

DOMINION OF CANADA

ANNUAL REPORT

OF THE

DEPARTMENT OF RAILWAYS AND CANALS

FOR THE FISCAL YEAR FROM APRIL 1, 1914, TO MARCH 31, 1915

*Submitted in accordance with the provisions of the Revised Statutes of Canada, 1906,
Chapter 35, Section 33.*

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OTTAWA

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EXCELLENT MAJESTY

1916.

To Field Marshal His Royal Highness Prince Arthur William Patrick Albert, Duke of Connaught and of Strathearn, K.G., K.T., K.P., etc., etc., etc., Governor General and Commander in Chief of the Dominion of Canada.

MAY IT PLEASE YOUR ROYAL HIGHNESS,—

The undersigned has the honour to present to Your Royal Highness the Annual Report of the Department of Railways and Canals, of the Dominion of Canada, for the past fiscal year from April 1, 1914, to March 31, 1915:—

F. COCHRANE,
Minister of Railways and Canals.

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REPORT
OF THE
DEPUTY MINISTER OF RAILWAYS AND CANALS
FOR THE YEAR ENDING MARCH 31, 1915.

To the Honourable F. COCHRANE,
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 period of twelve months ended March 31, 1915.

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. These include the report of the General Manager of Government Railways; the report of the Government Chief Engineer of the Western Division of the Transcontinental Railway; the report of the chairman of the Quebec Bridge Engineers' Board; and the report of the Chief Engineer of the department.

In Part I will be found statements of the accountant of the department, 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 payments made, year by year, to subsidized railways, with the aggregates of such payments.

In Part II are the statements of the Departmental Solicitor of the contracts and agreements entered into during the year.

GENERAL SUMMARY.

During the twelve months of the past fiscal year 1914-15 the expenditures made by or through the department on its several works of operation, maintenance and construction, both railway and canal, and in furtherance by subsidy, under specific votes granted by Parliament, of railway enterprises in various parts of Canada other than the Government roads, also the revenue derived from the Government works, aggregate as follows:—

The total railway expenditure, including the Quebec bridge, amounted to \$42,747,532.78, of which \$24,681,969.02 was charged to capital, \$12,497,453.85 to revenue, and \$5,568,109.91 to income.

The railway expenditure on capital account included \$6,663,436.65 for the Intercolonial Railway, \$570,530.70 for the Prince Edward Island Railway, \$9,831,952.58 for the Eastern Division (from Moncton to Winnipeg) of the National Transcontinental Railway, which is in course of construction by a board of commissioners, \$4,773,743.99 for the Hudson Bay Railway, and \$2,816,305.10 for the Quebec bridge; \$1,300 for the International Railway, and \$24,700 for the New Brunswick and Prince Edward Island Railway.

The railway expenditure on income included a total of \$5,191,507.48 paid as subsidies to railways other than the Government roads, \$221,254.64 for the Board of Railway Commissioners for Canada, and \$92,099.48 for Railway Grade Crossing Fund.

The expenditure on the Intercolonial Railway amounted to \$18,101,809.79, namely, \$6,663,436.65 on capital account, and on revenue account (working expenses) \$11,438,373.14.

On the Prince Edward Island Railway, the total expenditure was \$1,168,757.67, of which \$570,530.70 was charged to capital and \$598,226.97 to revenue.

The total expenditure on the National Transcontinental Railway amounted to \$10,071,479.83, namely, \$9,831,952.58 on capital, and \$239,527.25 on revenue account (working expenses). The working expenses for the International Railway amounted to \$66,706.35; this does not include the sum of \$45,000 paid as rental for the road. The working expenses for the New Brunswick and Prince Edward Island Railway were \$43,942.53, and for the St. John and Quebec Railway, \$24,694.75.

The expenditure on canals aggregated \$7,314,131.98, of which \$5,490,796.03 was chargeable to capital account, \$444,730.17 to income, \$777,931.67 for staff, and \$600,674.11 for repairs, the last two amounts being charged to revenue.

Adding to the above for miscellaneous expenditures common to both branches, the sum of \$2,324.14, the total expenditure for the year on railways and canals was \$50,063,988.90.

The total revenue derived from the Government railway and canal works was \$12,577,120.46, of which the railways produced \$12,149,357.32, and the canals \$427,763.14,* the sum of \$236,277.37 being derived from hydraulic and other rents.

The total Government expenditure on railways prior to and since Confederation (July 1, 1867) up to March 31, 1915, amounts, on capital account, to \$352,947,757.30, including expenditure on the Quebec bridge, and also the sum of \$25,000,000 granted to the Canadian Pacific Railway Company for its main line; also the amount, \$660,683.09, expended on the Annapolis and Digby Railway. In addition, there has been expended from the consolidated fund a total of \$295,127,670.25, covering the

* Under the authority of an order in council, dated June 22, 1905, the system of charging tolls for the passage of vessels and goods was abolished on all the canals of the Dominion. Records, however, are kept for statistical purposes, and the compilation of the resultant figures is given in a separate report issued by the department.

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operating expenses of the Government roads, and \$72,757,660.17 on subsidies other than that for the main line of the Canadian Pacific Railway, making a total expenditure of \$648,075,427.55.** Of this amount, the sum of \$13,881,460.65 was expended prior to Confederation, namely, on the construction of portions of what is now the Intercolonial Railway system, \$10,766,725.54, and on the construction of the Prince Edward Island railway, \$3,114,735.11.

The total Government expenditure on canals prior to and since July 1, 1867, to March 31, 1915, amounts on capital account to \$112,472,576.79, of which \$20,593,866.13 was expended prior to Confederation, and from the consolidated fund, for operation, maintenance and repairs, to \$37,733,193.55, making a total of \$150,205,770.34.

The total expenditure on the two branches, railways and canals, up to March 31, 1915, is as above, \$798,281,197.89; adding to which for general expenditures embracing both, the further sum of \$832,983.29, the grand total expenditure amounts to \$799,114,181.18.

The total revenue collected since July 1, 1867, to March 31, 1915, amounts, from the Government Railways, to \$206,426,631.21, and from the canals to \$15,757,125.97, making a total of \$222,183,757.18.

Details in tabulated form showing the general classes and directions of the above expenditures and revenues will be found in the statements of the accountant of the department, printed in the appendices, Part I, herewith.

GOVERNMENT RAILWAYS IN OPERATION.

Details respecting these railways and their operation during the fiscal year ended March 31, 1915, will be found in appendix, Part III, containing reports from the General Manager and the officials of these roads.

The Intercolonial Railway operations resulted in a profit of \$42,965.08, but the sum of \$36,465.08, at the close of the year, was transferred to the Equipment Renewal Account, and was expended as part of the working expenses, making their total \$11,438,373.14, to which is to be added \$6,500.00 paid under special votes, as compassionate allowances, making the total \$11,444,873.14. The total earnings amounted to \$11,444,873.14.

The Prince Edward Island Railway working expenses amounted to \$598,226.97. Its earnings amounted to \$415,495.44, the deficit being \$182,731.53.

The International Railway working expenses amounted to \$66,706.35, and the earnings to \$65,468.92.

** 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 up to 1905, granted by 47 Victoria, ch. 8 (1884), nor the annual payment of \$107,730, being interest at the rate of 4½ per cent since and including 1905, on the said sum of \$2,394,000, for the line between Ottawa and Quebec, which sum was transferred to the public debt as a liability, and is dealt with by the Finance Department. (See Public Accounts, 1893-4, page 10, and 1906, page 79.)

The St. John and Quebec Railway working expenses amounted to \$24,694.75, and the earnings to \$18,739.73.

The New Brunswick and Prince Edward Island Railway working expenses amounted to \$43,942.53, and the earnings to \$25,419.81.

The working expenses of the portion of the National Transcontinental Railway put in operation amounted to \$239,527.25, and the earnings to \$153,312.55.

INTERCOLONIAL RAILWAY.

This railway extends from the Atlantic ocean ports of Halifax, St. John, Sydney, and North Sydney, to Montreal.

On March 1, 1898, the operations of the Intercolonial, the westerly limit of which previously was Lévis, opposite Quebec, 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.

The leasing agreement for an undivided half share or interest, made with the Grand Trunk Railway Company, and dated February 1, 1898, was confirmed, with modification, by the Act 62-63 Vic., chap. 5 (1899). It covers the distance between Ste. Rosalie station and the city of Montreal, with termini in that city, also the Jacques-Cartier junction, the Chaudière bridge and its approaches, and the use of the Victoria bridge over the river St. Lawrence above Montreal. Its term extends for a period of ninety-nine years from March 1, 1898, renewable, in like terms of ninety-nine years each, forever; the annual rental being fixed at \$140,000.

Under authority of the Act 62-63 Vic., chap. 6 (1899), the Drummond County Railway from Chaudière to Ste. Rosalie, together with the branch from St. Leonard to Nicolet, was acquired by the Dominion; conveyance being made by a deed dated November 7, 1899.

On October 1, 1904, the Canada Eastern Railway from Gibson to Loggieville, 123.67 miles, was purchased, and on April 19, 1905, the mortgaged Fredericton and St. Mary's bridge, with connected property, 1.33 mile, was surrendered to the Government.

In September, 1911, the branch line, 12.52 miles long, from Ferrona Junction to Sunny Brae, was acquired.

By a diversion, known as the Nelson-to-Derby Junction diversion, 2.69 miles, which was opened for traffic on January 10, 1915, the distance from Nelson to Chatham Junction, 5.5 miles, has been shortened to 2.81 miles.

By a diversion, known as Leitches Creek diversion, 4.26 miles long, from North Sydney to Leitches Creek, C.B., which was put in operation on January 10, 1915, the towns of Sydney Mines, North Sydney, Florence, and Little Bras d'Or, have been placed on the main line, instead of on a branch.

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Diagrams showing these two diversions will be found at the end of this report.

The length of the railway main line in operation is 1,454.22 miles; 26.82 miles are double-tracked. There are of passing sidings, 209.44 miles, and of other sidings and spurs, 396.28 miles.

FINANCIAL STATEMENTS.

CAPITAL ACCOUNT EXPENDITURE.

The expenditure on capital account during the fiscal year ended March 31, 1915, amounted to \$6,663,436.65,* bringing the total capital expenditure on the whole railway as amalgamated under the Acts 54-55 Vic., chap. 50 (1891), and 62-63 Vic., chaps. 5 and 6 (1899), together with the acquired Canada Eastern Railway, up to \$108,131,509.99.

The principal items charged to capital during the year were as follows (omitting cents): For new terminal facilities at Halifax, \$1,327,203; for rolling stock, \$2,519,998; for strengthening bridges, \$899,941; for increased accommodation and machinery at Halifax, \$18,183; for locomotive and car shops with equipment at Moncton, \$21,247; for Sydney Mines diversion, \$4,044; for diversion at Chatham and branch to wharf, \$2,877; for increased accommodation at Truro, \$14,806; for increased accommodation along the line, \$114,123; for improvements at Point Tupper, \$5,353; for surveys and inspections, \$95,752; for docks and wharves at Halifax, \$449,075; for improvements at Lévis, \$58,025; towards the construction of the Dartmouth to Deans Railway, \$623,953; for safety appliances, \$14,000; for installation of telephone system for operating trains, \$2,572; for installation of block system for operation, \$45,364; for double-tracking Chaudière Curve to St. Romuald, \$58,410; for the Nelson-Derby Junction diversion, \$82,952; for North Sydney-Leitches Creek diversion, \$159,978; for elimination of level crossings and grades, Moncton, \$24,290.

REVENUE ACCOUNT EXPENDITURE.

The expenditures on revenue account—working expenses—are grouped, as usual, under five main heads, each divided into a number of sub-heads.

These expenditures for the fiscal year ended March 31, 1915, were as follows: Maintenance of way and structures, \$1,960,385.65 (including an amount of \$36,465.08 transferred from fire renewal account) and a credit of \$10,019.05, for maintaining joint tracks, yards and other facilities, leaving the net amount, \$1,950,366.60; maintenance of equipment, \$2,301,884.48; traffic expenses, \$262,647.19; transportation expenses, \$6,704,362.27; against which is a credit of \$108,455.70, for operating joint yards and terminals, leaving the net amount, \$6,595,906.57; general expenses, \$327,568.30. The aggregate of the expenditures under these five heads for the year was \$11,438,373.14; adding to which \$6,500 paid as "compassionate allowances," under special votes, the total is \$11,444,873.14.

* In this sum are included Exchequer Court awards to the amount of \$8,120.25 and the transfer of \$94.90 from the Marine and Fisheries Department, which sums do not appear in the statements of the accountant of the railway at Moncton. Adjustment will be made next year.

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In the above expenditures, there were included the following items (omitting cents):—Maintenance of way and structures: for ties, \$360,608; for rails, \$44,446; for ballast, \$35,847; for other track materials, \$120,247; roadway and track, \$756,903; removal of snow and ice and sand, \$58,827; grade crossings, fences, cattle guards and signs, \$38,799; and buildings, fixtures and grounds, \$255,260. Maintenance of equipment: for repairs to locomotives, \$883,996; shop machinery and tools, \$65,512; for repairs to passenger cars, \$372,743; for repairs to freight cars, \$782,308. The traffic expenses included, for advertising, \$46,738; and for outside agencies, \$121,131. The transportation expenses included: for station employees, \$885,120; yard conductors and brakemen, \$233,740; for yard enginemen, \$142,513; for fuel for yard engines, \$212,478; engine house expenses (road), \$330,949; for road enginemen, \$683,795; for road trainmen, \$898,562; for fuel for road engines, \$1,882,118; train supplies and expenses, \$226,115. The general expenses included salaries and expenses of clerks and attendants, \$135,266; and pensions, \$93,012.

Details of expenditure will be found in the report of the Comptroller, Part III, of the appendices.

GENERAL NOTES.

The gross earnings of the railway for the year amounted to \$11,444,873.14, derived as follows:—

The passenger earnings were \$3,291,916.96; the freight earnings, \$7,310,765.11; the mail and express earnings and miscellaneous, \$842,191.07.

The total engine mileage was 9,127,205; the total train mileage was 7,532,678; and the total car mileage, 110,767,770.

The gross earnings per mile of railway (1,448.82 miles) were \$7,899.44; per engine mile, \$1.25; per train mile, \$1.52; and per car mile, 10.33 cents.

The expenses per mile of railway were as follows: Maintenance of way and structures, \$1,346.18; maintenance of equipment, \$1,588.80; traffic expenses, \$181.28; transportation expenses, \$4,552.61; general expenses, \$226.09; a grand total of \$7,894.96.

The expenses per train mile were: Maintenance of way and structures, 25.89 cents; maintenance of equipment, 30.56 cents; traffic expenses, 3.49 cents; transportation expenses, 87.56 cents; general expenses, 4.35 cents; total, 151.85 cents.

The ratio of expenses to gross earnings was as follows: Maintenance of way and structures, 17.04 per cent; maintenance of equipment, 20.11 per cent; traffic expenses, 2.30 per cent; transportation expenses, 57.63 per cent; and general expenses, 2.86 per cent.

Comparing the earnings for the twelve months ended on March 31, 1914, with the corresponding period ended March 31, 1915, the gross earnings for the latter year show a decrease of \$1,433,675.56. The passenger traffic showed a decrease of \$382,961.79; the freight traffic a decrease of \$1,158,825.22; the mails, express traffic and miscellaneous, an increase of \$108,111.15. The decrease per mile of railway was \$984.01, and per train mile, 2 cents.

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The number of passengers carried was 3,613,371, a decrease compared with the previous year of 370,140. There was a decrease of \$288,868 in the number of local passengers, and of 81,272 in the number of through passengers.

Of revenue producing freight, 4,529,002 tons were carried, a decrease compared with the previous year, of 758,738 tons. The local freight decreased 799,859 tons, and the through freight increased 41,121 tons.

Details of the principal items of this freight will be found in the statements of the Comptroller, Appendix III, classified as follows: Products of agriculture, 619,527 tons; animals and their products, also poultry, game and fish, 130,533 tons; products of mines, 1,396,015 tons; products of forest, 1,130,590 tons; manufactures, immigrants' effects, and miscellaneous, 1,252,337 tons; in all, 4,529,002 tons.

The number of barrels of flour carried was 2,374,440, or 237,444 tons; the number of bushels of grain, 5,001,840, or 127,460 tons; the number of live stock was 163,800, or 38,804 tons; superficial feet of lumber, 558,730,900.

The rolling stock equipment will be found specifically described in the report of the mechanical accountant in Appendix, Part III. Included in the purchases of the year were 21 locomotives (10 passenger, 6 freight, and 5 switching), all bought on capital account. The number of locomotives on March 31, 1915, was 409; passenger cars, 524; and freight cars, 14,533.

The value of stores on hand at the close of the year was \$2,379,244.22, comprising ordinary stores and fuel, \$1,410,366.06; roadway and bridge material, \$968,878.16.

COMPARATIVE STATISTICS, YEARS 1913-14 AND 1914-15.

In 1913-14 the average tons of freight carried per train, producing revenue, was 270.75, and the number of passengers, 68.88; in 1914-15, the average freight tonnage was 257.09, and passengers, 58.16.

In 1913-14, the average tons per loaded car, producing revenue, was 17.83, and the number of passengers, 9.78; in 1914-15, the number of tons was 16.77, and of passengers, 8.70.

The number of tons per train, all freight, in 1913-14, was 275.74, and 1914-15, 263.92.

The number of tons per car, all freight, in 1913-14, was 15.06, and 1914-15, 13.78.

The average distance each ton of freight was carried in 1913-14, was 263.38 miles, and in 1914-15, 247.26. The average distance passengers were carried in those years was 53.43 miles and 48.76, respectively.

The average number of loaded cars per train in 1913-14, was 15.18 cars of freight, and 7.04 cars of passengers; in 1914-15, the number of freight cars per train was 15.33, and of passengers, 6.68.

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The average number of empty cars per train in 1913-14 was 3.13, and in 1914-15, 3.83.

In 1913-14, the average of train miles per mile of road was, for freight trains, 3,606.74, and for passenger, 2,120.54; in 1914-15 these figures were, respectively 3,208.73 and 1,990.45.

In 1913-14, the average per mile of road of revenue producing freight carried one mile was 976,507.62 tons, and passengers, 146,052.63; in 1914-15 the figures were, freight, 799,433.93 tons, and passengers, 121,609.14.

