 14	83	
270 02	6,630 92	13,278 28	66 75	84	
12,795 20	123,048 18	250,724 09	90 67	85	
2,360 28	22,626 53	61,356 26	54 88	86	Running powers on South Shore, St. Robert to Sorel, 5 miles.
201 99	5,362 97	18,062 84	74 51	87	
4,501,239 80	17,842,356 87	47,699,798 62			

No. 8.—Summary of Accidents for the

Number.	Name of Railway.	Mileage.	Passengers, Employees or Others.	Fell from Cars or Engines.		Jumping on or off Trains or Engines when in motion.	
				Killed.	Injured.	Killed.	Injured.
1	Bay of Quinte	64·82	Employee				
2	British Yukon	64·75	Employees				
3	Buctouche and Moncton	32·00	Employees				
			Others				1
4	Calgary and Edmonton	295·07	Employees		1		
5	Canada Atlantic and leased lines	456·80	Passengers				1
			Employees		4		3
			Others				
6	Canada Southern	382·19	Employees	1			
			Others			1	1
7	Canadian Northern	216·70	Passengers				
			Employees		1		
8	Canadian Government Railways—						
	Intercolonial	1,300·94	Passengers		3	2	6
			Employees	2	6	1	3
			Others	1			4
	Prince Edward Island	210·00	Employees				1
			Others				
9	Canadian Pacific: owned and leased lines	7,055·00	Passengers	2	2		13
			Employees	9	46	4	31
			Others	4		2	15
10	Central Ontario	113·60	Employees				
			Others				
11	Cumberland Railway and Coal Company	32·00	Passengers	1			
12	Esquimalt and Nanaimo	78·00	Passengers				1
			Employees	1			
13	Galt, Preston and Hespeler	9·00	Others				
14	Grand Trunk	3,138·44	Passengers		3	1	11
			Employees	9	36	1	25
			Others	2	5	7	26
15	Hamilton and Dundas (Electric)	7·25	Passengers		1		
16	Hamilton Radial	12·00	Passengers				
17	Hereford	53·30	Passengers		1		
18	Hull Electric	13·63	Passengers				1
			Others				
19	Lake Erie and Detroit River	179·72	Employees				
			Others				
20	Massawippi Valley	35·46	Employees	1			
			Others				
21	Metropolitan Electric	28·00	Others				
22	Montford and Gatineau Colonization	33·00	Employees	1	1		
23	Montreal and Atlantic	163·40	Passengers				2
			Employees		3		3
24	Nelson and Fort Sheppard	59·40	Employees		1		
			Others				
25	Northern Pacific and Manitoba	316·07	Passengers				
			Employees		1		
			Others				2
26	Quebec Central	213·50	Others			1	
27	Quebec and Lake St. John	297·00	Employees				
			Others				
28	Red Mountain	9·53	Employees				1
29	Stanstead, Shefford and Chambly	43·00	Passengers		1		1
			Employees				
30	St. Clair Tunnel	2·23	Employees				
31	St. Lawrence and Adirondack	33·00	Employees		1		
			Others				
32	Sydney and Louisbourg	48·96	Employees	1			
			Others				

*At highway crossing. †One at highway crossing. ‡24 at highway crossings. §27 at highway

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Year ended June 30, 1900.

At work on or near Track making up Trains.		Putting Arms or Heads out of Wind'w.		Coupling Cars.		Collisions or by Trains thrown from Track.		Walking, standing, lying or being on Track.		Explosions		Striking Bridges.		Other Causes.		Totals.		
Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Number.
								1								1		1
					1										2		3	2
				1												1		3
																	1	
																	1	4
															1		2	
	1			1	10	1	1	1	3					1	24	4	46	5
								2	3						1	2	4	
1	1				2			2						1	2	5	5	
														3	2	6	3	6
							1										1	
														1		1	1	7
															2	2	11	
5	31				33	1	6	1	5			1			13	11	97	8
							1	18	9						2	19	16	
	1														3		5	
								1							1	1	1	
				7	128	3	36	5	13			1	5	†14	102	43	361	9
							1	34	21					§30	‡33	70	70	
1									1							1	1	
								1								1		10
																1		11
																	1	
					1											1	1	12
									1								1	13
							3								16	1	33	
3	2	1	1	5	154	9	36	8	19			1	3	11	92	48	368	14
						3		36	15			1		35	83	84	129	
									2								3	15
									2								2	16
																	1	17
																	1	
								1	1							1	1	18
				1												1		
								1								1		19
															1	1	1	
															3		3	20
								1	5							1	5	21
																1	1	22
																	2	
					6										6		18	23
																	1	
									1								1	24
							1										1	
					4	1	2		2						6	1	15	25
															1		3	
								2								3		26
	1				1			1	2							1	2	27
																	2	
									1								1	28
																	3	29
					3												3	
															1		1	30
															1		2	31
								1								1		
1																2		32
								1								1		

crossings.

No. 8.—Summary of Accidents for the

Number.	Name of Railway.	Mileage.	Passengers, Employees or Others.	Fell from Cars or Engines.		Jumping on or off Trains or Engines when in motion.	
				Killed.	Injured.	Killed.	Injured.
33	Temiscouata	113 00	Employees	....	....	....	....
34	Tilsonburg, Lake Erie and Pacific	20·00	Employees	....	....	....	....
35	Toronto, Hamilton and Buffalo	83 94	Employees	....	2	....	1
			Others	....	....	....	....
				35	119	20	153

Note.—This Statement shows the Railways on which Accidents have occurred.

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Year ended June 30, 1900—*Concluded.*

At work on or near Track making up Trains.		Putting Arms or Heads out of Wind'ws		Coupling Cars.		Collisions or by Trains thrown from Track.		Walking, standing, lying or being on Track.		Explosions.		Striking Bridges.		Other Causes.		Totals.		
Killed	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Number.
...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	33
...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	34
...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	6	35
.	...	...	...	...	..	..	..	1	1	...	...	...	...	2	4	3	5	
11	37	1	1	16	347	18	130	121	108	...	4	8	99	414	325	1,317		

No. 9.—Lines of Railway owned by Coal and Iron Mines, for the year ended June 30, 1900.