The number of tons all freight, per mile of road, carried one mile in 1913-14 was 994,319.93, and in 1914-15, 820,680.22.

The train mileage in 1913-14 was: passenger, 3,089,559 miles; freight, 5,254,911 miles; in 1914-15: passenger, 3,029,348 miles; freight, 4,505,162 miles.

The loaded car mileage in 1913-14 was 79,794,405 miles, and in 1914-15, 69,047,776 miles.

The empty car mileage in 1913-14 was 16,439,758 miles, and in 1914-15, 17,241,555 miles.

The caboose car mileage in 1913-14 was 4,831,573 miles, and in 1914-15 4,237,833 miles.

The total car mileage in 1913-14 was: passengers, 21,749,482 miles, and freight 101,065,736 miles; in 1914-15 the figures were: passenger, 20,240,606, and freight, 90,527,164.

The total freight moved in 1913-14 was 5,501,582 tons; of this quantity 5,287,740 tons were revenue producing. In 1914-15 the total freight moved was 4,808,836 tons of which 4,529,002 tons were revenue producing.

Repairs to passenger cars cost, per car, in 1913-14, \$606.12, or per car mile, 1.46 cents; and in 1914-15, \$738.11, or per car mile 1.84 cents.

Repairs to freight cars cost, per car, in 1913-14, \$64.37, or per car mile, 0.85 of a cent; and in 1914-15, \$55.62, or per car mile 0.86 of a cent.

Repairs to locomotives cost, per locomotive, in 1913-14, \$2,294.84, or per locomotive mile, 8.70 cents; and in 1914-15, \$2,255.09, or per locomotive mile, 9.39 cents.

PRINCE EDWARD ISLAND RAILWAY.

This is a narrow gauge railway, 3 feet 6 inches. It extends from Tignish to Georgetown, 158.60 miles, and from Charlottetown to Murray Harbour, 52.30 miles with branches to Souris, Elmira and Cape Traverse. The length of the road operated was 275.2 miles.

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CAPITAL ACCOUNT.

There was an addition of \$570,530.70 to the expenditure on capital account during the year ended on March 31, 1915, making the total capital expenditure \$9,490,899.71. The principal item was \$566,613.63 for the car ferry between Carleton Point, P.E.I., and Cape Tormentine, N.B., on the mainland.

REVENUE ACCOUNT.

The gross earnings amounted to \$415,495.44, and the working expenses to \$598,226.97, leaving a deficiency of \$182,731.53. Compared with the previous year, there was an increase of \$5,878.70 in the gross earnings, and an increase of \$26,811.60 in the working expenses.

The expenditure on revenue account (working expenses) is classified, as on the Intercolonial, under five heads, with their several sub-heads. It is comprised in the following: Maintenance of way and structures, \$166,097.82; maintenance of equipment, \$96,766.48; traffic expenses, \$9,891.17; transportation expenses, \$306,471.43; and general expenses, \$19,000.07.

The number of passengers carried was 423,496, a decrease compared with the previous year of 22,243, and this traffic produced \$184,416.25, an increase of \$766.46. Of freight, 108,055 tons were carried, a decrease of 7,696 tons. The freight earnings amounted to \$187,622.15, an increase of \$3,618.04. The earnings from mail and sundries amounted to \$43,457.04, an increase of \$1,494.20.

The freight carried was: Agricultural products, 35,795 tons; animals, poultry, fish, and their products, 15,925 tons; products of mines, 19,995 tons; products of forests, 14,840 tons; manufactures, household goods, furniture, and miscellaneous, 38,717 tons.

The engine mileage was 477,025 miles; the train mileage, 384,631 miles; the car mileage, 2,388,869 miles.

The gross earnings per mile of railway amounted to \$1,509.79; per engine mile, 87 cents; per train mile, \$1.08; and per car mile, 17.39 cents.

The working expenses per mile of railway aggregated \$2,173.79, and per train mile, 155.53 cents.

The value of stores on hand on March 31, 1915, was \$62,695.61, comprised in fuel, \$15,312.82; road material, \$18,724.23; and miscellaneous, \$28,658.56.

Details will be found in the reports of the Comptroller and other officers, in the appendices, Part III.

WINDSOR BRANCH.

This road runs from Windsor Junction, on the Intercolonial Railway, to Windsor, N.S. It is 32 miles in length.

Under an agreement, dated December 13, 1892, which extended a previous agreement made in 1871, the railway has been operated by the Dominion Atlantic Railway Company, they paying all charges in connection with the working of the traffic, and

receiving two-thirds of the gross earnings, the Government assuming all cost of maintaining the road and works, and receiving the remaining one-third of the earnings. This agreement expired on December 31, 1913, but the company were allowed to continue operations in accordance with it, pending further arrangements under discussion.

It was found that a large expenditure would be necessary in order to put the road in a position to meet safely the requirements of traffic, and specially for the strengthening of the bridge structures, such expenditure being estimated at, approximately, \$300,000. Finally, it was decided to enter into an agreement with the company for a lease of the road to them, at an annual rental of \$22,500, with the understanding that they would undertake the said expenditure. By an Order in Council, dated November 4, 1914, authority was given for such an agreement, and it was duly executed on January 1, 1914. It is to be effective for a period of 99 years from that date. The accounts as between the company and the Intercolonial Railway are being adjusted to meet the present position.

NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY.

Under an agreement, dated March 18, 1915, ratified by the Act of 1915, chap. 16, and under an Order in Council of May 12, 1915, this railway has been purchased by the Government, as part of the Government Railway system, for the sum of \$270,000. The agreement provided that it should be held to have come into force on August 1, 1914, and that the Government should have the right to sole possession, to operate the road, and to receive all its revenues, until the transfer is completed and the purchase price paid. The transfer has not yet been completed, but the road was taken over on August 31, 1914, and has since been operated by the Government.

The road is 35.79 miles in length, and runs from Sackville to Cape Tormentine, N.B., forming a connection between the Intercolonial Railway and the new car ferry which will be operated between Cape Tormentine and Carleton Point, on Prince Edward Island.

During the fiscal year the sum of \$24,700 was expended to bring the road up to the standard of the Intercolonial branch lines. Details as to working expenses, traffic, etc., will be found in the report of the General Manager of Government Railways, Appendix III.

INTERNATIONAL RAILWAY OF NEW BRUNSWICK.

Under an agreement, dated August 1, 1914, ratified by the Act of 1915, chap. 16, and under an Order in Council of August 27, 1914, a lease of this railway has been entered into by the Government for a term not exceeding five years, at an annual rental of \$90,000, payable half-yearly, with option of purchase at any time within that period for the sum of \$2,700,000. The road was taken over, as part of the Government Railway system, on August 1, 1914. It is 111.30 miles in length, extending from the Intercolonial Railway at Campbellton, N.B., to St. Leonard, N.B.

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During the fiscal year the sum of \$1,300 was expended to bring the road up to Intercolonial Railway standard for branch lines. Details as to working expenses, earnings, traffic, etc., will be found in the report of the General Manager of Government Railways, Appendix III.

ST. JOHN AND QUEBEC RAILWAY.

By the Act of 1912, chapter 49, a certain agreement, dated the 5th of March, 1912, made on behalf of the Dominion and the province of New Brunswick and the St. John and Quebec Railway Company for leasing to the Dominion, for a term of ninety-nine years, the company's railway, when fully constructed, from the city of St. John, N.B., to a point of connection with the Transcontinental Railway at or near the town of Grand Falls, N.B., was ratified; the Act to come into force on proclamation by the Governor in Council. The agreement provided that the railway should be completed and equipped by the 1st of November, 1915; further, that on construction and equipment of certain sections, the Dominion would lease and operate the same.

Further information will be found in the report of the General Manager of Government Railways, Appendix III.

HUDSON BAY RAILWAY.

This railway will run from The Pas, Manitoba, a point on the river Saskatchewan where connection is made with the Canadian Northern Railway system, to Port Nelson, on the western coast of Hudson Bay.

The work of construction for the first 185 miles, from The Pas to Thicket Portage, was placed under contract in August, 1911. A contract for a further distance of 68 miles, from Thicket Portage to Split Lake Junction, was let on September 20, 1912, and a third contract, covering the distance, 165 miles, from Split Lake Junction to Port Nelson, on December 17, 1912, a total distance of 418 miles.

The final location into Port Nelson was completed in August, 1914, making the total length of the line from the Pas to Port Nelson, 424 miles. By the end of the fiscal year, March 31, 1915, the track had been laid up to the 220th mile, the telegraph line built up to the 175th mile, and the right of way cleared to within a few miles of the second crossing of the Nelson river, mile 332.

The work of constructing the terminals for the railway at Port Nelson has been carried on by the department with a force under an engineer in charge. The works comprised the building of wharves, and a breakwater pier, the construction of a dry dock, the erection of shops, warehouse, and other buildings, and the assembling of an hydraulic dredge, the erection of beacons, and the construction of a terminal railway to handle supplies.

Navigation during the open season of 1914 was conducted satisfactorily. Twenty-four passages of vessels controlled by the department, besides twelve other passages recorded, were made through the strait without serious accident.

In this connection it is important to note that in the season of navigation of 1915 occulting acetylene gas beacon lights, visible at a distance of 8 miles, were established by the Department of Marine and Fisheries at a number of points in Hudson Bay and Hudson Straits, as follows:—On the cliff at the north end of Goodwin Island; on Resolution Island (Hatton Headland); at the east extremity of Wales Island; on the eastern end of Rabbit Island (at the entrance to Ashe Inlet); on the west end of Charles Island; on the south end of Nottingham Island; on the northwesterly island of the Digges group. All the above are in Hudson Straits. In Hudson Bay itself the following lights were established: On the north end of Mansel Island; on the south-east point of Coats Island; on the north end of Cape Tatnam; and on Nelson Shoal, approaching Port Nelson; this last is visible for a distance of 11 miles.

Communication with Port Nelson is afforded by means of Marconi wireless stations established at that point and at the Pas.

The expenditure for the fiscal year ended March 31, 1915, was \$4,773,743.99, making the total expenditure up to that date, \$10,860,776.66.

The reports of the engineers of the railway and of the Port Nelson terminals will be found with the report of the chief engineer of the department, Appendix VI. There are also a number of interesting reproductions of photographs of the railway and the terminals.

NATIONAL TRANSCONTINENTAL RAILWAY.

Under an agreement, dated July 29, 1903, ratified by the Dominion Act of that year, chap. 71, and under a modifying agreement dated February 18, 1904, ratified by the Act of that year, chap. 24, the Grand Trunk Pacific Railway Company, a company incorporated by the Act of 1903, chap. 122, have undertaken certain obligations in respect of the construction and operation of a line of railway, wholly upon Canadian territory, between the city of Moncton, in the province of New Brunswick, and the navigable waters of the Pacific ocean. The railway is composed of two divisions, namely, the eastern division, between Moncton and Quebec, thence westerly through the northern part of the provinces of Quebec and Ontario, and, in the province of Manitoba, to the city of Winnipeg, and the western division, between Winnipeg and the Pacific ocean. The eastern division is being constructed by the Government under commissioners appointed by the Governor in Council, and on completion is to be leased to and maintained and operated by the company, who undertake to construct at their own cost, and maintain and operate, the western division. The lease of the eastern division is to be for a period of 50 years, at a rental of three per cent *per annum* upon the cost of its construction; the first seven years of the term to be free of rent; both divisions are to be equipped with modern and ample rolling stock by the company, the first equipment to be of a value of not less than \$20,000,000.

By way of assistance to the Company in the construction of the western division, it is provided that the Government shall guarantee payment of the principal and interest of an issue of bonds to be made by the company for an amount sufficient to

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produce a sum equal to 75 per cent of the cost of its construction; but not to exceed \$13,000 per mile in respect of the prairie section from Winnipeg to the eastern limit of the Rocky mountains. This limit has been established as the east bank of Wolf creek, a point 120 miles west from Edmonton.

By the Act of 1905, chap. 98, three deeds of trust by way of mortgage, set out in the said Act, were ratified and confirmed, namely, one dated June 10, 1905, between the Grand Trunk Pacific Railway Company, the Royal Trust Company, and His Majesty, to secure the issue of first mortgage bonds; the second dated March 15, 1905, between the Grand Trunk Pacific Railway Company, the National Trust Company, and the Grand Trunk Railway Company, to secure the issue of second mortgage bonds, and the third, also dated March 15, 1905, between the Grand Trunk Pacific Railway Company, the National Trust Company, and the Grand Trunk Railway Company, to secure the issue of first mortgage bonds in respect of the branch line designated as the "Lake Superior Branch."

Payments from the proceeds of the bonds of the company for work done, etc., on the western division, are made from time to time on certificates given by the Government Chief Engineer of this division, showing approved expenditures.

By the Act of 1909, chap. 19, authority was given for aiding in the completion of the construction of the "prairie" section by a loan to the company of \$10,000,000, to be secured, as collateral, subject to any prior lien, by a mortgage on the "prairie" section of their road; such loan to bear interest at the rate of 4 per cent per annum, and to be repayable in ten years.

This loan, which is dealt with by the Finance Department, was duly made; the mortgage deed being dated May 22, 1909.

By the Act of 1913, chap. 23, authority was given for a loan to the company not exceeding \$15,000,000, at 4 per cent interest, the loan being repayable by July 1, 1923. Under this authority, \$15,000,000 has been advanced to the company. Its debentures to an equal amount have been taken by the Government in pledge as security for this loan, as provided by the Act.

By the Act of 1913, chap. 24, authority was given for the purchase of 3 per cent bonds of the company to the extent of the balance of the authorized issue. Such balance, to the amount of £6,800,000, has been purchased by the Government.

By the Act of 1914, chap. 34, authority was given for the guarantee of the principal and interest of an issue of four per cent bonds to be made by the company for the purpose of aiding the provision of the balance of moneys required for the completion of the "Mountain Section" to provide for expenditures not exceeding \$16,000,000; such bonds to be secured by a new trust deed granting mortgages or charges upon the present and future undertakings and properties of the company; such guarantee to be accepted as a full, final and satisfactory settlement of all claims by the company for further aid in respect of the construction of the western division.

In pursuance of this Act, a trust deed securing the issue of bonds to the amount of £3,280,000, was executed on August 5, 1914.

The several Government expenditures on the eastern division are to be made from appropriations by Parliament for the purpose, and on the recommendation of the Minister of Railways and Canals, to whom accounts of all receipts, expenditures and liabilities are to be furnished monthly.

The Board of Commissioners are required to furnish annually a report to the Governor in Council, through the Minister of Railways and Canals, showing the receipts and expenditures of the year, and other information as to the railway, which report is to be submitted to Parliament.

The headquarters of the board are in the city of Ottawa.

By various Acts and Orders in Council, the time for completion has been extended, and by the Act of 1914 (the Grand Trunk Pacific Railway Guarantee Act), sec. 11, it was provided that "notwithstanding anything contained in the said trust deed of tenth of June, 1905, or in any Act or Order in Council heretofore passed, the date for completion of the western division shall be the 31st of December, one thousand nine hundred and fifteen." By sec. 2 of this Act, the "Western Division" was defined as extending from the city of Winnipeg to the Pacific ocean.

By the Act of 1912, chap. 39, the construction of the eastern division, and its operation, until completed and leased to the Grand Trunk Pacific Railway Company, was placed under the charge and control of one commissioner (in place of four) to be appointed by the Governor in Council, and to hold office during pleasure. By an Order in Council, dated April 4, 1912, Mr. R. W. Leonard, C.E., the Chairman of the Commission as then existing, was appointed as such commissioner. Mr. Leonard having resigned, the Minister of Railways and Canals was appointed commissioner by an Order in Council of July 3, 1914, as authorized by the Act of that year, chap. 43.

The eleventh report of the board, namely, for the fiscal year ended March 31, 1915, has been prepared, and will be laid before Parliament in due course. It is printed as a separate report.

The following summary shows the position at the close of the year.

EASTERN DIVISION.

(Moncton to Winnipeg.)

The total mileage from Moncton, N.B., to the west side of Water street, Winnipeg, is 1,804.52 miles. This, however, includes the Quebec bridge over the river St. Lawrence, in course of construction, the length of which will be 1.10 mile. Track laying between Moncton and Winnipeg was completed (with the exception of the Quebec bridge) in November, 1913, the last spike being driven on the 17th of that month.

Pending the completion of the Quebec bridge, the communication across the river will be made by a train ferry.

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Up to March 31, 1915, the track was laid in the main line for a distance of 1,803.445 miles, together with 529.531 miles of sidings and yards, to which is to be added for double track and line from the Quebec bridge to Quebec, 19.610 miles, making a total of 2,352.586 miles of track. The steel bridges were practically completed.

The total expenditures by the commissioners during the fiscal year ended March 31, 1915, on the eastern division, amounted to \$9,834,746.75, making their total expenditure from the date of their organization in September, 1904, to that date, \$152,802,745.77, which includes \$36,182.91 for operation in the year 1912-13 of the section from Moncton to Edmundston, N.B. Detail summaries of the expenditures during the past fiscal year are furnished by the accountant of the commission.

During the year 1913-14 the road was operated to a limited extent by the Intercolonial Railway, for the distance, 285.25 miles, between Moncton, N.B., and Escourt, Que., a point 54.85 miles west of Edmundston, N.B. During the fiscal year 1914-15 the operation of the road was carried on by the Intercolonial Railway between Moncton and Chaudière, a distance of 455.15 miles. Details will be found in the statements of the Comptroller and Treasurer of Government Railways, herewith (Appendix, Part III).

The statement of the accountant of the department (Part I of the appendices hereto) shows the construction expenditure on the eastern division for the year ended March 31, 1915, to be \$9,831,952.58, and the total expenditure up to that date \$152,802,745.77, the expenditure yearly being as follows:—

1904..	\$	6,249 40
1905..		778,491 28
1906..		1,841,269 95
1907..		5,537,867 50
1908..		18,910,449 41
1909..		24,892,422 68
1910..		19,968,126 86
1911..		23,488,208 40
1912..		21,110,683 05
1913..		13,766,916 39
1914..		12,670,108 27
1915..		9,831,952 58*
Total..	\$	152,802,745 77

WESTERN DIVISION.

The western division extends from the western boundary of the Winnipeg terminals, on the east bank of the river Assiniboine, in the city of Winnipeg, to the city of Prince Rupert, on the Pacific coast, a distance of 1,745 miles.

* The report of the National Transcontinental Railway Commissioners shows the expenditure of the year to be \$9,834,746.75, a difference of \$2,794.17. This is due to an adjustment made by their accountant during the fiscal year, covering refunds of credits on account of previous years and also outstanding cheques returned to the Finance Department, which items were included in the departmental accountant's statements for previous years.

It is divided into two sections, namely, the "Prairie Section," extending from Winnipeg to the east bank of Wolf creek—a point 120 miles west of Edmonton, the capital of the province of Alberta—a distance of 915 miles, and the "Mountain Section," which extends from the east bank of Wolf creek to Prince Rupert, a distance of 830 miles. The terminals extend for a further distance of $3\frac{1}{2}$ miles around the water front of the city of Prince Rupert.

This division is in course of construction by the Grand Trunk Pacific Railway Company, under the Government guarantee agreements above mentioned. The Government chief engineer of the division, on whose certificates payments are made to the company, is Mr. Collingwood Schreiber, C.M.G., whose report, showing the position of the work at the close of the fiscal year, March 31, 1915, will be found printed in the appendices hereto, Part IV.

Of this report, the following is a brief summary:—

The whole division between Winnipeg and Prince Rupert has been operated since September 6, 1914, an express train service having been given twice a week each way, and, in addition, a daily passenger and freight service between Winnipeg and Prince George, B.C., a point 467 miles east from Prince Rupert.

PRAIRIE SECTION.

Little has been done to carry out the contract requirements, and work to the value of about \$950,000 still remained to be done at the close of the fiscal year.

MOUNTAIN SECTION.

The work remaining to be done is the filling in of temporary trestles, extension of sidings, some ballasting, additional roundhouses, machine shops, divisional way, water, and oil stations, and further facilities at the Prince Rupert terminals.

TOTAL EXPENDITURE.

The approved and certified expenditure up to March 31, 1915, amounted, on the "Mountain Section" to \$87,119,153.09, of which the percentage payable to the company was \$65,339,364.82, and on the "Prairie Section," up to October 31, 1907, to \$15,556,482.84, of which the percentage payable was \$10,335,482.92. No further certificate has been issued for this section.

QUEBEC BRIDGE.

On August 29, 1907, the cantilever bridge in course of construction over the river St. Lawrence by the Québec Bridge and Railway Company (originally commenced under a subsidy of \$1,000,000 authorized by the Act of 1899, chapter 7, and a subsidy agreement, dated November 12, 1900), collapsed.

Under the terms of an agreement with the company, dated October 19, 1903, ratified by the Act of 1903, chapter 54, the Government had undertaken to guarantee the principal and interest of the bonds or other securities of the company to the limit of \$6,675,200, the company releasing claim to the balance remaining unpaid of the said subsidy; such guarantee to be secured by mortgage on the company's franchises.

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tolls and property. On February 1, 1904, a mortgage trust deed was executed, conveying to the Royal Trust Company (Montreal) as trustees, all the property and franchises of the company, and providing for the issue of bonds accordingly.

It was provided in this agreement that the Government should have the right at any time, on one month's notice, to take over the company's undertaking, assets, property and franchises, on paying the shareholders the amount of their stock at par, not exceeding \$265,585.70, with simple interest at 5 per cent and a premium of 10 per cent on the par value of the paid-up shares.

Of the said subsidy of \$1,000,000, there had been paid to the company a total of \$374,353.33 prior to the execution of the above agreement, and subsequent to its execution, payments were made from the proceeds of their bonds on certificates of the Government engineer covering work done and materials delivered.*

After the collapse of the bridge, the right of the Government to take over the company's undertaking was exercised under the authority of an Order in Council of August 17, 1908. The date of assumption was December 1, 1908. The total of the amounts paid by the Government to the several shareholders for their shares was \$355,279.07, payment being made to the parties concerned in November, 1908. The deed of assignment and transfer from the company to the Government was dated October 18, 1909.

Under authority of an Order in Council of August 17, 1908, a board of three engineers was constituted for preparation of a new design and specification, and for the reconstruction of the bridge, with powers to call in expert engineers as advisers on points of difference that might arise.

In June, 1910, the formal call for tenders was made by newspaper advertisement. In response, 35 different propositions were submitted, which were duly considered by the board, who, finally, after calling in advisory engineers, recommended the acceptance of an alternative design sent in by the St. Lawrence Bridge Company (with whom are associated the Dominion Bridge Company and the Canadian Bridge Company). This design the board considered to possess certain features of strength, simplification of erection, economical distribution of material, and general appearance which, in their opinion, would produce a bridge that "would compare most favourably with the highest type of long-span bridges in existence." By an Order in Council of March 31, 1911, authority was given for entrance into contract with the conjoined companies named, and such contract was executed under date April 4, 1911. The contract price is 9.02 cents a ton, and will aggregate about \$8,650,000, a saving of about \$2,600,000 having been effected by the elimination of the highways for vehicular traffic contemplated in the original design; the contract date for completion is December 31, 1915.

The bridge when constructed will have a total length of 3,228 feet, or about three-fifths of a mile. The centre span will be 1,800 feet long; the length of the suspended portion of it will be 640 feet. This span will, for a length of 760 feet over

* The history of the Government's connection with the bridge prior to its collapse is given in the Department Annual Report of 1907-8, p. xlvii.

the channel of the river, have a height of 150 feet between its lower members and the high water level of the river. The two cantilever arms will each be 550 feet long. The width of the bridge between trusses will be 88 feet. The bridge will comprise a double-track railway, and two sidewalks for foot passengers.

Under date January 10, 1910, a contract for the substructure was entered into with Messrs. M. P. and J. T. Davis, whose tender was the lowest of three obtained after newspaper advertisement calling for tenders; and supplementary agreements necessitated by changes in the caisson design and in the location of the north anchor pier, were made with them on May 23, 1910, and September 2, 1911.

The Board of Engineers for reconstruction, as originally constituted, has been modified by retirements and is at present composed as follows: Charles N. Monsarrat, M. Can. Soc. C.E., chairman and chief engineer; Ralph Modjeski, Am. Soc. C.E., and C. C. Schneider, Can. Soc. C.E., and past president Am. Soc. C.E.

The headquarters of the board are in Montreal.

The report of the chairman and chief engineer for the year ended on March 31, 1915, will be found printed in the appendices hereto, Part V.

The report shows that during the season of 1914, the whole of the substructure was completed. The work done comprises 106,090 cubic yards of masonry, all faced with heavy granite blocks with a concrete backing, the main piers having 18 feet of solid granite on the top of each to distribute the loads. The final estimate was passed in December of that year. The total cost is \$2,376,756.23, or \$71,818.77 less than the engineer's original estimated cost.

As to the superstructure, he states that during the year the contractors, the St. Lawrence Bridge Company, have made very rapid progress, and that out of an estimated total weight of 65,000 tons of steel required, have manufactured 38,518 tons; that 36,528 tons have been delivered at the bridge site, and 15,000 tons erected, covering both the north and south approaches and practically the entire north anchor arm. A duplicate erection traveller is in course of construction on the south side of the river, to be used in the erection of the south anchor arm in the season of 1915.

Plans and some photographs will be found at the end of this report which will give a fair idea of the work so far done and to be done.

The expenditure during the fiscal year ended March 31, 1915, was \$2,816,305.10, paid out of capital, making the total capital expenditure on the reconstruction of the bridge, \$7,764,393.14. Expenditure had previously been made from income, namely, for the year 1908-09, \$422,867.12 (in which is included the amount, \$955,279.07, paid for acquiring the stock of the Quebec Bridge and Railway Company, and \$31,765.44, the expenses of the commission of inquiry into the causes of the collapse of the old structure), and for the year 1909-10, \$111,782.02 for the preparation of plans, etc., or a total of \$534,655.14, against which there is to be credited the sum of \$100,000 paid in 1910 to the Government by the Phoenix Bridge Company, the contractors for the original superstructure, in the final adjustment of claims arising out of the collapse. The total expenditure by this Department up to March 31, 1915, is \$8,198,748.78. This is irrespective of the amount of subsidy, \$374,353.33, paid to the Quebec Bridge Company as above mentioned, and of the amounts paid by the Finance Department for the guaranteed bonds of the company, etc., aggregating \$6,975,266.20.

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WELLAND SHIP CANAL.

This important work has for its object the affording of greater and better accommodation for a larger class of vessels than those that can be used on the present canal.

The present canal lies between Port Colborne, Lake Erie, and Port Dalhousie, Lake Ontario. Its length is $26\frac{3}{4}$ miles, and comprises 25 lift locks, the dimensions of which are 270 feet by 45 feet, with a depth of 14 feet of water on the sills.

The proposed Welland ship canal as finally located follows the course of the present canal from Port Colborne on lake Erie to Allanburg, half way across the peninsula. From this point an entirely new cutting is to be made, crossing the present canal just below lock No. 25, the water level of the two canals at this point being the same, viz: 568 feet above sea level. The new canal again crosses the present one below lock No. 11, the water of both canals at this point being at an elevation of 382 feet above sea level.

The proposed canal enters lake Ontario at the mouth of the Ten Mile creek about three miles east of Port Dalhousie. The total length of canal from lake to lake is 25 miles; and the difference in level between the two lakes, $325\frac{1}{2}$ feet, is to be overcome by seven lift locks, each having a lift of $46\frac{1}{2}$ feet. The dimensions of the locks are to be 800 feet in length by 80 feet in width in the clear and with 30 feet of water over the mitre sills at extreme low stages in the lakes. The width of the canal at the bottom will be 200 feet and, for the present, the canal reaches will be excavated to a depth of 25 feet only, but all structures will be sunk to the 30-foot depth, so that the canal can be deepened at any future date by dredging out the reaches.

A new western breakwater will be built at Port Colborne to ensure quiet water in the harbour during storms.

The outer entrance piers in Lake Ontario will be placed about $1\frac{1}{2}$ miles from shore, where the depth of water is 30 feet; a wide channel will be dredged out from these piers and an embankment formed on either side of it about 500 feet wide. The lock walls will be 82 feet high above the top of the gate sills.

The work is divided into 9 sections, of which section No. 1, approximately 3 miles, at the Lake Ontario end of the canal, was placed under contract on the 1st of August, 1913; section No. 2, approximately $4\frac{1}{2}$ miles, was placed under contract on the 31st of December, 1913; section No. 3, approximately 2 miles, was placed under contract on the 4th of October, 1913; section No. 5 was placed under contract on the 22nd of December, 1913. A large quantity of work has been done, which is fully described in the report of the Engineer in Charge, and will be found in Appendix 6 herewith, together with a number of photographs and maps, at the end of the report.

During the year 1913-14 the sum of \$994,257.60 was expended, and during the fiscal year 1914-15, the sum of \$4,074,200.69, making the total expenditure \$5,068,458.29; to this is to be added for previous expenditure, for preliminary surveys, borings, etc., \$187,238.15, making the total cost up to the 31st of March, 1915, \$5,255,696.44.

SUBSIDIZED RAILWAYS.

Information as to subsidized railways is given in the statements of the accountant and of the law clerk of the department, respectively, which will be found in the appendices hereto, parts I and II. The accountant's statements show all payments made, year by year, since the beginning of the system of railway subsidies; the law clerk's statement shows the several subsidy agreements entered into during the past year, with certain details of the specification in each case.

The total payments made on subsidy account during the year ended March 31, 1915, amounted to \$5,191,507.48, paid out of income.

BOARD OF RAILWAY COMMISSIONERS FOR CANADA.

By the Act 3 Edward VII, chap. 58 (1903), amending and consolidating the law respecting railways, the Railway Committee of the Privy Council was abolished, and in lieu thereof a Board of Commissioners, under the above title, was created, to consist of three members (increased to six by the Act of 1908, chap. 62), to be appointed by the Governor in Council; this Act was brought into force on February 1, 1904, by proclamation, on the authority of an Order in Council, dated January 18, 1904, which also appointed certain persons as commissioners. By the Act of 1908, chap. 61, the jurisdiction of the board was extended to cover the operation of telegraph and telephone lines, and by the Act of 1908, chap. 62, certain amendments were made to its constitution and otherwise. By the Act of 1909, chap. 31, the board was empowered to determine the maximum price to be charged for electricity developed through water-powers leased from the Crown. An Act of 1910, chap. 50, amended certain provisions of the Railway Act regarding the powers of the board, and the Act of the same year, chap. 57, extended the jurisdiction of the board to cover the fixing by it of the tariffs of wireless telegraph and marine electric telegraphs or cables. The Act of 1911, chap. 22, gave powers to the board to require from railway companies the establishment of a staff of fire-rangers, modified the previous enactments regarding the disposal of electricity developed through Government leased water-powers, and amongst other enactments, made provision for action, through the board, to ensure the efficient operation of subsidized railways. The office of the board is at Ottawa, though it is authorized to hold sessions in any part of Canada. Its decisions and orders are final, subject to appeal to the Supreme Court upon questions of jurisdiction or law, and also to action thereon by the Governor in Council, in his discretion.

It is required to make, annually, a report of its proceedings, which report is laid before Parliament. The report for the year ended March 31, 1915, has been received, and will be laid before Parliament in due course.

CANALS.

The total expenditure on the Dominion canals for the twelve months ended March 31, 1915, was \$7,314,131.98, comprising \$5,490,796.03 charged to capital, \$444,730.17 charged to income, \$777,931.67 for staff, and \$600,674.11 for repairs; the last two items being charged to revenue.

REPORT OF THE DEPUTY MINISTER

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The balance of rentals due on April 1, 1914, was \$135,760.98. The rentals accrued during the year amounted to \$254,712.67, making a total of \$390,473.65. Of this amount, there was collected during the year a total, after deducting abatements aggregating \$2,171.99, of \$230,336.87. The balance remaining due on March 31, 1915, was \$152,024.29. It should be observed that, as a general rule, rentals are payable in advance, this fact accounting, to a considerable extent, for the large amount of rental due at the end of each year.

The total revenue collected amounted to \$427,763.14, the balance being made up of wharfage dues, fines, etc., and a total of \$176,674.38 derived from the operation of the Port Colborne grain elevator on the Welland Canal.

No tolls have been charged on any of the Dominion canals since 1903-04.

Summaries of these expenditures and receipts will be found in the statements furnished by the Accountant of the Department, printed in the appendices, Part I, of the present report.

The above figures relate to the fiscal year 1914-15, but very voluminous statistics relating to canal traffic, and various commercial statistics for the season of navigation of the year 1914 will be found in the "Canal Statistics," which are issued as a separate report.

The principal facts of these statistics, summarized, are as follows:—

The total traffic through the several canals of the Dominion for the season of 1914 amounted to 37,023,237 tons, a decrease of 15,030,676 tons compared with the previous year. 287,326 passengers were carried, a decrease of 48,473.

The following features of the principal canal traffic during the season of 1914 will be of interest:—

On the Welland Canal, 3,560,969 tons of freight were moved, an increase of 290,255 tons. Of the total, 2,116,378 tons were agricultural products, and 360,434 tons were produce of the forest; of coal, 949,306 tons were carried; 3,725,099 tons were through freight, of which 2,936,740 tons passed eastward.

Of the through freight, Canadian vessels carried 2,936,740 tons, an increase of 383,198 tons, and United States vessels 788,359 tons, a decrease of 185,081 tons.

The total through freight passed eastward and westward through this canal to United States ports was 509,079 tons, a decrease of 16,254 tons compared with the year 1913.

The quantity of grain passed down the Welland and St. Lawrence Canals to Montreal was 1,837,804 tons, an increase of 572,436 tons, as compared with the previous year; no transhipments have been made at Ogdensburg since 1903.

On the St. Lawrence Canals, 4,391,493 tons were moved, an increase of 89,066 tons, of which 3,067,497 tons were eastbound through freight, and 625,422 tons westbound freight; 2,020,035 tons were agricultural products, 1,247,520 tons coal, and 668,775 tons forest products.

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On the Ottawa River canals, the total quantity of freight moved was 335,132 tons, a decrease of 30,306 tons, of which 171,440 tons were produce of the forest.

On the Chambly canal, 436,905 tons were moved, a decrease of 118,697 tons, of which 293,242 tons were produce of the forest and 118,566 tons of coal.

On the Rideau canal, 151,739 tons were carried, a decrease of 19,484 tons; 15,041 tons being produce of the forest, and 10,277 tons of coal.

On the St. Peters canal, 54,180 tons were carried, a decrease of 17,334 tons; 27,774 tons were coal.

On the Murray canal, 83,907 tons passed, a decrease of 96,669 tons.

On the Trent canal, 67,715 tons were moved, an increase of 11,915 tons, of which 62,473 tons were produce of the forest.

On the St. Andrews lock, on the Red river, Manitoba, the volume of business was 42,013 tons.*

On the Sault Ste. Marie canal, the total movement of freight was 27,599,184 tons, being a decrease of 15,100,140 tons.** There were 5,977 passages of vessels, the number of lockages being 4,712. Of wheat, 98,067,167 bushels, and of other grain, 32,165,065 bushels were carried; also 2,205,810 barrels of flour; 20,913,764 tons of iron ore; 2,338,644 tons of coal; and 20,596,200 feet board measure of lumber.

The report of the chief engineer of the department, and the reports of the officers under his immediate control, which will be found in Part VI of the appendices, give comprehensive information as to the several works under his charge, the principal of which are the Hudson Bay railway, the Trent canal, the new Welland ship canal, and the terminals of the Intercolonial Railway near Halifax.

RAILWAY STATISTICS.

The digest of the sworn statements of railway companies relating to their operations in Canada for the twelve months ended June 30, 1915, is prepared by the departmental Comptroller of Statistics, and is issued as a separate report.

CANAL STATISTICS.

The traffic statistics of the Dominion canals for the season of navigation of 1914 are compiled under the direction of the same officer, and are also issued as a separate report.

I have the honour to be, sir,

Your obedient servant,

A. W. CAMPBELL,
Deputy Minister.

* This work, which consists of a lock and dam on the Red river, about 15 miles north of Winnipeg, was built and is operated by the Department of Public Works. It affords communication between Winnipeg and lake Winnipeg. It is only mentioned here for statistical purposes.