Name.	Length of Railway.	Gauge.	No. of Engines.	No. of Wagons.	Remarks.
Albion Mines Railway	3 0	4 8½	2	20	
Vale " "	6·00	4 8½	2	2	
Intercolonial Coal Mining Co.	8·00	4 8½	2	221	Connecting Drummond Colliery with Intercolonial Railway and Granton wharf, Pictou Harbour, Nova Scotia.
Londonderry Iron Co	3·56	4 8½	2	17	From this Company's works at Acadia Mines to Londonderry Station, I.C.R.
" "	4 00	4 8½	...		From the East Mines (operated by this Co.) to East Mines Station, I.C.R.
" "	2 00	4 8½	...		From the Lime Quarry (operated by this Co.) to Graham's Siding, I.C.R.
" "	3·00	3 00	2	21	From the West Mines (operated by this Co.) to the works at Acadia Mines.
	29 50		10	281	
CAPE BRETON.					
General Mining Association, of London, England—					
Sydney Mines	5 15	4 8½	3	207	This railroad is used for colliery purposes only. It conveys the coal from the old Sydney mines, situated in the Town of Sydney Mines, Nova Scotia, to the shipping port of North Sydney, and is there connected with the Intercolonial Railway by a short branch line to the North Sydney Station.
Dominion Coal Co.—					
Sydney & Louisbourg Railway, Main Line	39 15	4 8½	13	759	This forms part of the Sydney and Louisbourg Railway, between Sydney and Louisbourg Harbours, which is included in the general statistics.
Caledonia Branch	1·11	4 8½	1	100	
Glace Bay	·50	4 8½	...	...	
Reserve	10 13	3·00	3	200	
Old Bridgeport	·50	4 8½	.....	.....	
Hub	1 50	4 8½	.....	.....	
Main Line to Reserve	2·12	4 8½	...	.....	
	60 16		20	1,266	

* This taken from last year's return.

No. 10.—STATEMENT of Aid granted to Railways—Constructed and under Construction—by Governments, for the year ended June 30, 1900.

Name of Railway.	Loan.	Total.	Bonus.	Total.	Subscription to Shares or Bonds.	Total.
DOMINION GOVERNMENT.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Albert (now Salisbury and Harvey)	* 29,665 45					
Albert Southern						
Atlantic and North-west in Canada			50,460 00			
Baie des Chaleurs (now in Atlantic and Lake Superior)			*a* 1,422,000 00			
Belleville and North Hastings—Grand Junction (now in Grand Trunk)			620,000 00			
Beauharnois Junction			21,888 00			
Brantford, Waterloo and Lake Erie (now Toronto, Hamilton and Buffalo)			102,400 00			
Brockville, Westport and Sault Ste Marie			57,600 00			
Buctouche and Moncton			165,200 00			
Canada Atlantic			101,600 00			
Canada Central			282,355 20			
Canada Eastern (formerly Northern and Western of New Brunswick.)			1,525,250 00			
Canadian Pacific			*b* 374,839 84			
" Revelstoke to Arrow Lake			*c* 56,103,234 58			
" Crows Nest Pass			80,000 00			
" Extension Pipe Stone Branch			3,630,000 00			
Cap de la Madeleine			*A* 160,000 00			
Caraquet			7,424 00			
Central of New Brunswick			224,000 00			
Coast Railway of Nova Scotia (now Halifax and Yarmouth)			*A* 185,100 00			
Cobourg, Northumberland and Pacific			*A* 195,200 00			
Columbia and Western			*A* 160,000 00			
Columbia and Kootenay			88,800 00			
Cornwallis Valley (now in Dominion Atlantic)			88,800 00			
Cumberland Railway and Coal Company			44,800 00			
Drummond County (now in Intercolonial system)			39,850 00			
Dominion Lime Company (now in Hereford Ry)			*A* 423,936 00			
East Richelieu Valley			15,360 00			
Elgin and Havelock			*A* 76,800 00			
Erie and Huron (now in Lake Erie and Detroit River Ry.)			*d* 82,652 82			
Esquimalt and Nanaimo			96,000 00			
Fredericton and St. Mary's Railway and Bridge Company	300,000 00		750,000 00			
Grand Trunk	15,142,633 33		30,000 00			

* $14,665 45 rails. ‡ Including $83,612 54 rails to St. Martin's and Upham Ry. *a* Payable in half-yearly instalments of $35,550 each for 20 years, commencing July 1, 1889. *b* Including $24,439 84 rails to Chatham Branch. *c* Including cost of railway lines built by Dominion Government, and transferred to Canadian Pacific Railway Company, $31,103,234 58. *d* Including $44,252 82 rails.