** This comprised 1,748,669 tons Canadian and 13,282,667 tons American commerce. There was a decrease of 11,581,691 tons in iron ore, and 2,006,658 tons in coal.

APPENDICES

PART I
STATEMENTS
OF THE
ACCOUNTANT

SHOWING

THE EXPENDITURE AND THE REVENUE OF THE
DEPARTMENT

FOR THE FISCAL YEAR 1914-15

AND ALSO PREVIOUS YEARS.

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Department of Railways and Canals.

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SESSIONAL PAPER No. 20

EXPENDITURE.

GENERAL STATEMENT of the Expenditure of the Department of Railways and Canals during the Fiscal Year ending March 31, 1915.

	\$	cts.	\$	cts.
TOTAL EXPENDITURE—as per Statements, pages 9 and 10.....			50,063,988	90
Expenditure chargeable to Railways.....	34,340,117	77		
" " Railways General.....	399,602	43		
" " Quebec Bridge.....	2,816,305	10		
" " Railway subsidies.....	5,191,507	48		
Total expenditure, Railways.....			42,747,532	78
Expenditure chargeable to Canals.....	7,134,972	29		
" " Canals, General.....	179,159	69		
Total expenditure, Canals.....			7,314,131	98
General expenditure.....	2,324	14	2,324	14
Total expenditure.....			50,063,988	90
CLASSIFICATION OF EXPENDITURE IN GENERAL—				
Capital Account.....	30,172,765	05		
Revenue Account.....	13,876,059	63		
Income Account.....	823,656	74		
Consolidated Fund (railway subsidies) Income.....	5,191,507	48		
Total expenditure.....			50,063,988	90
CLASSIFICATION OF EXPENDITURE BY ACCOUNTS—				
Railways—				
Capital expenditure—Railways.....	21,865,663	92		
" " Railways, General.....			21,865,663	92
Revenue expenditure—Railways.....	12,474,453	85		
" " Railways, General.....	23,000	00		
Income expenditure—Railways, General.....	376,602	43		
Total expenditure, Railways.....			12,497,453	85
Quebec Bridge—				
Capital expenditure—Quebec Bridge.....	2,816,305	10		
Total expenditure, Quebec Bridge.....			2,816,305	10
Railway Subsidies—				
Consolidated Fund—Railway subsidies.....	5,191,507	48		
Total expenditure, Railways, \$42,747,532.78.			5,191,507	48
Canals—				
Capital expenditure—Canals.....	5,490,796	03		
" " Canals, General.....			5,490,796	03
Income " Canals.....	405,806	32		
" " Canals, General.....	38,923	85		
Total expenditure, Canals.....			444,730	17
Revenue " Canals Staff.....	675,770	67		
" " Canals Staff, General.....	102,161	00		
" " Canals Repairs.....	562,599	27		
" " Canals, Repairs, General.....	38,074	84		
Total expenditure on Canals, \$7,314,131.98.			1,378,605	78
General Expenditure—Income account.....	2,324	14		
Total expenditure, Canals.....			2,324	14
Total expenditure.....			50,063,988	90

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.W. C. LITTLE,
Accountant.

REVENUE.

GENERAL STATEMENT of the Revenue Received by the Department of Railways and Canals during the Fiscal Year ending March 31, 1915.

	\$	cts.	\$	cts.
TOTAL REVENUE RECEIVED DURING FISCAL YEAR.....			12,577,120	46
Revenue from Railways.....	12,149,357	32		
" " Canals.....		427,763	14	
Total revenue as above.....			12,577,120	46
STATEMENT OF REVENUE RECEIVED, IN DETAIL—				
<i>Railways—</i>				
Intercolonial Railway.....	11,444,873	13		
Windsor Branch Railway.....		23,169	22	
Total.....	11,468,042	36		
International Railway of New Brunswick.....		65,468	92	
* National Transcontinental Railway.....		153,213	55	
New Brunswick and Prince Edward Island Railway.....		25,419	81	
Prince Edward Island Railway.....		415,495	44	
St. John & Quebec Railway.....		21,717	24	
Total revenue from Railways.....			12,149,357	32
<i>Canals—</i>				
Welland Canal.....		55,741	46	
" Elevator, Port Colborne.....		176,674	38	
Welland Ship Canal.....		100	00	
Lachine Canal.....		139,692	15	
Beauharnois Canal.....		14,785	65	
Cornwall Canal.....		7,778	35	
Williamsburg Canal.....		2,107	00	
Soulanges Canal.....		3,654	00	
Chambly Canal.....		856	50	
Carillon and Grenville Canal.....		1,152	00	
Rideau Canal.....		6,268	68	
Trent Canal.....		17,893	04	
St. Peters Canal.....		2	00	
Sault Ste. Marie Canal.....		493	00	
Murray Canal.....		247	00	
Ste. Anne's Lock and Canal.....		313	93	
Chats Falls Canal.....		1	00	
			427,763	14
Total revenue received during fiscal year.....			12,577,120	46

* Operated in part only.

W. C. LITTLE,
*Accountant.*DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.

SESSIONAL PAPER No. 20

STATEMENT of Expenditure on Canals for Year ending March 31, 1915.

Name of Work.	Chargeable to Capital.	Chargeable to Income.	Chargeable to Revenue.		Total Expenditure during year.
			Staff.	Repairs.	
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Carillon and Grenville.....			26,025 79	17,292 32	43,318 11
Chambly.....		13,662 63	35,306 82	42,837 76	91,807 21
Cornwall.....	3,500 00	23,275 15	83,540 13	39,809 58	150,124 86
Lachine.....	213,835 06	22,915 14	104,535 61	95,618 99	436,904 80
Murray.....			5,443 70	4,480 59	9,924 29
Rideau.....		80,238 38	63,319 23	105,386 73	248,944 34
Sault Ste. Marie.....			26,766 76	31,114 80	57,881 56
Soulanges.....	92,609 72	27,598 82	41,095 09	41,580 87	202,884 50
Ste. Anne's Lock.....		7,043 41	4,715 62	4,249 29	16,008 32
St. Ours Lock.....			4,280 50	3,896 03	8,176 53
St. Peters.....		83,241 31	4,897 45	240 82	88,379 58
Trent.....	1,001,700 35	59,406 00	47,963 61	47,922 02	1,156,991 98
Welland.....	104,950 21	73,333 15	193,363 54	97,544 82	469,191 72
Welland Ship Canal.....	4,074,200 69				4,074,200 69
Williamsburg.....		3,036 65	34,516 82	30,624 65	68,178 12
" Rapide Plat.....		12,055 68			12,055 68
	5,490,796 03	405,806 32	675,770 67	562,599 27	7,134,972 29
GENERAL ON CANALS.					
Dredge vessels, Lachine.....				10,189 88	10,189 88
Dredge vessels, Rideau.....				23,065 38	23,065 38
Miscellaneous.....			3,163 25	2,055 19	5,218 44
Gratuities, Civil Service Act 1908.....		4,271 94			4,271 94
Statistical Officers.....			34,232 08		34,232 08
Sunday Labour.....			42,496 75		42,496 75
Surveys and Inspections.....		17,412 46			17,412 46
Miscellaneous investigations under Enquiries Act, No. 615.....		79 60			79 60
Quebec Canals—					
Dredging.....		9,128 48			9,128 48
New hull for derrick.....		7,997 53			7,997 53
Refund of interest on security deposit to Cossette & Co.....		31 84			31 84
Concrete facing dam at Valleyfield.....		2 00			2 00
Maintenance.....			20,768 92		20,768 92
Hungry Bay Dyke.....				2,764 39	2,764 39
Miscellaneous—					
Compassionate allowances, to families of deceased employees.....			1,500 00		1,500 00
		38,923 85	102,161 00	38,074 84	179,159 69
Total.....	5,490,796 03	444,730 17	777,931 67	600,674 11	7,314,131 98

Total on Canals—\$7,314,131.98.

STATEMENT of Expenditure on Railways for Year ending March 31, 1915.

Name of Work.	Chargeable to Capital.		Chargeable to Income.		Chargeable to Revenue.	Total.
	\$	cts.	\$	cts.	Working Expenses. \$ cts.	
RAILWAYS.						
Hudson Bay Railway...	4,773,743	99				4,773,743 99
Intercolonial Railway.	6,663,436	65			11,438,373 14	18,101,809 79
International Railway of New Brunswick .	1,300	00			111,706 35	113,006 35
National Transcontinental Railway	9,831,952	58			239,527 25	10,071,479 83
New Brunswick and Prince Edward Island Ry	24,700	00			43,942 53	68,642 53
Prince Edward Island Railway..	570,530	70			598,226 97	1,168,757 67
*St. John and Quebec Railway .					24,694 75	24,694 75
Windsor Branch Railway.....					17,982 86	17,982 86
Total.....	21,865,663	92			12,474,453 85	34,340,117 77
Quebec Bridge.....	2,816,305	10				2,816,305 10
Railway Subsidies.....			5,191,507	48		5,191,507 48
GENERAL ON RAILWAYS.						
Railway Commission Maintenance.....			168,935	70		168,935 70
“ “ —Statutory.....			45,091	44		45,091 44
“ “ —Cases.....			7,227	50		7,227 50
Surveys and Inspections.....			45,650	98		45,650 98
Railway Grade Crossing Fund.....			92,099	48		92,099 48
Attendance, repairs and alterations to Governor General's cars			7,500	00		7,500 00
To pay expenses in connection with consolidation of Railway Act.			3,000	00		3,000 00
Contribution of Government Railways to faculty of McGill University.....			2,500	00		2,500 00
Contribution of Government Railways to faculty of Polytechnic School, Montreal.			2,500	00		2,500 00
Remuneration to Government Inspector, Grand Trunk Pacific Railway.....			2,000	00		2,000 00
Subscription to International Congress, Brussels.....			97	33		97 33
Compassionate allowances to families of deceased employees.					6,500 00	6,500 00
Miscellaneous Revenue, amount required to pay compassionate allowance to widows, etc., of the captain and crew of the C. G. Str. <i>Sharon</i>					16,500 00	16,500 00
Total.....			376,602	43	23,000 00	399,602 43
Total.....	24,681,969	02	5,568,109	91	12,497,453 85	42,747,532 78
Grand Total on Railways, including Quebec Bridge..... \$42,747,532 78						
MISCELLANEOUS EXPENDITURE.						
Cost of litigation.....			678	04		678 04
Miscellaneous investigations under Inquiries Act.....			1,646	10		1,646 10
Total.....			2,324	14		2,324 14
Grand Total on Railways and Canals, including miscellaneous expenditure.....	30,172,765	05	6,015,164	22	13,876,059 63	50,063,988 90

Total amount of expenditure, \$50,063,988.90.

* In this sum is included an amount, \$2,977.51, which should have been credited to open accounts, leaving the actual revenue \$18,739.73. This will be adjusted in the 1915-16 accounts.

W. C. LITTLE,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.

SESSIONAL PAPER No. 20

STATEMENT showing the amounts expended on Construction, Renewals, Ordinary Repairs and Working Staff up to March 31, 1915.

BAIE VERTE CANAL.

	Year ending.	Capital.		Income.	
		\$	cts.	\$	cts.
Government expenditure since Confederation...	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
Total,				44,387	53

W. C. LITTLE,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.

6 GEORGE V, A. 1916

STATEMENT showing the amounts expended on Construction, Renewals, etc.—Continued.

BEAUHARNOIS CANAL. †

	Year ending.	Capital.	Renewals Chargeable to Income.	Staff.	Repairs.
		\$ cts.	\$ 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			14,353 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		7,999 79	18,960 40	14,637 70
" " " "	1886		8,491 80	19,228 90	14,356 00
" " " "	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		1,696 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	20,428 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	5,799 34	20,650 00	16,164 92
" " " "	1899		1,000 00	20,613 32	13,463 01
" " " "	1900		4,959 22	20,147 59	14,505 30
" " " "	1901		483 40	20,118 42	14,199 12
" " " "	1902			16,682 52	6,532 33
" " " "	1903			8,218 14	10,063 38
" " " "	1904			9,236 27	11,936 37
" " " "	1905		14,949 83	9,086 68	10,499 99
" " " "	1906		2,531 24	9,291 91	18,640 71
" " " "	1907		598 64	7,552 02	11,711 09
" " " "	1908		2,260 81	7,032 31	13,019 76
" " " "	1909		21,758 84		†
" " " "	1910		24,319 49		†
Total..		*1,636,690 26	265,810 84	649,574 89	525,691 23

*See page 25 for total of St. Lawrence River and Canals.

†No expenditure has been incurred since 1910.

W. C. LITTLE,
Accountant.DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.

SESSIONAL PAPER No. 20

STATEMENT showing the amounts expended on Construction, Renewals, etc.—Continued.

CARILLON AND GRENVILLE CANAL.

	Year ending.	Capital.	Renewals Chargeable to Income.	Staff.	Repairs
		\$ cts.	\$ cts.	\$ cts.	\$ cts.
Imperial Government.....		*			
Government expenditure prior to Confederation		63,053 64			
“ 1868 to 1879 included		1,721,338 16	50,155 93	112,345 38	126,775 54
“ since.....	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	399,267 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	19,554 41
“	1888	38,996 29		21,531 12	10,036 62
“	1889	298 17		22,098 88	10,135 66
“	1890	17 58	4,526 61	15,896 16	7,582 38
“	1891		4,395 25	21,290 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
“	1901	4,930 65	9,331 95	13,342 22	13,416 00
“	1902		16,998 69	13,725 99	19,366 30
“	1903		15,992 52	14,348 17	17,766 28
“	1904		9,150 07	16,224 94	17,262 29
“	1905		8,715 46	15,858 19	19,977 19
“	1906		24,179 33	18,232 71	10,924 72
“	1907		9,393 38	16,749 03	7,036 40
“	1908		1,387 35	23,019 45	9,775 35
“	1909		68,597 35	23,085 54	10,758 01
“	1910		10,410 09	23,512 72	11,925 28
“	1911		9,051 89	23,608 04	11,303 46
“	1912			25,496 59	11,531 20
“	1913		774 60	25,730 35	16,299 00
“	1914		10,464 53	26,452 76	12,199 42
“	1915			26,025 79	17,292 32
Total.....		14,182,092 96	351,431 74	761,974 74	546,080 95

*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 20. Cost of enlargement, \$4,119,039.32.

W. C. LITTLE,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.

STATEMENT showing the amounts expended on Construction, Renewals, etc.—Continued.

CHAMBLY CANAL.

	Year ending	Capital.	Renewals Chargeable to Income.	Staff.	Repairs.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.
Government expenditure prior to Confederation		634,711 76			
" " 1868 to 1879 included since		2,495 00	8,315 25	122,386 28	170,152 70
" " 1880	1880			11,516 22	12,377 74
" " 1881	1881			13,950 47	20,705 17
" " 1882	1882		31,796 41	16,686 78	16,843 60
" " 1883	1883		21,332 36	15,904 38	15,182 24
" " 1884	1884		41,640 77	18,448 85	12,003 24
" " 1885	1885		21,049 23	18,378 55	13,046 95
" " 1886	1886		14,547 27	19,501 28	11,999 77
" " 1887	1887		17,911 17	19,053 62	20,071 37
" " 1888	1888		65,536 64	20,073 60	11,823 74
" " 1889	1889		51,437 87	19,679 22	19,392 18
" " 1890	1890		23,221 48	19,655 38	14,399 93
" " 1891	1891		43,544 41	19,204 76	11,399 93
" " 1892	1892		38,313 99	19,665 22	12,976 48
" " 1893	1893		21,127 65	19,310 29	12,451 03
" " 1894	1894		8,567 78	19,040 93	11,779 12
" " 1895	1895		6,147 63	19,325 49	11,920 74
" " 1896	1896		3,094 63	19,349 65	11,801 12
" " 1897	1897		12,665 88	18,754 17	13,128 55
" " 1898	1898	*150 00	13,184 68	17,992 60	12,466 51
" " 1899	1899		15,255 42	18,336 50	11,997 51
" " 1900	1900		5,448 88	18,397 58	13,995 00
" " 1901	1901		1,195 09	18,529 48	17,572 35
" " 1902	1902		19,132 80	18,832 25	17,313 02
" " 1903	1903		8,977 43	19,286 10	21,745 65
" " 1904	1904		26,701 59	21,744 69	25,656 00
" " 1905	1905		33,066 50	26,970 79	19,896 57
" " 1906	1906		26,192 72	26,039 53	25,173 48
" " 1907	1907		29,953 80	19,916 33	22,058 88
" " 1908	1908	157 90	34,264 31	28,375 31	30,627 72
" " 1909	1909	13,307 02	35,784 54	28,440 40	24,389 29
" " 1910	1910	30,479 41	8,207 00	29,188 76	22,508 53
" " 1911	1911	20,000 04	8,717 20	30,548 74	23,950 19
" " 1912	1912	15,469 29	26,838 40	34,796 66	29,708 01
" " 1913	1913	12,529 07	3,486 97	34,323 21	44,748 39
" " 1914	1914	2,697 03	10,314 09	34,155 28	39,712 20
" " 1915	1915		13,662 63	35,306 82	42,837 76
Total		731,696 52	751,074 47	911,876 47	870,379 76

*Less proceeds of sale of piece of land in 1898.

†Chamby Canal and Richelieu River—

Chamby Canal, as above \$ 731,696 52

Less amount Government expenditure prior to Confederation, deducted at Confederation, see Public Accounts, 1868, part I, page 9 634,711 76

Returned as an asset in Public Accounts, 1868, \$ 96,984 76

\$ 433,807 83

Agreeing with Public Accounts, 1915, \$ 530,792 59

W. C. LITTLE,
Accountant.

SESSIONAL PAPER No. 20

STATEMENT showing the amounts expended on Construction, Renewals, etc.—Continued.

CORNWALL CANAL.