No. 10.—STATEMENT of Aid Granted to Railways by Governments—*Continued.*

Name of Railway.	Loan.	Total.	Bonus.	Total.	Subscription to Shares or Bonds.	Total.
DOMINION GOVERNMENT *Continued.*	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Victoria Bridge of Grand Trunk Ry			300,000 00			
Grand Trunk, Georgian Bay and Lake Erie, Owen Sound Branch			39,744 00			
Great Eastern			40,345 00			
Great Northern (exclusive of Ottawa Valley Section)			A 495,988 00			
Guelph Junction			46,000 00			
Gulf Shore			A 56,000 00			
Hampton and St. Martin (formerly St. Martin and Upham)			B 83,612 54			
Harvey Branch			5,553 57			
Hereford			155,200 00			
Intercolonial			60,006,192 18			
Interprovincial Bridge Ottawa			212,500 00			
International (Atlantic and North-west) C.P.R.			156,800 00			
Inverness and Richmond			A 297,600 00			
Irondale, Bancroft and Ottawa			144,000 00			
Joggins (now Canada Coals and Railway Co.)			37,500 00			
Kent Northern	58,331 27					
Kingston, Napanee and Western, now Bay of Quinté			208,732 80			
Kingston and Pembroke			48,000 00			
L'Assomption			11,200 00			
Lake Erie and Detroit Rivier			338,731 00			
Lake Temiscamingue Colonization			310,335 95			
Leamington and St. Clair (now in Canada Southern)			51,200 00			
Lotbinière and Megantic			96,000 00			
Lower Laurentian (formerly St. Lawrence, Lower Laurentian & Saguenay)			217,600 00			
Midland Nova Scotia			219,350 00			
Montfort and Gatineau Colonization			167,440 00			
Montreal and Lake Maskinonge			41,280 00			
Montreal and Champlain Junction			103,600 00			
Montreal and Ottawa			192,080 00			
Montreal and Province Line			A 67,260 00			
Montreal and Western			361,270 00			
Nakusp and Slocan			121,600 00			
New Brunswick and Prince Edward Island			113,440 00			
New Glasgow Iron and Coal Co. (now Nova Scotia Steel Co.)			39,840 00			
Northern and Pacific Junction			1,320,000 00			
Nova Scotia Central (now Central of Nova Scotia.)			235,200 00			

Nova Scotia Southern			A 310,400 00
Ontario, Belmont and Northern			30,720 00
Ontario and Quebec			196,000 00
Ontario and Rainy River (now in Can. Northern)			256,000 00
Orford Mountain			84,800 00
Oshawa (Electric)			22,400 00
Ottawa, Amprior and Parry Sound & Parry Sound Colonization			932,512 00
Ottawa and Gatineau			A 396,800 00
Ottawa and New York			A 172,284 00
Ottawa Valley (formerly part of Great Northern) now in Atlantic and Lake Superior			21,600 00
Pembroke Southern			A 64,000 00
Philipsburg Railway and Quarry Co			A 23,712 00
Pontiac Pacific Junction			A 307,850 00
Pontiac and Renfrew			13,600 00
Port Arthur, Duluth and Western			271,200 00
Prince Edward Island			3,843,653 28
Quebec and Lake St. John			1,006,743 50
Quebec Central			348,342 00
Quebec, Montmorency and Charlevoix			96,000 00
Quebec, Montreal, Ottawa and Occidental, North Shore, Montreal to Quebec			†954,000 00
" " Montreal to Ottawa			1,500,000 00
Rostigouche and Western			11,440,000 00
St. Catharines and Niagara Central (now Niagara, St. Cath. and Toronto)			A 150,400 00
St. Louis and Richelieu			38,400 00
St. John Bridge and Railway Extension	433,900 00		22,400 00
St. John Valley and Riviere du Loup (subsidy lapsed)			
St. Lawrence and Adirondack			A 149,481 60
St. Clair Tunnel			375,000 00
St. Stephen and Milltown			A 14,848 00
Shuswap and Okanagan			162,240 00
South Norfolk			54,400 00
South Shore (formerly Montreal and Sorel)			437,047 75
Sydney and Louisbourg—Dominion Coal Co			87,808 00
Temiscouata			645,950 00
Thousand Islands			24,400 00
Tilsonburg, Lake Erie and Pacific			A 60,271 48
Tobique Valley			134,016 00
Toronto, Grey and Bruce			14,656 00
United Counties			A 208,000 00
Waterloo Junction			32,800 00
West Ontario Pacific			60,000 00
Western Counties (now in Dominion Atlantic)			500,000 00
Windsor and Annapolis (now in Dominion Atlantic)			1,132,369 00
York and Carleton			A 19,200 00
	15,964,533 05		A 150,414,770 10

† Dominion Government pays to Quebec Government 5 per cent interest per annum on these two amounts.

A See note on page No. 21.

‡ Rails, 858,334.27.

No. 10.—STATEMENT of Aid granted to Railways by Governments—*Continued.*

Name of Railway.	Loan.	Total.	Bonus.	Total.	Subscription to Shares or Bonds.	Total.
ONTARIO GOVERNMENT.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Brantford, Norfolk and Port Burwell, Grand Trunk			68,000 00			
Canada Atlantic			270,000 00			
Canada Central			1,479,000 00			
Canada Southern			147,858 65			
Central Ontario			126,500 00			
Cobourg, Blairton and Marmora	26,000 00		18,740 00			
Credit Valley			531,000 00			
Erie and Huron (now in Lake Erie and Detroit River Ry.)			83,000 00			
Grand Junction and Belleville and North Hastings			224,660 00			
Grand Trunk, Georgian Bay and Lake Erie			336,000 00			
Hamilton and North-western			565,020 00			
Irondale, Bancroft and Ottawa			165,600 00			
Kingston and Pembroke			456,493 00			
Kingston, Napanee and Western (now in Bay of Quinte)			90,000 00			
London, Huron and Bruce			178,630 00			
Midland			168,350 00			
Montreal and Ottawa			100,000 00			
Northern			196,188 00			
North Simcoe			83,300 00			
Ontario, Belmont and Northern			19,149 39			
Ottawa, Arnprior and Parry Sound			434,076 06			
Parry Sound Colonization			143,250 00			
Pembroke Southern			55,500 00			
Port Arthur, Duluth and Western			261,000 00			
Tilsonburg, Lake Erie and Pacific			38,564 00			
Toronto and Nipissing			105,212 00			
Lake Simcoe Junction			53,000 00			
Toronto, Grey and Bruce			375,282 00			
Victoria			312,000 00			
Wellington, Grey and Bruce			241,276 00			
Whitby, Port Perry and Lindsay			94,957 59			
Interprovincial Bridge at Ottawa			50,000 00			
		26,000 00		7,471,006 69		
QUEBEC GOVERNMENT.						
Baie des Chaleurs (now in Atlantic and Lake Superior)			1,415,000 00			
Beauharnois Junction			179,073 00			

Canada Atlantic			192,000 00
Great Eastern (now in Atlantic and Lake Superior)			156,000 00
Great Northern			521,875 00
Drummond County (now in Intercolonial Ry.)			347,429 54
East Richelieu Valley			115,215 00
Hereford (including Dominion Line Co.)			103,000 00
International (now Atlantic and North-west—C.P.R.)			391,122 02
Lake Champlain and St. Lawrence Junction			250,280 00
Lake Temiscamingue Colonization Railway			350,076 82
L'Assomption			7,350 00
Lotbinière and Megantic			126,994 00
Lower Laurentian			252,000 00
Mississippi Valley (now Atlantic and North-West—C.P.R.)			228,000 00
Montfort and Gatineau Colonization			158,395 81
Montreal and Champlain Junction			150,000 00
Montreal and Ottawa			182,210 00
Montreal, Portland and Boston (now Montreal and Province Line)			231,122 00
Montreal and Sorel (now South Shore)			276,645 00
Montreal and Western			472,500 00
Montreal and Lake Maskinonge			87,750 00
Orford Mountain			98,884 92
Ottawa and Gatineau			796,320 00
Ottawa Valley (now in Atlantic and Lake Superior)			25,200 00
Phillipsburg Ry. and Quarry Co			25,047 00
Pontiac Pacific Junction			536,000 00
Pontiac and Renfrew			17,433 60
Quebec and Lake St. John			2,533,000 00
Quebec Central			1,076,125 11
Quebec, Montreal, Ottawa and Occidental, including North Shore	3,722,956 00		727,000 00
Quebec, Montmorency and Charlevoix			306,345 50
South-eastern (now Montreal and Atlantic)			114,000 00
St. Lawrence and Adirondack			65,216 00
Temiscouata			241,500 00
United Counties			240,000 00
Waterloo and Magog (now in Atlantic and North-west—C.P.R.)			92,000 00
	3,722,956 00		13,392,709 34
New Brunswick Government.			
Albert (now Salisbury and Harvey)			455,000 00
Albert Southern			18,480 00
Buctouche and Moncton			96,000 00
Caraquet			180,000 00
Central of New Brunswick			120,000 00
Chatham Branch (now part of Canada Eastern)			56,000 00
Fredericton			230,000 00
Grand Southern (now Shore Line)			413,000 00
Gulf Shore			41,356 00
Harvey Branch			9,000 00

No. 10.—Statement of Aid granted to Railways by Governments—*Continued.*

Name of Railway.	Loan.	Total.	Bonus.	Total.	Subscription to Shares or Bonds.	Total.
New Brunswick Government *Continued.*	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Kent Northern			135,000 00			
New Brunswick			76,000 00			
New Brunswick and Canada			575,000 00			
New Brunswick and Prince Edward Island			99,708 90			
Northern and Western (now Canada Eastern)			344,000 00			
Elgin, Petitcodiac and Havelock (now Elgin and Havelock)			107,500 00			
Restigouche and Western			23,000 00			
St. Martin and Upham (now Hampton and St. Martin)			145,600 00			
St. John Bridge and Railway Extension			5,181 81			
St. John and Maine			880,000 00		300,000 00	
St. Louis and Richibucto			21,000 00			
St. Stephen and Milltown			13,920 00			
Temiscouata			66,000 00			
Tobique Valley			70,000 00			
York and Carlton			15,000 00			
				1,245,540 71		300,000 00
Nova Scotia Government.						
Coast Line (now Halifax and Yarmouth)			288,000 00			
Cornwallis Valley (now in Dominion Atlantic)			14,800 00			
Canada Coal and Railway Co. Line (formerly Joggins)			35,200 00			
Inverness and Richmond			272,000 00			
Midland Ry. of Nova Scotia (formerly Stewiacke Valley and Lansdowne)			192,000 00			
New Glasgow Iron, Coal and Railway Co. (now Nova Scotia Steel Co.)			40,000 00			
Nova Scotia Central (now Central Railway of Nova Scotia)			432,261 68			
Nova Scotia Southern			374,400 00			
Springhill and Parrsboro (Cumberland Railway and Coal Co.)			173,650 00			
Sydney and Louisbourg, Dominion Coal Co.			87,808 00			
Western Counties, Yarmouth and Annapolis (now in Dominion Atlantic)			679,197 45			
				2,619,316 53		
Manitoba Government.						
Canadian Pacific			300,377 50			
Manitoba South-western Colonization	900,000 00					
Northern Pacific and Manitoba			633,800 00			
Winnipeg Great Northern (now in Can. Northern)	256,000 00					
		1,156,000 00		934,177 50		

BRITISH COLUMBIA GOVERNMENT.						
Canadian Pacific.....	.....	.....	.....	57,500 00	37,500 00	
					178,745,020 87	.....
Total aid granted by Governments.....	.....	20,860,489 05	.....	.....	.....	300,000 00

NOTE.—For Statement of payments of Government Aid granted to Railways, see No. 1 Summary Statement of Capital.

No. 10.—STATEMENT of Aid granted to Railways—Constructed and under Construction—by Municipalities, June 30, 1900.