	Year ending.	Chargeable to Capital		Renewals	Staff.	Repairs.		
		\$	cts.	Chargeable to Income.	\$	cts.	\$	cts.
Government expenditure prior to Confederation		1,933,152	69					
Government expenditure 1868 to 1875 included		12,472	04	31,585	51	94,202	59	
Cost of original construction			1,945,624	73				
Expenditure 1868 to 1879 included								
Expenditure since		337,318	87		54,339	77	22,782	
"	1880	109,454	95		14,440	33	9,735	
"	1881	53,948	14		15,173	60	5,524	
"	1882	44,587	61		15,052	20	6,634	
"	1883	21,728	93		18,283	67	8,361	
"	1884	23,018	13		18,475	48	9,007	
"	1885	62,034	90	16,298	96	15,988	96	
"	1886	57,820	83	6,960	95	15,994	80	
"	1887	46,966	43			17,520	54	
"	1888	67,945	74			16,938	54	
"	1889	173,993	85			17,890	55	
"	1890	365,038	01	2,000	00	17,063	49	
"	1891	599,001	85	1,459	98	16,077	72	
"	1892	398,555	25	2,345	26	15,506	66	
"	1893	352,536	13			15,173	01	
"	1894	404,990	22			15,344	02	
"	1895	450,689	65			15,414	56	
"	1896	448,408	31	21,497	74	15,472	26	
"	1897	438,487	51	2,175	00	15,540	43	
"	1898	133,208	96			15,011	50	
"	1899	37,649	00	15,960	80	16,000	00	
"	1900	169,889	51	18,547	50	18,798	10	
"	1901	62,032	47			17,104	13	
"	1902	90,535	18			17,896	58	
"	1903	77,833	81			70,129	29	
"	1904	113,795	16	1,730	16	45,792	64	
"	1905	104,093	45	8,324	83	71,073	68	
"	1906	37,879	09	20,063	79	71,246	77	
"	1907	5,218	03	4,191	61	52,050	56	
"	1908	9,897	90	11,270	83	73,651	90	
"	1909	495	00	151,628	65	75,581	54	
"	1910	89	54	35,549	06	76,519	49	
"	1911			76,719	09	78,583	80	
"	1912	8,037	07	60,352	90	83,784	79	
"	1913			29,753	37	79,897	25	
"	1914			45,537	81	83,018	63	
"	1915	3,700	00	23,275	15	83,540	13	
Cost of enlargement			5,300,679	48				
Total			7,246,304	21	87,228	95	469,663	96
							914,990	

*Included in total cost of St. Lawrence River and Canals, see page 25.

W. C. LITTLE,
Accountant.DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.

SESSIONAL PAPER No. 20

STATEMENT showing the amounts expended on Construction, Renewals, etc.—Continued.

LACHINE CANAL

	Year ending.	Capital.		Renewals Chargeable to Income.	Staff.	Repairs.
		\$ 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	10,431 51
"	1869	2,000 00			14,209 02	12,085 84
Cost of original construction and enlargement from 1845 to 1869			2,589,532 85			
Govt. expenditure, 1870 to 1879 included.....		4,610,389 35		47,389 61	275,742 45	202,892 10
Govt. expenditure since.....	1880	369,566 74			38,950 90	10,223 62
"	1881	292,165 51			39,027 99	19,888 33
"	1882	252,821 33		3,978 66	41,158 90	17,116 46
"	1883	396,496 96		1,859 68	45,554 91	18,199 59
"	1884	188,266 18			48,024 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		8,238 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 90	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	125,009 41		12,210 88	56,791 45	31,988 81
"	1901	97,305 52		12,072 87	58,364 29	50,005 48
"	1902	113,328 26		36,249 02	59,435 33	45,853 97
"	1903	58,426 92		109,893 43	69,762 03	53,054 20
"	1904	181,487 06		162,705 14	77,233 17	50,660 92
"	1905	112,460 47		144,996 37	86,209 93	65,202 42
"	1906	103,798 28		133,518 77	84,708 78	60,064 84
"	1907	18,840 85		65,872 25	53,308 14	47,465 20
"	1908	203,307 25		92,362 48	74,222 78	70,427 37
"	1909	359,041 77		143,526 35	72,049 35	82,081 29
"	1910	215,611 98		70,000 20	77,701 55	75,247 71
"	1911	253,098 27		73,260 66	72,285 01	91,941 84
"	1912	312,868 94		56,174 60	87,989 26	111,254 82
"	1913	463,291 97			89,509 15	91,689 64
"	1914	358,443 93		29,962 15	97,547 54	110,123 84
"	1915	213,835 06		22,915 14	104,535 61	95,618 99
Cost of enlargement.....			11,387,717.10			
Total.....			13,977,249.95	1,420,902.70	2,553,502.80	1,913,305.92
Total expenditure on capital account as above.....						\$13,977,249 95
Less charged to St. Lawrence River and Canals, see page 25.....				\$ 2,950,104 15		
Less expenditure by Imperial Government.....				40,000 00		
						\$2,990,104 15
Agreeing with Public Accounts balance sheet, 1915.....						\$10,987,145 80

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.W. C. LITTLE,
Accountant.

6 GEORGE V, A. 1916

STATEMENT showing the amounts expended on Construction, Renewals, etc.—Continued.

LAKE ST. FRANCIS.

	Year ending.	Capital.	Renewals. Chargeable to Income.
		\$ cts.	\$ cts.
Government expenditure since Confederation	1898	3,420 00	
" " "	1899	23,110 00	2,495 47
" " "	1900	15,431 46	12,288 39
" " "	1901	15,000 00	8,060 30
" " "	1902	13,945 25	
" " "	1903	5,000 00	
" " "	1904		2,199 52
" " "	1905	†	
Total.....		*75,906 71	25,043 68

*Included in total cost of St. Lawrence River and Canals, see page 25.

†Transferred to Department of Marine and Fisheries in 1905.

W. C. LITTLE,

Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,

OTTAWA, September 1, 1915.

STATEMENT showing the amounts expended on Construction, Renewals, etc.—Continued.

LAKE ST. LOUIS.

	Year ending.	Chargeable to Capital.	Chargeable to Revenue.
		\$ cts.	\$ cts.
Government expenditure since Confederation..	1895	4,753 14	
" " "	1896	49,909 31	
" " "	1897	73,300 41	
" " "	1898	64,495 83	
" " "	1899	57,607 79	
" " "	1900	11,765 70	
" " "	1901	12,918 31	
" " "	1902	6,000 00	
" " "	1903	9,508 72	
" " "	1904	7,916 90	
" " "	1905	†	
Total.....		*298,176 11	

*Included in total cost of St. Lawrence River and Canals, see page 25.

†Transferred to Department of Marine and Fisheries in 1905.

W. C. LITTLE,

Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,

OTTAWA, September 1, 1915.

SESSIONAL PAPER No. 20

STATEMENT showing the amounts expended on Construction, Renewals, etc.—Continued.

MURRAY CANAL.

	Year ending	Capital.	Renewals Chargeable to Income.	Staff.	Repairs.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.
Government expenditure prior to Confederation					
“ since “	1868		400 00		
“ “ “	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
“ “ “	1901			5,175 74	1,138 15
“ “ “	1902			5,254 51	6,377 19
“ “ “	1903	500 00		5,757 00	4,627 70
“ “ “	1904	750 00	2,521 13	5,291 43	6,075 94
“ “ “	1905	100 00	740 45	5,346 62	4,452 68
“ “ “	1906		293 75	5,183 61	2,840 91
“ “ “	1907		10,423 00	2,788 14	1,710 55
“ “ “	1908		37,334 70	4,244 42	2,953 23
“ “ “	1909	126 45	20,250 61	4,730 09	3,374 82
“ “ “	1910			4,378 74	2,674 57
“ “ “	1911			3,942 94	2,075 26
“ “ “	1912		14,390 45	4,213 21	3,344 46
“ “ “	1913		11,254 14	5,512 70	2,955 94
“ “ “	1914		3,814 88	5,669 45	4,220 02
“ “ “	1915			5,443 70	4,480 59
Total.....		*1,248,946 71	101,423 11	128,302 67	93,079 34

*Agreeing with Public Accounts Balance Sheet, 1915.

W. C. LITTLE,
Accountant.DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.

STATEMENT showing the amounts expended on Construction, Renewals, etc.—*Continued.*

OTTAWA RIVER WORKS.

	\$	cts.	\$	cts.
Ste. Anne's Lock, page 24.....			1,170,215	63
Carillon and Grenville Canal, page 13.....			4,182,092	96
Culbute Canal, page 16.....			382,391	46
Rideau Canal, page 21.....			172,621	90
Total Ottawa River Works (Capital).....			5,907,321	95
Add expenditure on slides and booms prior to Confederation.....	719,247	13		
Add expenditure on slides and booms since Confederation.....	7,243	60		
Add expenditure on Chats Falls Canal 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
			7,351,456	18
Less expenditure prior to Confederation, transferred to Income Account....	320,618	28		
Less expenditure in 1872, on Carillon and Grenville Canal, as shown in Public Accounts Balance Sheet, page xx, under Miscellaneous.....	165,257	28		
			485,875	56
Agreeing, less outstanding cheques, with Balance Sheet, Public Accounts, 1915....			6,865,580	62

W. C. LITTLE,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.

SESSIONAL PAPER No. 20

STATEMENT showing the amounts expended on Construction, Renewals, etc.—Continued.

RIDEAU CANAL.

	Year ending	Capital.		Renewals Chargeable to Income.		Staff.		Repairs.		
		\$	cts.	\$	cts.	\$	cts.	\$	cts.	
Imperial Government.....		3,911,701	47	875	283,919	10	196,738	05		
Government expenditure prior to Confederation		153,062		60						
“ “ 1868 to 1879 included...		19,559	30							
“ “ since 1880	1880									
“ “ “	1881			133	50					
“ “ “	1882									
“ “ “	1883				70	65				
“ “ “	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	633,801	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	30,739	05	26,599	93	
“ “ “	1899			700	29	30,751	20	28,199	49	
“ “ “	1900			11,780	41	30,623	27	30,237	09	
“ “ “	1901					31,334	40	33,791	17	
“ “ “	1902				8,894	40	32,193	66	33,959	86
“ “ “	1903				16,235	13	34,595	31	36,424	23
“ “ “	1904				13,525	04	39,127	96	38,406	78
“ “ “	1905		1,565	84	14,513	35	40,838	81	49,790	55
“ “ “	1906				5,272	00	41,819	77	54,495	63
“ “ “	1907				14,322	03	30,667	34	44,627	82
“ “ “	1908				42,903	03	44,875	16	55,060	45
“ “ “	1909				19,989	52	44,911	60	53,880	51
“ “ “	1910				9,225	73	48,324	13	95,184	97
“ “ “	1911				6,188	71	47,165	63	79,352	59
“ “ “	1912				4,358	40	54,156	89	85,912	96
“ “ “	1913	41,565	00		21,992	94	56,863	98	91,984	66
“ “ “	1914	40,000	00		27,094	80	60,471	38	102,092	68
“ “ “	1915				80,238	38	63,319	23	105,380	73
Total.....		4,167,454	21	596,853	69	1,604,822	45	1,611,358	04	

Expenditure as above.....	4,167,454	21
Less expenditure by Imperial Government.....	3,911,701	47
	255,752	74
Less expenditure 1905-1913-1914—Ontario.....	83,130	84
Amount included in Ottawa River Works, page 20.....	172,621	90

W. C. LITTLE,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.

6 GEORGE V, A. 1915

STATEMENT showing the amounts expended on Construction, Renewals, etc.—Continued.

SAULT STE. MARIE CANAL.

	Year ending.	Capital.		Renewals	Staff.	Repairs.	
				Chargeable to			
		\$	cts.	\$	cts.	\$	
				cts.		cts.	
Government expenditure, 1868 to 1887, included	1888	8,145	06	949	35		
Government expenditure since	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	56		16,074	70	
" " "	1897	209,561	82		15,381	59	
" " "	1898	21,004	56		14,389	92	
" " "	1899	63,935	48		13,840	24	
" " "	1900	27,157	98		13,901	40	
" " "	1901	323,353	93	48	13,730	93	
" " "	1902	122,508	73		15,920	80	
" " "	1903	65,933	43		16,077	22	
" " "	1904	32,029	54		14,653	35	
" " "	1905	110,181	69		15,681	55	
" " "	1906	120,000	00		15,878	11	
" " "	1907	95,504	63		12,290	94	
" " "	1908	140,433	22		20,345	38	
" " "	1909	42,109	63	11,453	15,231	79	
" " "	1910	46,809	13	147,147	18,976	64	
" " "	1911	54,797	37	77,066	24,951	49	
" " "	1912	18,227	10	29,706	27,054	50	
" " "	1913	45,941	17	13,726	27,588	62	
" " "	1914	6,874	27		28,537	49	
" " "	1915				26,766	76	
Total..		*4,994,372	51	280,098	04	370,706	15
						323,164	34

*Agreeing with Public Accounts, 1915.

W. C. LITTLE,
Accountant.DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.

SESSIONAL PAPER No. 20

STATEMENT showing the amounts expended on Construction, Renewals, etc.—Continued.

SOULANGES CANAL.

	Year ending.	Capital.	Renewals Chargeable to Income.	Staff.	Repairs.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.
Government expenditure prior to Confederation.....					
Government expenditure since	1892	54,235 76			
" " "	1893	210,336 24			
" " "	1894	723,380 95			
" " "	1895	752,016 73			
" " "	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
" " "	1901	362,626 36	115 00	25,154 78	5,888 77
" " "	1902	235,021 79		22,672 50	2,267 13
" " "	1903	548,929 10		31,987 06	10,362 23
" " "	1904	113,328 45	15,608 69	25,235 25	33,382 01
" " "	1905	34,202 71	30,406 25	25,432 49	21,174 84
" " "	1906	5,000 22	16,033 79	24,817 37	17,096 33
" " "	1907	13,508 88	3,216 29	19,164 04	15,604 71
" " "	1908	50,634 01	4,245 18	28,988 36	35,678 11
" " "	1909	17,795 79	12,363 78	32,324 20	34,802 37
" " "	1910	153,022 23	2,290 93	32,851 09	46,287 16
" " "	1911	102,639 69	3,999 58	32,283 03	37,532 93
" " "	1912	286,787 88	14,375 47	36,871 50	38,564 54
" " "	1913	180,816 28		38,080 18	27,221 50
" " "	1914	81,235 56	16,117 84	38,904 16	25,383 32
" " "	1915	92,609 72	27,598 82	41,095 09	41,580 87
Total.....		*7,870,284 74	146,380 62	463,373 54	403,825 82

*Included in total cost of St. Lawrence River and Canals, see page 25.

W. C. LITTLE,
Accountant.DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.

6 GEORGE V, A. 1916

STATEMENT showing the amounts expended on Construction, Renewals, etc.—Continued.

STE. ANNE'S LOCK AND CANAL.

	Year ending.	Capital.	Renewals Chargeable to Income.	Staff.	Repairs.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.
Government expenditure prior to Confederation...		134,456 51			
Gov. expenditure since 1868 to 1879 included.		137,051 78	2,479 57	20,238 18	29,091 00
" " 1880		3,054 68		2,152 57	1,704 71
" " 1881		60,042 76		2,553 02	3,257 92
" " 1882		193,158 36		2,611 30	2,343 99
" " 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		120,681 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
" " 1901				1,895 89	3,999 02
" " 1902				1,994 52	3,015 97
" " 1903			1,984 39	2,072 17	4,684 42
" " 1904				2,292 94	2,244 13
" " 1905				2,151 01	6,901 44
" " 1906				2,259 16	2,294 86
" " 1907			2,449 96	1,595 62	901 47
" " 1908			2,501 42	2,248 29	1,693 63
" " 1909			199 67	2,292 19	4,290 57
" " 1910			2,339 76	2,267 60	2,446 28
" " 1911			2,880 93	2,315 34	2,628 91
" " 1912				2,770 51	2,738 40
" " 1913				2,769 63	2,298 26
" " 1914			7,379 94	2,896 86	6,799 35
" " 1915			7,043 41	4,715 62	4,249 29
Total		*1,170,215 63	84,044 81	108,175 35	133,783 96

*Included in total cost of Ottawa River Works, see page 20.

Original Construction	\$ 134,456 51
Enlargement, including New Lock	1,035,759 12
	\$ 1,170,215 63

W. C. LITTLE,

Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.

STATEMENT showing the amounts expended on Construction, Renewals, etc.—Continued.

ST. OURS LOCK.

	Year ending.	Capital.	Renewals Chargeable to Income.	Staff.	Repairs.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.
Govt. expenditure prior to Confederation 1868 to 1879 included.		121,537 65			
“ “ since.	1880			19,459 64	13,909 87
“ “	1881			1,614 01	705 54
“ “	1882			1,741 97	1,299 77
“ “	1883			2,002 71	1,902 41
“ “	1883		17,230 32	2,361 65	2,188 08
“ “	1884		5,279 87	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	2,001 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 06
“ “	1898			2,049 67	692 04
“ “	1899			2,244 12	1,494 93
“ “	1900		1,596 88	2,181 43	2,681 10
“ “	1911		3,610 06	2,128 25	1,681 44
“ “	1902		15,549 27	2,262 39	984 36
“ “	1903		9,344 89	2,288 63	1,671 83
“ “	1904		7,984 41	2,334 67	1,600 61
“ “	1905		14,900 90	2,479 66	1,716 35
“ “	1906		7,307 39	2,582 95	3,872 75
“ “	1907		4,200 00	2,064 62	1,142 79
“ “	1898		3,338 79	2,894 76	2,121 43
“ “	1909			2,994 78	3,693 19
“ “	1910		1,925 08	4,137 64	1,752 66
“ “	1911		1,200 23	3,527 69	2,353 81
“ “	1912	4,306 28	3,998 58	3,584 10	2,259 46
“ “	1913		2,678 37	3,530 02	2,449 44
“ “	1914	1,384 63	1,364 71	4,599 36	2,015 86
“ “	1915			4,280 50	3,896 03
Total.		*127,228 56	174,028 88	110,119 81	92,695 29

*Agrees with Public Accounts, 1915, expenditure of \$121,537.65 prior to Confederation not included.

W. C. LITTLE,
Accountant.DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.

SESSIONAL PAPER No. 20

STATEMENT showing the amounts expended on Construction, Renewals, etc.—Continued.

ST. PETER'S CANAL.

	Year ending.	Capital.	Renewals Chargeable to Income.	Staff.	Repairs.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.
Govt. expenditure prior to Confederation.....		156,523 32			
" " 1868 to 1879 included.....		300,564 93	46,193 57	4,607 66	15,682 80
" " since.....	1880	80,120 54		400 00	
" "	1881	69,434 76		959 58	
" "	1882	484 00			200 03
" "	1883			1,920 54	232 42
" "	1884	2,471 40		2,089 19	367 85
" "	1885	16,820 15		2,601 47	183 11
" "	1886	2,316 85		1,929 11	297 81
" "	1887	1,087 75	750 00	2,360 67	343 23
" "	1888			2,777 13	1,588 40
" "	1889		500 00	3,217 77	353 38
" "	1890			30,85 29	255 34
" "	1891	972 65	510 53	3,110 15	312 02
" "	1892	14,387 00	30,936 82	3,255 30	1,461 24
" "	1893	881 59	9,987 78	3,007 70	1,856 30
" "	1894	437 05	3,852 21	2,938 15	1,986 70
" "	1895	868 44	26,222 46	2,935 94	353 55
" "	1896	1,455 21	16,743 64	2,499 81	260 90
" "	1897			2,182 04	1 20
" "	1898		111 70	2,728 38	453 85
" "	1899			2,785 25	456 01
" "	1900			2,819 86	1,483 30
" "	1901		2,311 26	2,833 24	841 63
" "	1902		10,014 43	2,730 44	274 41
" "	1903			2,939 81	764 11
" "	1894			2,836 49	122 45
" "	1905		3,000 10	3,126 94	1,095 90
" "	1906			2,969 90	253 65
" "	1907			3,239 19	246 87
" "	1908			2,468 78	942 64
" "	1909			3,371 13	532 78
" "	1910			3,282 22	235 14
" "	1911			3,449 43	473 44
" "	1912		5,208 18	4,180 96	361 49
" "	1913		39,143 77	4,768 20	807 78
" "	1914		48,455 79	5,144 13	618 88
" "	1915		83,241 31	5,251 36	240 82
		648,755 64		4,897 45	
Less—Refunds in 1897-8.....		208 50			
Total.....		*648,547 14	327,183 55	111,700 66	35,945 66

*Expenditure as above..... \$ 648,547 14

Less expenditure prior to Confederation..... 156,523 32

Agreeing with Public Accounts, 1915..... \$ 492,023 82

W. C. LITTLE,
Accountant.DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.

6 GEORGE V, A. 1916

STATEMENT showing the amounts expended on Construction, Renewals, etc.—Continued.

*TAY CANAL.

	Year ending.	Capital.	Renewals Chargeable to Income.	Staff.	Repairs.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.
Government expenditure since Confederation	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 since 1890. No expenditure since 1900.

†Agreeing with Public Accounts, 1915, not including \$83,130.84 shown in Rideau Canal.

W. C. LITTLE,
Accountant.DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.

SESSIONAL PAPER No. 20

"	1901	111,158 39	390,112 78	76,501 57	577,772 74	12,342 82	11,755 09
"	1902	42,209 89	431,945 81	137,818 22	801,973 92	14,403 28	13,673 26
"	1903	10,268 92	320,334 92	18,483 34	349,105 18	15,246 91	20,092 79
"	1904	18,700 00	256,536 30	26,774 27	302,010 57	20,570 17	19,430 05
"	1905	8,108 99	292,337 29	8,109 98	8,209 63	1,978 85	
"	1906		140,920 65		308,556 26	23,399 45	21,492 46
"	1907		45,782 52	754 91	440,920 65	20,493 00	16,148 86
"	1908		100,312 81		46,537 43	13,953 53	8,501 37
"	1909		11,987 59		100,512 81	19,441 86	18,563 82
"	1910				11,987 59	3,744 50	23,454 80
"	1911					20,082 88	29,645 76
"	1912				3,200 00	21,893 61	21,681 75
"	1913		1,372 82		43,965 21	25,753 98	26,875 25
"	1914		913 56		1,372 82	32,709 64	28,214 13
"	1915				913 56	32,194 46	34,701 99
	Total	877,090 57	6,121,213 70	2,158,242 00	*10,491,098 07	297,559 36	586,981 41

*Original construction.

Cost of enlargement \$ 1,320,655 54

Total 9,170,442 53

Included in total cost of St. Lawrence River and Canals, see page 25.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.W. C. LITTLE,
Accountant.

6 GEORGE V, A. 1916

STATEMENT showing the amounts expended on Construction and Enlargement of Canals, to March 31, 1915.

Canal.	CAPITAL.		
	Construction.	Enlargement.	Total.
	\$ cts.	\$ cts.	\$ cts.
Beauharnois.....	1,636,690 26		1,636,690 26
*Carillon and Grenville.....	63,053 64	4,119,039 32	4,182,092 96
Chambly.....	637,056 76	94,639 76	731,696 52
Corwall.....	1,945,624 73	5,300,679 48	7,246,304 21
Culbute.....	382,391 46		382,391 46
Lachine.....	2,589,532 85	11,387,717 10	13,977,249 95
Lake St. Francis.....		75,906 71	75,906 71
Lake St. Louis.....		298,176 11	298,176 11
Murray.....	1,248,946 71		1,248,946 71
Rideau.....	4,084,323 37	83,130 84	4,167,454 21
Sault Ste. Marie.....	4,994,372 51		4,944,372 51
Soulanges.....	7,870,284 74		7,870,284 74
Ste. Anne's.....	134,456 51	1,035,759 12	1,170,215 63
St. Lawrence River and Canals.....	18,442 85	3,451,470 56	3,469,913 41
St. Ours Lock.....	121,537 65	5,690 91	127,228 56
St. Peter's.....	648,547 14		648,547 14
Tay.....	489,599 23		489,599 23
Trent.....	14,612,735 30		14,612,735 30
Welland.....	7,693,824 03	21,854,424 09	29,548,248 12
Welland Ship Canal.....	5,068,458 29		5,068,458 29
Williamsburg. { Farran's Point.....		877,090 57	
{ Galops.....		6,121,213 70	
{ Rapide Plat.....		2,158,242 00	
{ Williamsburg.....	1,320,655 54	13,896 26	10,491,098 07
Total.....	55,560,533 57	56,877,076 53	112,437,610 10

*Construction by Imperial Government not included. Records relating to same were kept in Ordnance Office, Montreal, and were destroyed by fire in 1852.

W. C. LITTLE,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.

RECAPITULATION.

YEARLY Expenditure on Canals and Revenue received to March 31, 1915.

	Year ending.	Capital.		Income.		REVENUE.		Revenue received.	
		\$	cts.	\$	cts.	\$	cts.	\$	cts.
Government expenditure prior to Confederation, including Imperial Government expenditure.....		20,593,866	13	98,378	46				
Government expenditure 1868 to 1879 included.....		17,004,842	55	515,196	21	1,830,398	92	1,832,998	61
Govt. expenditure since.....	1880	2,123,366	34			195,039	33	147,167	52
"	1881	2,075,891	65	7,246	69	197,573	62	154,653	63
"	1882	1,593,174	09	55,025	03	224,572	61	187,399	02
"	1883	1,763,001	97	62,503	14	269,415	01	178,617	86
"	1884	1,577,295	42	60,993	99	280,657	29	192,219	38
"	1885	1,504,621	47	58,298	29	280,226	20	201,708	47
"	1886	1,333,324	80	31,984	02	282,323	63	198,251	97
"	1887	1,783,698	16	65,983	06	285,172	62	198,888	84
"	1888	1,033,118	34	120,561	59	292,458	76	201,928	93
"	1889	972,918	43	162,015	49	301,040	23	240,261	36
"	1890	1,026,364	24	146,853	54	290,516	63	176,089	00
"	1891	1,318,092	15	165,843	87	294,562	12	204,768	45
"	1892	1,437,149	30	194,129	61	293,115	58	231,089	54
"	1893	2,069,573	30	196,185	84	291,048	97	204,759	39
"	1894	3,027,164	19	110,512	07	294,446	34	179,630	13
"	1895	2,452,273	65	216,057	58	281,477	04	164,033	71
"	1896	2,258,778	97	85,820	49	292,121	05	209,321	60
"	1897	2,348,636	91	101,205	74	287,970	36	178,385	47
"	1898	3,207,249	79	82,400	55	280,872	44	203,478	86
"	1899	3,899,877	31	82,205	60	280,628	57	202,312	36
"	1900	2,639,564	93	120,653	93	292,609	24	227,626	97
"	1901	2,360,569	89	135,500	57	314,095	04	262,876	07
"	1902	2,114,689	88	213,044	91	317,838	61	263,768	27
"	1903	1,823,273	61	275,103	58	390,281	82	294,113	92
"	1904	1,880,787	20	298,678	23	381,016	82	350,278	54
"	1905	2,071,593	72	352,855	43	431,499	60	401,742	79
"	1906	1,552,121	21	310,716	70	447,962	92	375,889	60
"	1907	887,838	61	254,423	18	329,629	63	287,231	03
"	1908	1,708,156	37	483,250	11	473,638	95	411,660	53
"	1909	1,868,834	45	699,304	73	475,515	04	433,958	10
"	1910	1,650,706	64	459,835	62	515,585	16	491,793	02
"	1911	2,349,474	49	385,534	55	511,305	94	471,530	32
"	1912	2,554,938	91	384,860	73	585,899	54	555,709	95
"	1913	2,255,448	21	292,960	26	605,248	57	535,135	66
"	1914	2,824,536	79	351,397	24	642,844	68	574,038	68
"	1915	5,490,796	03	405,806	32	675,770	67	562,599	27
Total.....		112,437,610	10	8,043,326	95	14,716,379	55	12,187,916	82
								15,757,125	97

*This does not include expenditure which has been charged to Miscellaneous Canals Expenditure but only the amount expended on specified canals.

†Canal tolls abolished this year.

W. C. LITTLE,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.

MISCELLANEOUS CANALS EXPENDITURE.

STATEMENT showing the Expenditure from Confederation to March 31, 1915.

	Year ending	Capital.		Income.		Revenue.		Total.	
		\$	cts.	\$	cts.	\$	cts.	\$	cts.
Government expenditure 1868 to 1879.....				1,860	00	104,726	70	106,586	70
Govt. expenditure since.....	1880			2,561	55	323	16	2,884	71
"	1881			2,338	41	5,535	22	7,873	63
"	1882					9,826	23	9,826	23
"	1883			11,781	27	6,978	54	18,759	81
"	1884			7,486	62	8,305	41	15,792	03
"	1885			16,725	47	1,210	61	17,936	08
"	1886			20,323	62	776	30	21,099	92
"	1887			23,512	00	649	04	24,161	04
"	1888			34,533	07	5,799	83	40,332	90
"	1889			10,091	87	5,207	64	15,299	51
"	1890			16,426	69	49,550	21	65,976	90
"	1891			16,925	31	56,922	05	73,847	36
"	1892			6,540	49	65,074	07	71,614	56
"	1893			8,498	41	63,965	54	72,463	95
"	1894			2,883	11	60,265	22	63,148	33
"	1895			4,132	28	60,769	56	64,901	81
"	1896			10,893	40	70,340	22	81,233	64
"	1897			2,937	47	62,777	12	65,714	52
"	1898			1,719	69	56,284	42	58,004	19
"	1899			1,318	79	66,850	29	68,169	08
"	1900			11,873	35	58,836	57	70,709	92
"	1901			12,267	99	61,938	61	74,206	60
"	1902			3,658	23	65,770	65	69,428	88
"	1903			2,491	84	63,175	19	65,667	03
"	1904			3,730	79	66,067	30	69,798	09
"	1905			1,498	14	64,515	07	66,013	21
"	1906			9,160	44	62,171	45	71,331	89
"	1907			9,687	55	66,251	27	75,938	82
"	1908	14,999	70	24,700	08	105,518	99	145,278	77
"	1909	5,034	00	28,819	54	106,065	87	139,919	41
"	1910			29,421	06	111,755	68	141,176	74
"	1911			54,734	48	103,398	27	158,132	75
"	1912	5,999	20	57,151	70	110,049	21	173,200	11
"	1913	3,809	24	39,026	95	121,370	46	164,206	65
"	1914	5,124	55	37,887	51	147,729	40	190,741	46
"	1915			38,923	85	140,235	84	179,159	69
Total.....		34,966	69	568,583	02	2,216,987	21	2,820,536	92

W. C. LITTLE,
Accountant.DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.

SESSIONAL PAPER No. 20

STATEMENT of the Canals Revenue received during year ending March 31, 1915.

Collection Divisions.	Wharfage, Storage, Harbour Dues, etc.		Hydraulic and other Rents.	Total.
	\$	cts.	\$	cts.
<i>Welland Canal.</i>			588 00	588 00
Port Colborne.....			8,282 13	8,377 73
Port Colborne Elevator.....	176,674	38		176,674 38
Port Dalhousie.....	577	36	46,198 37	46,775 73
Totals.....	177,347	34	55,068 50	232,415 84
<i>Welland Ship Canal.</i>			100 00	100 00
<i>St. Lawrence Canals—</i>				
Coteau Landing (Beauharnois Canal).....			14,788 65	14,788 65
" " (Soulanges Canal).....	62	00	3,592 00	3,654 00
Corwall.....	1,728	35	6,050 00	7,778 35
Cardinal—Williamsburg Canal.....	40	00	2,067 00	2,107 00
Lachine Canal (Montreal).....	10,670	37	128,047 00	138,717 37
" " (Lachine).....	974	78		974 78
Totals.....	13,475	50	154,544 65	168,020 15
<i>Chambly Canal.</i>			648 50	648 50
Chambly.....	24	00	105 00	129 00
St. John's.....	10	00	64 00	74 00
St. Ours Lock.....	5	00		5 00
Totals.....	39	00	817 50	856 50
<i>Ottawa River Canals—</i>				
Carillon & Grenville Canal.....			197 00	197 00
" " Grenville.....	8	00	18 00	26 00
" " Carillon.....			929 00	929 00
Ste. Anne's Lock.....	137	93	176 00	313 93
Chats Falls Canal.....			1 00	1 00
Totals.....	145	93	1,321 00	1,466 93
<i>Rideau Canal.</i>			1,964 00	1,964 00
Ottawa.....	240	00	3,327 48	3,567 48
Kingston Mills.....	45	00	427 00	472 00
Smiths Falls.....	95	00	170 20	265 20
Totals.....	380	00	5,888 68	6,268 68
<i>St. Peter's Canal.</i>			2 00	2 00
<i>Murray Canal.</i>			247 00	247 00
<i>Trent Canal.</i>			98 00	17,795 04
<i>Sault Ste. Marie Canal.</i>			493 00	493 00
Grand totals.....	191,485	77	236,277 37	427,763 14
Net amount deposited to the credit of the Receiver General.....				427,763 14

W. C. LITTLE,
Accountant.

STATEMENT of Hydraulic and other rents, showing rent accrued, paid, and balances yet due March 31, 1915.

Balance due April 1, 1914	Hydraulic rents accrued 1914-15.		Lock House rents.		Totals.		Canals.		Abatement for overcharges.		DEPOSITED TO THE CREDIT OF THE RECEIVER GENERAL.		Balance due Mar. 31, 1915.		Totals.					
	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.		
57,093 19		62,816 30		588 00		120,497 49		Welland.....		261 09		54,480 50		65,167 90		120,497 49		100 00		100 00
7,100 17		4,240 00		288 00		11,628 17		Welland Ship		850 00		1,779 00		8,711 17		11,628 17		5,153 87		5,153 87
3,564 87		7,639 50				11,204 37		Williamsburg		0 50		6,050 00		6,380 84		11,204 37		21,369 99		21,369 99
6,511 84		14,858 15				21,369 99		Beauharnois		586 58		14,788 65		30,649 95		159,283 53		159,283 53		159,283 53
25,044 20		134,035 33		204 00		159,283 53		Lachine.....		432 82		127,843 00		1,758 34		1,758 34		940 84		940 84
6,636 86		4,116 60		648 50		1,788 34		Chambly.....		40 50		648 50		6,395 96		6,395 96		18,026 99		18,026 99
282 70		16,449 29		1,964 00		12,717 46		Rideau.....				1,964 00		191 45		191 45		18,026 99		18,026 99
60 00		493 00		1,295 00		18,026 99		Trent.....				1,295 00		60 00		60 00		28,165 31		28,165 31
28,469 31		643 00		197 00		553 00		Sault Ste. Marie				493 00		29,309 31		29,309 31		3,592 00		3,592 00
		643 00		396 00		29,309 31		Carillon and Grenville				396 00		4 00		4 00		180 00		180 00
4 00		3,196 00		120 00		3,592 00		Soulanges				120 00		1 00		1 00		2 00		2 00
		56 00				180 00		St. Anne's Lock						55 00		55 00		7 00		7 00
		1 00				1 00		Chats Falls						2 00		2 00		240 00		240 00
		2 00				2 00		St. Peters						3 00		3 00		5,940 50		5,940 50
3 00		7 00		240 00		250 00		Murray.....						2,171 99		2,171 99		230,336 87		230,336 87
135,760 98		248,772 17		5,940 50		390,473 65		Totals.....		2,171 99		5,940 50		152,024 29		390,473 65				

W. C. LITTLE,
Accountant.DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.

SESSIONAL PAPER No. 20

RECAPITULATION—Statement of Expenditure by Canal to March 31, 1915.

Canals.	Capital.	Income.	REVENUE.		Totals.
			Staff.	Repairs.	
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Baie Verte.....		44,387 53			44,387 53
Beauharnois.....	1,636,690 26	265,810 84	649,574 89	525,691 23	3,077,767 22
Carillon and Grenville.....	4,182,992 96	351,431 74	761,974 74	546,080 95	5,841,580 39
Chambly.....	731,696 52	751,074 47	911,876 47	870,379 76	3,265,027 22
Cornwall.....	7,246,304 21	587,228 95	1,469,663 96	914,900 69	10,218,187 81
Culbute Lock.....	382,391 46	60,923 37	11,507 48	7,036 15	461,858 46
Lachine.....	13,977,249 95	1,420,902 70	2,553,502 80	1,913,305 92	19,864,961 37
Lake St. Francis.....	75,906 71	25,043 68			100,950 39
Lake St. Louis.....	298,176 11				298,176 11
Murray.....	1,248,946 71	101,423 11	128,302 67	93,079 34	1,571,751 83
Rideau.....	4,167,454 21	596,853 69	1,604,822 45	1,611,358 04	7,980,488 39
Sault Ste. Marie.....	4,994,372 51	280,098 04	370,706 15	323,164 34	5,968,341 04
Soulanges.....	7,870,284 74	146,380 62	463,373 54	403,825 82	8,883,864 72
St. Anne's Lock.....	1,170,215 63	84,044 81	108,175 35	133,783 96	1,496,219 75
St. Lawrence Riv. & Canals.....	3,469,913 41	128,298 11			3,598,211 52
St. Ours Lock.....	127,228 56	174,028 88	110,119 81	92,695 29	504,072 54
St. Peter's.....	648,547 14	327,183 55	111,700 66	35,945 66	1,123,377 01
Tay.....	489,599 23	748 65			490,347 88
Trent.....	14,612,735 30	894,210 27	471,679 14	629,911 94	16,008,536 65
Welland.....	29,548,248 12	1,505,694 58	4,402,418 03	3,520,307 16	38,976,667 89
Welland Ship.....	5,068,458 29				5,068,458 29
Williamsburg.....	1,334,551 80				
" Farran's Point.....	877,090 57	297,559 36	586,981 41	566,360 57	11,941,999 41
" Galops.....	6,121,213 70				
" Rapide Plat.....	2,158,242 00				
Total.....	112,437,610 10	8,043,326 95	14,716,379 55	12,187,916 82	147,385,233 42
Expenditure Canals General.....	34,966 69	568,583 02		2,216,987 21	2,820,536 92
Total expenditure.....	112,472,576 79	8,611,909 97	14,716,379 55	14,404,904 03	150,205,770 34

W. C. LITTLE,

Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,

OTTAWA, September 1, 1915.