Municipalities.	Name of Railway.	Loan.	Total.	Bonus.	Total.	Subscription in Shares or Bonds.	Total.
ONTARIO.		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Deseronto	Bay of Quinte Ry.				30,000 00		
Town of Napanee	Kingston, Napanee and Western			30,000 00			
Village of Newburgh	" "			7,500 00			
Township of Camden	" "			30,000 00			
" Sheffield	" "			15,000 00			
" Loughborough	" "			5,000 00			
City of Kingston	" "			75,000 00			
					162,500 00		
Town of Brockville	Brockville, Westport and Sault Ste. Marie			36,000 00			
Elizabethtown	" "			7,000 00			
Rear of Yonge and Escott	" "			15,000 00			
" Leeds and Lansdowne	" "			5,000 00			
Bastard and Burgess	" "			28,000 00			
South Crosby	" "			6,000 00			
Village of Newboro	" "			4,000 00			
North Crosby	" "			15,000 00			
					116,000 00		
Various municipalities	Buffalo and Lake Huron				966,000 00		
Renfrew	Canada Central, now Can. Pacific					30,000 00	
Horton	"					7,500 00	
Admaston	"					5,000 00	
							12,500 00
County of Elgin	Canada Southern			200,000 00			
Township of Townsend	"			30,000 00			
" Durham	"			15,000 00			
" Anderdon	"			15,000 00			
Town of St. Thomas	"			25,000 00			
Township of Malden	"			15,000 00			
Town of Amherstburg	"			15,000 00			
South Norwich	"			7,500 00			
					322,500 00		
Sault Ste. Marie	Canadian Pacific			20,000 00			
Carleton Place	"			20,000 00			
Owen Sound	"			40,000 00			
					80,000 00		
Northumberland and Durham	Cobourg, Blairton and Marmora				113,500 00		
West Hawkesbury	Central Counties			15 000 00			

Vankleek Hill	"			1,200 00		
Dalkeith	"			800 00		
Rockland	"			6,000 00		
Clarence	"			1,000 00	21,000 00	
Town of Trenton	Central Ontario			10,000 00		
Wellington Village	"			2,500 00		
Town of Picton	"			21,000 00		
County of Prince Edward	"			60,000 00	93,500 00	
Town of Cobourg	Cobourg, Northumberland & Pacific			30,000 00		
Village of Campbellford	"			15,000 00		
Township of Percy	"			25,000 00		
" Haldimand	"			14,000 00		
" Brighton	"			2,000 00		
" Hamilton	"			4,500 00		
" Cramahe	"			8,000 00	93,500 00	
County of Oxford	Credit Valley			200,000 00		
" Wellington	"			135,000 00		
" Waterloo	"			110,000 00		
" Peel	"			75,000 00		
" Halton	"			70,000 00		
City of Toronto	"			350,000 00		
" St. Thomas	"			50,000 00		
Town of Milton	"			30,000 00		
" Brampton	"			20,000 00		
" Ingersoll	"			10,000 00		
" Orangeville	"			15,000 00		
Village of Streetsville	"			20,000 00	1,085,000 00	
County of Kent	Erie and Huron, now in Lake Erie and Detroit			155,000 00		
City of Chatham	"			30,000 00		
Town of Sarnia	"			16,000 00		
Village of Dresden	"			20,500 00		
" Blenheim	"			11,000 00		
" Wallaceburg	"			11,000 00		
Township of Sombra	"			14,000 00		
" Woodhouse	Grand Trunk, Georgian Bay and Lake Erie			15,000 00	257,500 00	
Town of Simcoe	"			10,000 00		
Township of South Norwich	"			10,000 00		
do North	"					
Town of Woodstock	"			40,000 00		
Township of East Oxford	"			25,000 00		
" Woodstock	"			25,000 00		
Town of Woodstock	"					
" Stratford	"			60,000 00		
County of Perth	"			120,000 00		

No. 10.—STATEMENT of Aid granted to Railways by Municipalities—*Continued.*

Municipalities.	Name of Railway.	Loan.	Total.	Bonus.	Total.	Subscription to Shares or Bonds.	Total.
		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
ONTARIO—*Continued.*							
	Grand Trunk, Georgian Bay and						
Township of Mornington	Lake Erie			40,000 00			
Township of Elma	" "			10,000 00			
Town of Listowel	" "			15,000 00			
Township of Wallace	" "			10,000 00			
Town of Palmerston	" "			30,000 00			
Township of Minto	" "			25,000 00			
Town of Harriston	" "			20,000 00			
Township of Normanby	" "			80,000 00			
Township of Bentinck	" "			65,000 00			
" Brant	" "			20,000 00			
" Elderslie	" "			45,000 00			
" Arran	" "			45,000 00			
" Amabel	" "			43,000 00			
" Keppel	" "			32,000 00			
" Albemarle	" "			10,000 00			
Town of Mount Forest	" "			22,000 00			
Township of Egremont	" "			60,000 00			
Township of Glenelg	" "			20,000 00			
Town of Durham	" "			32,000 00			
					929,000 00		
Town of Owen Sound	Grand Trunk, Owen Sound Branch.			75,000 00			
Township of Sarawak	" "			7,500 00			
" Keppel	" "			3,000 00			
					85,500 00		
City of Belleville	Grand Junction and Belleville,			150,000 00			
Village of Sterling	" & N. Hastings Ry.			5,000 00			
Township of Rawdon	"			15,000 00			
" Seymour	"			35,000 00			
" Percy	"			8,000 00		50,000 00	
" Asphodel	"						
					213,000 00		50,000 00
City of Guelph	Guelph Junction.					193,000 00	193,000 00
County of Frontenac	Kingston and Pembroke			170,000 00			
City of Kingston	" "			318,000 00			
Village of Renfrew	" "			3,000 00			
					491,000 00		