6 GEORGE V, A. 1916

ANNAPOLIS AND DIGBY RAILWAY.

	Year.	Capital.	Income.
		\$ cts.	\$ cts.
Government expenditure since Confederation.	1889	9,847 27	
" " "	1890	381,942 75	
" " "	1891	196,869 36	
" " "	1892	26,129 89	
" " "	1893	2,190 62	
" " "	1894	1,675 36	
" " "	1895	570 55	
" " "	1896		
" " "	1897	41,457 29	
" " "	1898		
" " "	1899		
" " "	1900		
" " "	1901		8,381 82
Total.....		*660,683 09	8,381 82

*Of this amount Parliament voted, under 52 Vic., chap. 8, the sum of \$500,000 as a subsidy to the Western Counties Railway, N.S.

W. C. LITTLE,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.

CANADA EASTERN RAILWAY.

	Year,	Capital.
		\$ cts.
Government expenditure since Confederation...	1905	800,000 00
" " "	1906	
" " "	1907	
" " "	1908	19,000 00
Total.....		*\$19,000 00

*Included in total cost of Intercolonial Railway system, page 46.

W. C. LITTLE,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.

SESSIONAL PAPER No. 20

CANADIAN PACIFIC RAILWAY.

	Year.	Construction, including subsidy of \$25,000,000.		Working Expenses.		Revenue received.	
		\$	cts.	\$	cts.	\$	cts.
Government expenditure since Confederation.	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	60
" " " "	1881	4,968,503	93	236,944	98	201,498	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				
" " " "	1889		86,716				
" " " "	1890		40,980				
" " " "	1891		37,367				
" " " "	1892		66,211				
" " " "	1893		413,836				
" " " "	1894		146,539				
" " " "	1895		49,209				
" " " "	1896		65,669				
" " " "	1897		14,054				
" " " "	1898		692				
" " " "	1899		8,418				
" " " "	1900		236				
" " " "	1901		8,978				
" " " "	1902		448				
" " " "	1903						
" " " "	1904		33,076				
" " " "	1905						
" " " "	1906						
" " " "	1907						
" " " "	1908		600				
" " " "	1909		937				
" " " "	1910						
" " " "	1911		2,918				
" " " "	1912						
" " " "	1913						
" " " "	1914						
Total		\$62,789,776	09	318,216	30	396,473	75

*Agrees with Public Accounts Balance Sheet, 1914-1915.

(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 page 60 and following for the expenditure.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.W. C. LITTLE,
Accountant.

HUDSON BAY RAILWAY.

	Year.	Capital.
		\$ cts.
Government expenditure since Confederation..	1909	92,427 83
“ “ “	1910	53,042 63
“ “ “	1911	184,149 81
“ “ “	1912	159,632 00
“ “ “	1913	1,009,063 15
“ “ “	1914	4,498,717 25
“ “ “	1914	4,498,717 25
“ “ “	1915	4,773,743 99
Total.....		10,860,776 66

W. C. LITTLE,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.

SESSIONAL PAPER No. 20

INTERCOLONIAL RAILWAY.

	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 to 1879 included		25,847,852	40			13,382,773	41	3,670,469	65
" " " " " " " "	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			2,568,473	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	655,228	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	2,966,631	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
" " " " " " " "	1901	3,633,836	57			5,477,295	30	5,019,497	76
" " " " " " " "	1902	4,621,841	05			5,590,939	57	5,720,990	50
" " " " " " " "	1903	2,254,266	68			6,214,496	38	6,366,884	53
" " " " " " " "	1904	1,880,856	60			7,264,263	13	6,392,865	48
" " " " " " " "	1905	3,937,621	93			8,535,689	91	6,833,561	50
" " " " " " " "	1906	3,675,170	90			7,599,400	33	7,663,282	40
" " " " " " " "	1907	1,505,209	26			6,045,597	15	6,293,751	52
" " " " " " " "	1908	4,363,394	01			9,195,347	64	9,229,989	21
" " " " " " " "	1909	3,867,232	16			9,364,256	10	8,583,100	79
" " " " " " " "	1910	1,278,409	45			8,668,620	23	9,328,888	97
" " " " " " " "	1911	762,869	06			9,613,774	77	9,911,974	83
" " " " " " " "	1912	1,710,448	56			10,624,889	89	10,666,962	44
" " " " " " " "	1913	2,391,987	53			12,009,953	31	12,052,729	39
" " " " " " " "	1914	4,329,694	68			12,893,735	98	12,940,066	52
" " " " " " " "	1915	6,663,436	65			11,456,356	00	11,468,042	36
Total.		198,677,655	01		280,000 00	204,396,473	68	197,100,749	37

*Continued page 47.

†Including \$296,872.90 paid to Nova Scotia Railway and European and North American Railway, New Brunswick, and charged to "Consolidated Fund."

INTERCOLONIAL RAILWAY.—Continued.

Total cost of construction as shown on page 46.....		†\$98,677,655 01
Less amounts transferred from Capital to Consolidated Fund as follows:—		
European and North American Railway from 1868 to 1873.....	\$	88,363 18
Nova Scotia Railway from 1868 to 1873.....		208,509 72
		<hr/>
		296,872 90
		<hr/>
To which add the following—		\$ 98,380,782 11
Canada Eastern Railway, page 40.....		819,000 00
Cape Breton Railway, page 42.....		3,860,679 14
Drummond County Railway, page 43.....		1,464,000 00
Eastern Extension Railway, page 43.....		1,324,042 81
Montreal and European Short Line Railway, page 47.....		333,942 72
Oxford and New Glasgow, page 49.....		1,949,063 21
		<hr/>
Total capital cost of Intercolonial Railway System.....		*\$108,131,509 99

*Agreeing, less outstanding cheques, with Public Accounts, 1914-1915.

†Includes \$220.48, amount of an Exchequer Court award in 1907 against the Oxford and New Glasgow Railway.

W. C. LITTLE,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.

SESSIONAL PAPER No. 20

INTERNATIONAL RAILWAY OF NEW BRUNSWICK.

	Year.	Capital.	Working Expenses.	Revenue Received.
		\$ cts.	\$ cts.	\$ cts.
Government expenditure since Confederation.....	1915	1,300 00	*111,706 35	65,468 92
Total.....		1,300 00	*111,706 35	65,468 92

*Includes \$45,000 for Lease of Railway as per Statute.

W. C. LITTLE,
*Accountant.*DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.

MONTREAL AND EUROPEAN SHORT LINE RAILWAY.

	Year.	Construc- tion.	Working Expenses.
		\$ cts.	\$ cts.
Government expenditure since Confederation	1885	49,587 45	.....
" " "	1886	135,214 38	.....
" " "	1887	24,157 32	.....
" " "	1888	397 35	.....
" " "	1889	.....	.....
" " "	1890	.....	.....
" " "	1891	124,568 23	.....
" " "	1892	.....	.....
" " "	1893	.....	.....
" " "	1894	17 99	.....
Total.....		*333,942 72	.....

*Included in total cost of Intercolonial Railway system, page 46.

W. C. LITTLE,
*Accountant.*DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.

6 GEORGE V, A. 1916

NATIONAL TRANSCONTINENTAL RAILWAY.

	Year.	Construction.	Working Expenses.	Revenue.
		\$ cts	\$ cts.	\$ cts.
Government expenditure since Confederation.	1904	6,249 40	.....	.....
.. .. .	1905	778,491 28	.....	.....
.. .. .	1906	1,841,269 95	.....	.....
.. .. .	1907	5,537,867 50	.....	.....
.. .. .	1908	18,910,449 41	.....	.....
.. .. .	1909	24,892,422 68	.....	.....
.. .. .	1910	19,968,126 86	.....	.....
.. .. .	1911	23,488,208 40	.....	.....
.. .. .	1912	21,110,683 05	.....	.....
.. .. .	1913	13,766,916 39	.....	.....
.. .. .	1914	12,670,108 27	94,074 10	44,634 11
.. .. .	1915	9,831,932 58	239,527 25	153,213 55
Total.. .. .	.....*	152,802,745 77	333,601 35	197,847 66

*Agrees with Public Accounts Balance Sheet, 1914-1915.

W. C. LITTLE,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.

SESSIONAL PAPER No. 20

NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY.

	Year.	Capital.		Working Expenses.		Revenue Received.	
		\$	cts.	\$	cts.	\$	cts.
Government expenditure since Confederation....	1915	24,700	00	43,942	53	25,419	81
Total.....	...	24,700	00	43,942	53	25,419	81

W. C. LITTLE,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS.
OTTAWA, September 1, 1915.

OXFORD AND NEW GLASGOW RAILWAY.

	Year.	Capital.		Working Expenses.	
		\$	cts.	\$	cts.
Government expenditure since Confederation	1888	280,932	35		
" " "	1889	840,553	57		
" " "	1890	434,073	60		
" " "	1891	220,886	39		
" " "	1892	48,745	23		
" " "	1893	7,922	80		
" " "	1894	112,382	75		
" " "	1895	*			
" " "	1896	*			
" " "	1897	3,565	52		
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 46. Add \$220.48 amount of Exchequer Court Award paid in 1907 and included in Intercolonial Railway.

W. C. LITTLE,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS.
OTTAWA, September 1, 1915.

SESSIONAL PAPER No. 20

QUEBEC BRIDGE.

	Year.	Capital.	Income.
		\$ cts.	\$ cts.
Government expenditure since Confederation.....	1900		422,867 12
" " ".....	1910		111,788 02
" " ".....	1911	227,563 40	
" " ".....	1912	603,293 07	
" " ".....	1913	1,512,825 96	
" " ".....	1914	2,604,105 61	
" " ".....	1915	2,816,305 10	
Total.....		7,764,093 14	534,655 14
Less amount received from the Phoenix Bridge Co., 1910			100,000 00
Total.....		*7,764,093 14	434,655 14

*Expenditure as above.....			\$ 7,764,093 14
Add amounts paid by the Finance Department not included above:—			
Amount guaranteed by Act of 1903, Chap. 54.....		\$6,424,781 00	
Amount paid to the Province of Quebec.....		250,000 00	
Amount paid to city of Quebec.....		300,000 00	
Amount paid to Emile Tanguay, as per Supreme Court award.....		485 20	6,975 266 20
			\$14,739,359 34
Less amount received from the Phoenix Bridge Co.....			100,000 00
Agrees with Public Accounts Balance sheet, 1915.....			\$14,639,359 34
To which add the expenditure under Income, 1909 and 1910.....		\$ 534,655 14	
Add also amount paid for subsidies in 1901, 1902 and 1903.....		374,353 33	909,008 47
Total expenditure to date of March 31, 1915.....			\$15,548,367 81

W. C. LITTLE.

*Accountant.*DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.

6 GEORGE V, A. 1916

ST. JOHN AND QUEBEC RAILWAY.

	Year.	Capital.	Working Expenses.	Revenue Received.
	1915		\$ cts.	\$ cts.
Government expenditure since Confederation			24,694 75	21,717 24
Total			24,694 75	*21,717 24

*In this sum is included an amount, \$2,977.54, which should have been credited to open accounts, leaving the actual revenue \$18,739.73. This will be adjusted in the 1915-16 accounts.

W. C. LITTLE,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.

YUKON TERRITORY WORKS.
(Stikine-Teslin Railway.)

	Year.	Construction.
		\$ cts.
Government expenditure since Confederation	1902	283,323 55
Total		*283,323 55

*Included in Public Accounts Balance Sheet, 1902-1903, page 6.

W. C. LITTLE,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.

SESSIONAL PAPER No. 20

STATEMENT showing amount expended on Capital Account on Railways.

Railways.	—		—	
	\$	cts.	\$	cts.
Intercolonial, pages 45-46.....	98,380,782	11		
Cape Breton, page 42.....	3,800,679	14		
Oxford and New Glasgow page 49.....	1,949,063	21		
Eastern Extension, page 43.....	1,324,042	81		
Drummond County, page 43.....	1,464,000	00		
Montreal and European Short Line, page 48.....	333,942	72		
Canada Eastern, page 40.....	819,000	00		
Total.....			108,131,509	99
Carleton Branch, page 42.....			48,410	48
Prince Edward Island, page 50.....			9,490,899	71
Canadian Pacific, page 41.....			62,789,776	09
Annapolis and Digby, page 40.....			660,683	09
Yukon Territory Works (Stikine-Teslin Ry.), page 52.....			283,323	55
National Transcontinental, page 48.....			152,802,745	77
Governor General's Cars.....			71,528	82
Hudson Bay Railway, page 44.....			10,860,776	66
International Railway of New Brunswick, page 47.....			1,300	00
New Brunswick and Prince Edward Island Railway, page 49.....			24,700	00
Total.....			345,165,664	16
<i>Memo re Recapitulation—Railways.</i>				
Total cost as per statement above.....			345,165,664	16
Add amounts transferred from Capital to Consolidated Fund, Intercolonial Railway, see statement, page 46.....			296,872	90
Agreeing with total amount paid on Construction, as per statement, page 54.....			*345,462,537	06

*Amounts paid for Quebec Bridge, page 51, and amount of Miscellaneous Expenditure, page 55, not included in above.

W. C. LITTLE,
Accountant

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.

6 GEORGE V, A. 1916

RECAPITULATION—GOVERNMENT RAILWAYS.

	Year.	Construction.		Working expenses.		Revenue.	
		\$	cts.	\$	cts.	\$	cts.
Government expenditure prior to Confederation		13,881,460	65				
“ “ since “	1868	483,353	65	359,961	08	420,752	58
“ “ “	1869	282,615	18	387,548	47	453,022	76
“ “ “	1870	1,729,381	49	445,208	75	471,245	09
“ “ “	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	09	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	1,890,268	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	6,100,077	14	1,851,489	26	1,739,137	25
“ “ “	1881	5,577,236	73	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	2,709,857	37	3,513,063	67	3,167,542	67
“ “ “	1890	22,392,767	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	712,917	44	3,288,629	62	3,202,565	62
“ “ “	1894	585,749	01	3,226,208	13	3,169,019	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	3,309,130	42	4,665,228	06	4,774,161	87
“ “ “	1901	3,922,989	37	5,739,051	54	5,213,381	24
“ “ “	1902	3,386,611	24	5,861,069	54	5,918,990	43
“ “ “	1903	3,083,680	86	6,474,134	20	6,584,598	77
“ “ “	1904	2,619,059	86	7,599,958	57	6,627,255	51
“ “ “	1905	6,125,481	79	8,906,154	35	7,050,892	11
“ “ “	1906	6,102,565	74	7,893,653	49	7,950,552	97
“ “ “	1907	7,174,370	17	7,328,745	65	6,509,186	49
“ “ “	1908	23,684,005	25	9,595,295	43	9,534,569	04
“ “ “	1909	29,414,227	34	9,764,586	51	8,894,410	42
“ “ “	1910	21,505,975	91	9,095,903	96	9,647,963	71
“ “ “	1911	24,532,466	18	10,037,878	77	10,249,394	38
“ “ “	1912	23,108,805	52	11,074,852	80	11,034,165	83
“ “ “	1913	17,375,968	10	12,499,925	65	12,442,203	46
“ “ “	1914	21,628,095	15	13,559,225	45	13,394,317	37
“ “ “	1915	21,865,663	92	12,474,453	85	12,149,357	32
Total		3345,502,537	06	218,296,391	87	206,426,631	21

Total amount paid on construction.....\$345,502,537 06

Less amount received from the city of St. John, N.B., as purchase price of the Carleton Branch Railway.....40,000 00

Cost of construction.....\$345,462,537 06

* Amount paid for Quebec Bridge and amount of Capital Expenditure, page 55, not included.

† Agreeing with amount expended on Capital Account on Railways, etc., see page 53.

W. C. LITTLE,

Accountant.

SESSIONAL PAPER No. 20

MISCELLANEOUS EXPENDITURE ON RAILWAYS.

STATEMENT showing the Expenditure from Confederation to March 31, 1915, yearly.