City of Hamilton	Hamilton and North-western	99,733 00	
Village of Georgetown	" "	11,289 00	
County of Peel	" "	30,974 00	
" Simcoe	" "	354,007 00	
Town of Collingwood	" "	12,084 00	
Township of Innisfil	" "	22,592 00	
" Woodhouse	" "	20,740 00	
" Adjala	" "	2,500 00	
" Essa	" "	2,500 00	
" Tossoronto	" "	10,000 00	
" Mulmur	" "	5,000 00	
Village of Alliston	" "	8,000 00	
Township of Nottawasaga	" "	20,386 00	
			599,805 00
City of Hamilton	Hamilton, Grimsby and Beamsville	25,000 00	
Township of Saltfleet	" " "	3,000 00	
			28,000 00
Interprovincial Bridge at Ottawa	City of Ottawa		150,000 00
Township of South Colchester	Lake Erie and Detroit River	20,000 00	
" Garfield	" "	15,000 00	
Village of Kingsville	" "	10,000 00	
Township of Romney	" "	10,000 00	
" East Tilbury	" "	5,000 00	
" Raleigh	" "	10,000 00	
Village of Blenheim	" "	5,000 00	
" Ridgetown	" "	12,500 00	
			87,500 00
Township of East Gwillimbury	Lake Simcoe Junction	45,000 00	
" North "	" "	20,000 00	
" Georgina	" "	20,000 00	
" Whitchurch	" "	15,000 00	
			100,000 00
Village of Leamington	Leamington and St. Clair, in Canada South	12,000 00	
Township of Mersea	" "	15,000 00	
Village of Comber	" "	6,000 00	
			33,000 00
Township of London	London, Huron and Bruce	15,000 00	
" Stephen	" "	17,500 00	
" Osborne	" "	25,000 00	
" Hay	" "	15,000 00	
" Goderich	" "	15,000 00	
" East Wawanosh	" "	25,000 00	
" Hallet	" "	25,000 00	
" Tuckersmith	" "	10,000 00	
" Turnberry	" "	5,000 00	
" Morris	" "	10,000 00	
" Stanley	" "	10,000 00	
Village of Clinton	" "	20,000 00	
" Exeter	" "	10,000 00	

No. 10.—Statement of Aid granted to Railways by Municipalities—*Continued.*

Municipalities.	Name of Railway.	Loan	Total.	Bonus.	Total.	Subscription to Shares or Bonds.	Total.
Ontario *Continued.*		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Village of Kincardine	London, Huron and Bruce			9,000 00			
" Wigan							
City of London	" "			160,000 00			
					311,500 00		
Municipalities	London and Port Stanley		680,311 00				
County of Elgin						80,000 00	
" Middlesex						100,000 00	
City of London						200,000 00	
" St. Thomas						34,000 00	
							414,060 00
Township of Thorah	Midland			50,000 00			
Town of Port Hope	"			30,000 00			
Townships of Orillia and Matchedash	"			12,500 00			
Town of Orillia	"			12,500 00			
Township of Tay	"			21,370 85			
Village of Onecnee	"			2,000 00			
Township of Mara	"			12,500 00			
Town of Peterborough	"			4,000 00			
					144,870 85		
City of Toronto	Northern			100,000 00		190,000 00	
County of Simcoe	"					200,000 00	
Town of Barrie	"			30,000 00			
" Orillia	"			12,500 00			
Townships of Collingwood, Euphrasia and St. Vincent	"			99,480 00			
					241,980 00		390,000 00
Town of Smith's Falls	Ontario and Quebec			25,000 00			
" Merrickville	"			10,000 00			
Township of West Winchester	"			15,000 00			
" Thamesford	"			2,500 00			
					52,500 00		
Town of Oshawa	Oshawa (electric)				5,000 00		
City of Ottawa	Ottawa, Arnprior and Parry Sound			150,000 00			
Township of Huntley	" "			2,900 00			
" Hagarty	" "					2,000 00	
					152,900 00		
Town of Arnprior	" "					30,000 00	
							32,000 00

Town of Pembroke	Pembroke Southern				20,000 00	
Port Arthur	Port Arthur, Duluth and Western			25,000 00		
Municipality of Neebing	"			15,000 00		
					40,000 00	
Township of Russell	Ottawa and New York				10,000 00	
Town of Simcoe	South Norfolk			5,000 00		
Township of Charlotteville	"			20,000 00		
" South Walsingham	"			40,000 00		
					65,000 00	
City of St. Catharines	St. Catharines and Niagara Central		40,000 00			80,000 00
Town of Thorold	"					20,000 00
City of Ottawa	St. Lawrence and Ottawa	200,000 00				100,000 00
Town of Prescott	"	100,000 00				60,000 00
			300,000 00			30,000 00
" Caramqui	Thousand Islands				10,000 00	
Township of Bayham	Tilsonburg, Lake Erie and Pacific			35,000 00		
" Malahide	"			4,000 00		
" Houghton	"			35,000 00		
Town of Tilsonburg	"			10,000 00		
Village of Vienna	"			3,000 00		
					55,000 00	
City of Toronto	Toronto and Nipissing			150,000 00		
Township of Scarboro	"			10,000 00		
" Markham	"			90,000 00		
" Uxbridge	"			30,000 00		
" Scott	"			10,000 00		
" Brock	"			50,000 00		
" Eldon	"			44,000 00		
" Bexley	"			15,000 00		
" Somerville	"			15,000 00		
Townships of Laxton, Digby and Langford	"			12,500 00		
Town of Uxbridge	"			2,000 00		
					378,702 50	
Township of Albion	Toronto, Grey and Bruce			40,000 00		
" Caledon	"			15,000 00		
" Mono	"			45,000 00		
" Amaranth	"			30,000 00		
" Arthur	"			35,000 00		
Town of Orangeville	"			15,000 00		
" Mount Forest	"			20,000 00		
City of Toronto	"			350,000 00		
County of Grey (Group)	"			300,000 00		
Town of Owen Sound	"			5,000 00		
Township of Minto	"			15,000 00		
" Howick	"			35,000 00		

* Amount returned as realized, balance as lapsed, see return of 1875.

No. 10.—STATEMENT of Aid granted to Railways by Municipalities—*Continued.*

Municipalities.	Name of Railway.	Loan.	Total.	Bonus.	Total.	Subscriptions to Shares or Bonds.	Total.
ONTARIO—*Con.*		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Townships of Gorrie and Wroxeter	Toronto, Grey and Bruce			5,000 00			
Village of Teeswater	" "			5,000 00			
Township of Culross	" "			38,000 00			
" Turnbury	" "			5,000 00	988,000 00		
City of Brantford	Toronto, Hamilton and Buffalo, comprising Brantford, Waterloo and Lake Erie			25,000 00			
Township of Oakland	" "			9,000 00			
" Waterford	" "			5,000 00			
City of Hamilton	" "			225,000 00			
Township of South Grimsby	" "			4,000 00			
Town of Lindsay	Victoria			85,000 00	268,000 00		
Village of Fenelon Falls	"			25,000 00			
Townships of Verulam and Somerville	"			22,000 00			
County of Haliburton	"			54,000 00			
Township of Woolwich	Waterloo Junction			28,000 00	186,000 00		
Section of Peel	"			7,000 00			
Village of Elmira	"			10,000 00			
" St. Jacobs	"			2,000 00			
Fergus	Wellington, Grey and Bruce			10,000 00	47,000 00		
Peel	" "			40,000 00			
Elora	" "			10,000 00			
Maryboro'	"			40,000 00			
Nichol	"			10,000 00			
Wallace	"			35,000 00			
Minto	"			65,000 00			
Bruce	"			278,000 00			
Howick	"			20,000 00			
Listowel	"			15,000 00			
Grey	"			35,000 00			
Elma	"			30,000 00			
Morris	"			30,000 00			
W. Wawanosh	"			18,000 00			
Ashfield	"			10,000 00			
Turnbury	"			28,000 00			

Kincardine	" "		8,000 00		
City of London	West Ontario Pacific			682,000 00	
Town of Whitby	Whitby, Port Perry and Lindsay		70,000 00	25,000 00	
Township of Whitby	"		15,000 00		
" Reach	"		30,000 00		
" Scugog	"		2,000 00		
County of Victoria	"		85,000 00		
Village of Port Perry	"		20,000 00		
Manufacturing Co	"		91 95		
				222,094 93	
				9,964,353 37	
QUEBEC		1,020,311 00			1,311,500 00
Caplin	Baie des Chaleurs		5,000 00		
New Richmond	"		6,000 00		
Maria	"		6,000 00		
Carleton	"		6,000 00		
Nouvelle and Shoolbred	"		6,000 00		
New Carlisle	"		6,000 00		
Paspebiac	"		3,000 00		
Hamilton	"		2,500 00		
Farnham	Canadian Pacific			40,500 00	
Town of Nicolet	Drummond County		10,000 00	20,000 00	
Municipality of St. Leonard	"		5,000 00		
Sabrevois	East Richelieu Valley		2,000 00	15,000 00	
Henryville	"		4,500 00		
Parish of St. Antoine	Great Eastern		10,000 00	6,500 00	
" St. Denis	"		10,000 00		
" St. Sophie	Great Northern		4,000 00	20,000 00	
Village of New Glasgow	"		2,000 00		
Village of St. Elizabeth	"		6,000 00		
Town of Joliette	"		35,000 00		
City of Quebec	"		200,000 00		
County of Compton	International, now in Atlantic and Northwest C.P.R.			247,000 00	
St. Pie	Lake Champlain and St. Lawrence		20,000 00		225,000 00
L'Ange Gardien	"		10,000 00		
St. Paul	"		6,000 00		
Philipsburg	"		15,000 00		
Town of L'Assomption	L'Assomption			51,000 00	
City of Three Rivers	Lower Laurentian			1,500 00	
Ascot	Massawippi Valley			40,000 00	25,000 00
Hatley	"			25,000 00	
					65,000 00

No. 10.—STATEMENT of Aid granted to Railways by Municipalities—*Continued.*

Municipalities.	Name of Railway.	Loan.	Total.	Bonus.	Total.	Subscriptions to Shares or Bonds.	Total.
		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
QUEBEC—*Concluded.*							
Township of Melbourne and Brompton Gore	Missisquoi & Black Riv. Valley, now in Atlantic & North-west, C.P.R.					25,000 00	
Township of Ely	" "					20,000 00	
Township of North Stukely	" "					20,000 00	
" Bolton	" "					20,000 00	
	Montreal & Champlain Junction (Grand Trunk)						85,000 00
Ormstown	" "			10,000 00			
St. Constant	" "			1,800 00			
Ste. Philomène	" "			2,820 00			
Laprairie	" "			1,901 00			
Huntingdon	" "			3,000 00			
St. Isidore	" "			1,500 00			
Dewittsville	" "			750 00			
					21,771 00		
Municipality of Rigaud	Montreal and Ottawa			2,000 00			
Parish of Rigaud	" "			800 00			
Point Fortune	" "			2,500 00			
					5,300 00		
Chambly Canton	Montreal and Province line, formerly Montreal, Portland and Boston			15,000 00			
" Basin	" "			10,000 00			
					25,000 00		
County of Pontiac	Pontiac Pacific Junction			100,000 00			
Village of Shawville	" "			1,000 00			
					101,000 00		
" St. Andrews	Ottawa Valley				10,000 00		
Parish of Sherbrooke	Quebec Central			50,000 00			
" Dudswell	"			25,000 00			
" Weedon	"			25,000 00			
Township of Garthby	"			3,000 00			
					103,000 00		
City of Quebec	Quebec and Lake St. John					10,000 00	
Town of Chicoutimi	" "				12,000 00		450,000 00
City of Montreal	Quebec, Montreal, Ottawa and Occidental	1,000,000 00					
" Quebec	" "	1,000,000 00					
" Three Rivers	" "	100,000 00					
County of Ottawa	" "	200,000 00					

St. Sauveur de Quebec	"	"	"	25,000 00				
Côte St. Louis	"	"	"	25,000 00				
Village of Ste. Thérèse	"	"	"	12,000 00				
Parish of " St. Jérôme	"	"	"	12,000 00				
Village "	"	"	"	10,000 00				
Ste. Scholastique	"	"	"	15,000 00				
St. Andrews	"	"	"	10,000 00				
St. Jérusalem d'Argenteuil	"	"	"	25,000 00				
County of Brome	Southeastern (now Montreal and Atlantic).				2,434,000 00		25,000 00	50,000 00
Township of Brome	"							50,000 00
" Sutton	"							63,000 00
" Potton	"							25,000 00
" Farnham	"							20,000 00
Village of West Farnham	"							5,000 00
" East "	"							5,000 00
" Waterloo	"							30,000 00
" Drummondville	"							15,000 00
County of Drummond	"							20,000 00
Township of Wickham	"							10,000 00
" St. Germain	"							15,000 00
Township of Sorel	"							40,000 00
Village of Actonvale	"							15,000 00
" Roxton Falls	"							15,000 00
Township of Roxton	"							20,000 00
" Shefford	"							50,000 00
" West Wickham	"							10,000 00
City of Sorel	South Shore, formerly Montreal & Sorel						25,000 00	528,000 00
Fraserville	Temiscouata						25,000 00	
Municipality of Magog	Waterloo and Magog, now Atlantic and Northwest, C.P.R.							15,000 00
								15,000 00
					2,434,000 00		734,574 00	1,223,000 00
New Brunswick.								
Hillsboro', Hopewell and Harvey Parishes	Albert, now Salisbury and Harvey				10,000 00			
Coverdale, Hillsboro', Hopewell and Harvey Parishes	"				30,000 00		70,000 00	
City of St. John	Canadian Pacific						40,000 00	
" Fredericton	Fredericton				50,000 00			
County of York	"				30,000 00		80,000 00	
Parish of St. George	Grand Southern, now Shore Line			2,000 00				
" Pennfield	"			500 00				
Lepreau	"			500 00				
				3,000 00				

No. 10. STATEMENT of Aid granted to Railways by Municipalities—*Concluded.*

Municipalities.	Name of Railway.	Loan.	Total.	Bonus.	Total.	Subscription to Shares or Bonds	Total.
		$ cts	$ cts.	$ cts	$ cts.	$ cts.	$ cts.
NEW BRUNSWICK *Concluded.*							
Town of Fort Fairfield	New Brunswick			12,000 00			
" Lyndon	"			11,000 00			
					23,000 00		
City of Calais	New Brunswick and Canada			12,500 00			
" Houlton	" "			22,000 00			
" St. Stephen	" "			13,000 00			
					47,500 00		
Town of Chatham	Northern and Western of New Brunswick, now Canada Eastern		20,000 00				
Parish of Elgin	Elgin and Havelock				13,000 00		
Town of Campbellton	Restigouche and Western				5,000 00		
City of St. John	St. John and Maine						60,000 00
			23,000 00		278,500 00		60,000 00
NOVA SCOTIA.							
County of King	Cornwallis Valley, now in Dominion Atlantic				27,685 00		
Counties of Yarmouth, Digby and Annapolis	Western Counties, now in Dominion Atlantic				150,000 00		
Town of Truro	Midland of N.S., formerly Stewiacke Valley and Lansdowne				30,000 00		
County of Pictou	New Glasgow Iron, Coal and Railway Co., now Nova Scotia Steel Co's Ry				4,000 00		
" Shelburne	Nova Scotia Southern			50,000 00			
" Queen's	"			25,000 00			
" Lunenburg	"			5,000 00			
					80,000 00		
Lunenburg	Central, Nova Scotia				88,874 17		
Argyle	Halifax & Yarmouth				5,000 00		
County of Inverness	Inverness & Richmond				100,000 00		
MANITOBA.					485,559 17		
City of Winnipeg	Canadian Pacific			200,000 00			

County of Selkirk	"			35,000 00		
Township of St. Andrews	"			35,000 00		
Town of Morris	"			100,000 00		
					370,000 00	
County of Westborne	Manitoba and North-western			75,000 00		
Town Portage la Prairie	"	"		50,000 00		
" Minnedosa	"	"		30,000 00		
Municipality of Shoal Lake	"	"		20,000 00		
" Birtle	"	"		40,000 00		
" Strathclair	"	"		600 00		
					215,600 00	
Rapid City	Saskatchewan and Western				10,000 00	
					595,600 00	
BRITISH COLUMBIA.						
City of New Westminster	Canadian Pacific				37,500 00	
NORTH-WEST TERRITORIES.						
Calgary	Canadian Pacific				25,000 00	
Total aid granted by municipalities			3,477,311 00		12,111,086 54	2,764,500 00

NOTE.—For statement of payments of Municipal Aid granted to Railway—See No. 1 Summary statement of Capital.

No 10.—Summary Statement of aid granted to Railways constructed and under construction by Governments and Municipalities, June 30, 1900.

—	Loan.	Total.	Bonus.	Total.	Subscription to shares or Bonds.	Total.	Grand Total.	
Governments.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Dominion	15,964,533 05		150,044,770 10				166,009,303 15	
Ontario	26,000 00		7,471,006 69				7,497,006 69	
Quebec	3,722,956 00		13,392,709 34				17,115,665 34	
New Brunswick			4,245,540 71		300,000 00		4,545,540 71	
Nova Scotia			2,619,316 53				2,619,316 53	
Manitoba	1,156,000 00		934,177 50				2,090,177 50	
British Columbia			37,500 00				37,500 00	
		20,869,489 05		178,745,020 87		300,000 00		199,914,509 92
Municipalities.								
Ontario	1,020,311 00		9,964,353 37		1,311,500 00		12,296,164 37	
Quebec	2,434,000 00		754,574 00		1,393,000 00		1,581,574 00	
New Brunswick	23,000 00		278,500 00		60,000 00		361,500 00	
Nova Scotia			485,559 17				185,559 17	
Manitoba			595,600 00				595,600 00	
British Columbia			37,500 00				37,500 00	
North-west Territories			25,000 00				25,000 00	
		3,477,311 00		12,141,086 54		2,764,500 00		18,382,897 54
		24,346,800 05		190,886,107 41		3,064,500 00		218,297,407 46

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