	Year end- ing.	Capital.		Income.		Revenue.		Total.	
		\$	cts.	\$	cts.	\$	cts.	\$	cts.
Gov't expenditure prior to Confederation									
“ since “ 1868 to	1876								
“ “ “ 1877	1877								
“ “ “ 1878 to	1883					43,638	79	43,639	97
“ “ “	1884			62,256	58			62,256	58
“ “ “	1885			11,003	38			11,003	38
“ “ “	1886			10,383	59			10,383	59
“ “ “	1887			23,545	34			23,545	34
“ “ “	1888			22,898	90			22,898	90
“ “ “	1889			16,552	64			16,552	64
“ “ “	1890			50,909	74			50,909	74
“ “ “	1891			16,314	41			16,314	41
“ “ “	1892			19,062	51			19,062	51
“ “ “	1893			4,313	73			4,313	73
“ “ “	1894			4,855	11			4,855	11
“ “ “	1895			13,221	27			13,221	27
“ “ “	1896			6,562	20			6,562	20
“ “ “	1897			6,118	99			6,118	99
“ “ “	1898			8,327	96	1,400	00	9,727	96
“ “ “	1899			67,005	86			67,005	86
“ “ “	1900			33,496	99			33,496	99
“ “ “	1901			28,658	78			28,658	78
“ “ “	1902			21,752	58			21,752	58
“ “ “	1903			15,570	43			15,570	43
“ “ “	1904			85,353	17			85,353	17
“ “ “	1905			97,507	00			97,507	00
“ “ “	1906			99,018	80			99,018	80
“ “ “	1907			92,115	62			92,115	62
“ “ “	1908			178,266	39			178,266	39
“ “ “	1909			181,615	90			181,615	90
“ “ “	1910			200,329	52			200,329	52
“ “ “	1911			218,178	85	1,000	00	219,178	85
“ “ “	1912			257,670	45	3,950	00	261,620	45
“ “ “	1913			360,812	49	4,500	00	365,312	49
“ “ “	1914	18,000	00	384,018	59	11,300	00	413,318	59
“ “ “	1915			376,602	43	23,000	00	399,602	43
Total.....		18,000	00	2,973,300	20	88,789	97	3,080,090	17

W. C. LITTLE,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.

6 GEORGE V, A. 1916

MISCELLANEOUS EXPENDITURE ON RAILWAYS AND CANALS.

STATEMENT showing Expenditure common to both Railways and Canals from Confederation to March 31, 1915.

	Year ending.	Capital.	Income.	Revenue.	Total.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.
Gov't. expenditure prior to Confederation	1878		232,839 35	69,113 06	301,952 01
" since	1879 to				
" " " "	1892				
" " " "	1893		28,640 93		28,640 93
" " " "	1894		15,746 31		15,746 31
" " " "	1895		19,304 87		19,304 87
" " " "	1896		25,194 21		25,194 21
" " " "	1897		25,142 90	597 39	25,740 29
" " " "	1898		28,042 10		28,042 10
" " " "	1899		22,085 19		22,085 19
" " " "	1900		22,802 18		22,802 18
" " " "	1901		33,986 68		33,986 68
" " " "	1902		34,138 50		34,138 50
" " " "	1903		35,398 00		35,398 00
" " " "	1904		36,262 32		36,262 32
" " " "	1905		38,660 52		38,660 52
" " " "	1906		37,484 64		37,484 64
" " " "	1907		34,183 75		34,183 75
" " " "	1908		45,115 99		45,115 99
" " " "	1909		20,912 04		20,912 04
" " " "	1910		4,706 79		4,706 79
" " " "	1911		2,369 52		2,369 52
" " " "	1912		2,922 06		2,922 06
" " " "	1913		9,338 17		9,338 17
" " " "	1914		5,671 08		5,671 08
" " " "	1915		2,324 14		2,324 14
Total.....			763,272 24	69,711 05	832,983 29

W. C. LITTLE,

*Accountant.*DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.

SESSIONAL PAPER No. 20

STATEMENT showing the TOTAL EXPENDITURE and REVENUE of the Department of Railways and Canals prior to and since Confederation to March 31, 1915.

	\$	cts	\$	cts.
TOTAL EXPENDITURE.....			799,114,181	18
Expenditure on Railways.....	597,119,019	10		
“ Quebec Bridge.....	8,198,748	28		
“ Railway Subsidies.....	72,757,660	17		
“ Canals.....	150,205,770	34		
“ Miscellaneous.....	832,983	29		
Total expenditure.....			799,144,181	18
CLASSIFICATION OF EXPENDITURE IN GENERAL—				
Capital Account.....	465,420,334	09		
Revenue “.....	247,576,176	47		
Income “.....	13,360,010	45		
Consolidated Fund—Railway Subsidies, page 69.....	72,757,660	17		
Total expenditure.....			799,114,181	18
CLASSIFICATION OF EXPENDITURE IN DETAIL—				
Railways—				
Capital—See pages 53 and 55.....	345,183,664	16		
Income—See pages 45, 46 and 55.....	3,550,173	10		
Revenue—See pages 54 and 55.....	218,385,181	84	567,119,019	10
Quebec Bridge—				
Capital—See page 51.....	7,764,093	14		
Income—See page 51.....	434,655	14	8,198,748	28
Railway Subsidies—See pages 58 to 69.....	72,757,660	17	72,757,660	17
Canals—				
Capital—See pages 35, 36 and 39.....	112,472,576	79		
Income—See pages 35, 36 and 39.....	8,611,909	97		
Revenue—See pages 35, 36 and 39.....	29,121,283	58	150,205,770	34
Miscellaneous Expenditure—				
Income—See page 56.....	763,272	24		
Revenue—See page 56.....	69,711	15	832,983	29
Total expenditure.....			799,114,181	18
CLASSIFICATION OF EXPENDITURE INTO CAPITAL AND CONSOLIDATED FUND—				
Railways—				
Capital—Including Quebec Bridge.....	352,947,757	30		
Consolidated Fund (Income and Revenue) Railway Subsidies, etc.....	295,127,670	25	648,075,427	55
Canals—				
Capital.....	112,472,576	79		
Consolidated Fund (Income and Revenue).....	37,733,193	55	150,205,770	34
General Expenditure—				
Consolidated Fund (Income and Revenue).....	832,983	29	832,983	29
Total expenditure.....			799,114,181	18
TOTAL REVENUE RECEIVED from July 1, 1867 to March 31, 1915—				
Railways—See page 54.....	206,426,631	21		
Canals—See page 35.....	15,757,125	97		
Total Revenue.....			222,183,757	18

W. C. LITTLE,
Accountant.

DEPARTMENT OF RAILWAYS AND CANALS,
OTTAWA, September 1, 1915.

SUBSIDY STATEMENTS

- I.--Statement showing the Railway Subsidies paid during the year ending March 31, 1915.
- II.--Statement of Railway Subsidies paid from July 1, 1873, to March 31, 1915.

STATEMENT showing the Railway Subsidies paid during the year ending
March 31, 1915.

NAME OF RAILWAY.		Amount.
1.	Algoma Eastern Railway Company, Ontario (formerly Manitoulin and North Shore Railway Company)— From Little Current thence crossing Canadian Pacific Railway at or near Stanley to Sudbury.	\$ 13,022 87
2.	Canadian Northern Pacific Railway Company, B.C.— From a point at Yellow Head Pass to Vancouver and the mouth of the Fraser River.	178,077 80
3.	Canadian Northern Alberta Railway Company, Alberta— From the city of Edmonton in the province of Alberta to the boundary of the province of British Columbia at the Yellow Head Pass.	262,080 00
4.	Canadian Northern Ontario Railway Company, Ontario— From Ottawa to Port Arthur.	2,343,335 80
5.	Algoma Central and Hudson Bay Railway, Ontario— From Sault Ste. Marie to a point on the Canadian Pacific Railway between White River and Dalton Station in District of Algoma. \$ 4,036 94 From a point fifty miles northerly from the junction of its line of railway with Canadian Pacific Railway northerly with National Transcontinental Railway. 134,943 62	138,980 56
6.	St. John and Quebec Railway Company, N.B.— From Andover to St. John, N.B.	59,581 32
7.	Alberta Central Railway, Alberta— From Red Deer to Rocky Mountain House.	209,768 00
8.	Ha-Ha Bay Railway Company, Quebec— From La Terrière Junction, southerly, to Lake Kenogami.	16,158 72
9.	Kettle Valley Railway Company, B.C.— From Merritt to Penticton wharf. . . . \$ 138,987 30 From a point on the line between Merritt to Penticton wharf, about 25 miles south of Merritt to a point on the Fraser River near Hope Station. 148,401 46 From a point on the line between Merritt and Penticton Wharf at or near Penticton to Midway. 82,108 52	369,497 28
10.	Fredericton and Grand Lake Coal and Railway Company— From Gibson on the Intercolonial Railway to a point at or near Minto with a branch line to Marysville.	111,579 96
11.	Esquimalt and Nanaimo Railway Company— From a point at or near McBride Junction to or towards the Village of Sandwich. \$ 288,000 00 From a point on its main line at or near Duncan's to Cowichan Lake. 117,120 00	405,120 00
12.	Kootenay Central Railway Company— From Golden via Windermere, Fort Steele, to a point on the British Columbia Southern Railway at or near Jackson.	1,065,856 00
13.	Atlantic and Lake Superior Railway, from Caplin to Cascapedia.	18,449 17
Total.		\$5,191,507 48

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STATEMENT showing subsidies voted for Railways as to which contracts

Subsidies Voted.		Number.	Railways.	July 1, 1883, to March 31, 1908.
Authority.	Amount.			\$ + cts.
46 Vic. chap 20	156,800 00	1	International Railway, Quebec.	156,800 00
53 " "	2			
45 " "	13			
46 " "	25			
48-49 " "	29			
49 " "	10			
50-1 " "	24	2	Quebec and Lake St. John Railway, Quebec.....	1,233,943 50
51 " "	3			
52 " "	10			
53 " "	4			
54-5 " "	3			
57-8 " "	4			
46 " "	24			
49 " "	10			
50-1 " "	24	3	Kingston, Napanee and Western Railway, formerly Napanee, Tamworth and Quebec Ry., Ontario..	208,732 80
52 " "	3			
55-6 " "	5			
47 " "	8			
51 " "	3	4	Pontiac Pacific Junction Railway, Quebec.....	193,578 00
53 " "	2			
46 " "	25			
47 " "	8	5	Carquette Railway, N.B.....	224,000 00
50-1 " "	24			
47 " "	8			
49 " "	10			
52 " "	3	6	Canadian Northern Quebec Ry. Co., formerly Great Northern Ry., Quebec.....	814,658 71
53 " "	2			
56 " "	2			
57-8 " "	4			
7-8 Ed. VII 63				
47 " "	8	7	Kingston and Pembroke Railway, Ontario.....	48,000 00
45 " "	14			
46 " "	26	8	Northern and Pacific Junction Railway, Ontario....	1,320,000 00
53 " "	2			
47 " "	8			
48-9 " "	59			
49 " "	10	9	Canada Eastern Ry., formerly Northern and West- ern Ry., N.B., including also Chatham Branch Ry.....	374,839 84
48-9 " "	59			
51 " "	3			
57-8 " "	4			
62-3 " "	7			
47 " "	8			
51 " "	3	10	Quebec Central Railway, Quebec.....	403,980 69
7-8 " "	63			
53 " "	2			
48-9 " "	59			
53 " "	2	11	Montreal and Sorel Railway, Quebec.....	93,757 57
48-9 " "	59			
50-1 " "	24	12	Montreal and Champlain Junction Railway, Quebec.	103,600 00
51 " "	3			
46 " "	25	13	Elgin, Petitecodiac and Havelock Railway, N.B....	82,652 82
51 " "	3			
47 " "	8	14	St. Louis and Richibucto Railway, N.B.....	22,400 00
48-9 " "	59			
49 " "	10	15	Canada Atlantic Railway, Ontario.....	282,355 20
50-1 " "	24			
47 " "	6	16	Esquimalt and Nanaimo Railway, B.C.....	750,000 00
47 " "	8	17	Erie and Huron Railway, Ontario.....	96,000 00
46 " "	25			
47 " "	8	18	Baie des Chaleurs Railway, Quebec.....	620,000 00
52 " "	3			
Carried forward.....				7,029,299 13

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have been entered into and payments made up to March 31, 1915.

Payments.							Total March 31, 1915.	Number.
1908-1909.	1909-1910.	1910-1911.	1911-1912.	1912-1913.	1913-1914	1914-1915.		
\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	
							156,800 00	1
			27,520 00				1,261,463 50	2
							208,732 80	3
							193,578 00	4
							224,000 00	5
55,449 60	164,172 29	144,608 51	86,468 03				1,265,357 14	6
							48,000 00	7
							1,320,000 00	8
							374,839 84	9
		129,320 61		8,576 00			541,877 30	10
							93,757 57	11
							103,600 00	12
							82,652 82	13
							22,400 00	14
							282,355 20	15
				356,440 00		405,120 00	1,520,560 00	16
							96,000 00	17
							620,000 00	18
55,449 60	164,172 29	273,929 12	113,988 03	374,016 00		405,120 00	8,415,974 17	

STATEMENT showing subsidies voted for Railways as to which contracts

Subsidies Voted.		Number.	Railways.	July 1, 1883, to March 31, 1908.	
Authority.	Amount.			£	cts.
			Brought forward.....	7,029,299	13
48-9 Vic., c. 59	118,400 00	1	New Brunswick and Prince Edward Island Ry...	113,440	00
50-1 "	217,600 00	2	Laurentian Railway, formerly St. Lawrence, Lower Laurentian and Saguenay Railway, Quebec.....	217,600	00
49 "	11,200 00	3	L'Assomption Railway, Quebec.....	11,200	00
49 "	32,000 00				
50-1 "	96,000 00	4	Great Eastern Railway, Quebec.....	40,345	00
56 "	64,000 00				
53 "	37,500 00				
47 "	160,000 00	5	Irondale, Bancroft and Ottawa Railway, Ontario...	144,000	00
52 "	96,000 00				
49 "	6,400 00	6	Buctouche and Moncton Railway, N.B.....	101,600	00
50-1 "	51,200 00	7	Albert Southern Railway, N.B.....	50,460	00
47 "	65,200 00	8	Lake Temiscamingue Colonisation Ry., Quebec...	310,335	95
52 "	274,940 00				
50-1 "	38,400 00	9	Joggins Railway, N.S.....	37,500	00
49 "	4,000 00				
50-1 "	240,000 00				
48-9 "	258,000 00	10	Temiscouata Railway, N.B., and Quebec.....	645,950	00
51 "	100,000 00				
53 "	51,200 00				
48-9 "	44,800 00	11	Leamington and St. Clair Railway, Ontario.....	51,200	00
50-1 "	6,400 00				
59 "	16,000 00	12	Toronto, Grey and Bruce Railway, Ontario.....	14,656	00
50-1 "	22,400 00	13	Dominion Lime Co., Quebec.....	15,360	00
49 "	256,000 00	14	West Ontario Pacific Railway and Ontario and Quebec Railway.....	256,000	00
53 "	96,000 00				
50-1 "	14,400 00	15	Drummond County Railway, Quebec.....	423,936	00
52 "	76,800 00				
53 "	96,000 00				
48-9 "	128,000 00	16	Brockville, Westport and Sault Ste. Marie Rail- way, Ontario.....	140,800	00
54-5 "	64,000 00				
57-8 "	32,000 00	17	Montreal and Lac Maskinonge Railway, Quebec...	41,280	00
49 "	10,200 00				
53 "	54,400 00	18	South Norfolk Railway, Ontario.....	54,400	00
50-1 "	51,200 00	19	Guelph Junction Railway, Ontario.....	46,000	00
48-9 "	22,400 00	20	Belleville and North Hastings Railway, Ontario...	21,888	00
49 "	108,800 00				
49 "	48,000 00	21	Hereford Railway, Quebec.....	155,200	00
52 "	118,400 00				
50-1 "	224,000 00	22	Lake Erie and Detroit River Railway, Ontario...	475,851	00
55-6 "	62,400 00	23	Beauharnois Junction Railway, Quebec.....	62,400	00
62-3 "	138,400 00				
50-1 "	108,000 00	24	St. Catharines and Niagara Central Ry., Ontario.	38,400	00
55-6 "	108,800 00				
57-8 "	30,000 00	25	Fredericton and St. Mary's Ry. Bridge Co., N.B..	30,000	00
52 "	9,600 00	26	Harvey Branch Railway Co., N.B.....	5,553	57
50-1 "	240,000 00	27	Nova Scotia Central Railway Co., N.S.....	235,200	00
55-6 "	44,800 00	28	Cumberland Railway and Coal Co., N.S.....	39,850	00
61 "	19,200 00	29	Pontiac and Renfrew Railway, Ontario.....	13,600	00
50-1 "	54,400 00	30	Thousand Islands Railway, Ontario.....	29,840	00
52 "					
52 "					
63-4 "					
			Carried forward.....	10,853,144	65

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have been entered into and payments made up to March 31, 1915.—Continued.

Payments.							Total March 31, 1915.	Number.
1908-09.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.	1914-15.		
\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	
55,449 60	164,172 29	273,929 12	113,988 03	374,016 00		405,120 00	8,415,974 17	
							113,440 00	1
							217,600 00	2
							11,200 00	3
							40,345 00	4
							144,000 00	5
							101,600 00	5
							50,460 00	7
							310,335 95	8
							37,500 00	9
							645,950 00	10
							51,200 00	11
							14,656 00	12
							15,360 00	13
							250,000 00	14
							423,936 00	15
							140,800 00	16
							41,280 00	17
							54,400 00	18
							46,000 00	19
							21,888 00	20
							155,200 00	21
							475,851 00	22
							62,400 00	23
							38,400 00	24
							30,000 00	25
							5,553 57	26
							235,200 00	27
							30,850 00	28
							13,600 00	29
							29,840 00	30
55,449 60	164,172 29	273,929 12	113,988 03	374,016 00		405,120 00	12,239,819 69	

6 GEORGE V, A. 1916

STATEMENT showing subsidies voted for Railways as to which contracts

SUBSIDIES VOTED.		Number.	Railways.	July 1, 1883, to March 31, 1908.	
Authority.	Amount.			\$	cts.
			Brought forward.		10,853,144 65
52 Vic., chap.	3	96,000 00	1 Quebec, Montmorency and Charlevoix Ry. Co., Qu.		96,000 00
56 "	3	375,000 00	2 St. Clair Frontier Tunnel Co., Ontario.....		375,000 00
50-1 "	24	57,600 00	3 Brantford, Waterloo and Lake Erie, Ry., Ontario		57,600 00
57-8 "	4				
51 "	3				
53 "	2	287,200 00	4 Port Arthur, Duluth and Western Ry., Ontario ..		271,200 00
50-1 "	24				
53 "	2				
54-5 "	8	192,000 00	5 Montreal and Ottawa Railway, Ontario.....		192,000 00
57-8 "	4				
50-1 "	24	44,800 00	6 Cornwallis Valley Railway, N.S.		44,800 00
52 "	3				
52 "	3	320,000 00			
57-8 "	6	64,000 00	7 Ottawa, Northern and Western Ry., Quebec, formerly Ottawa and Gatineau Valley Railway		414,931 20
60-1 "	4				
47 "	6				
51 "	3				
52 "	3	83,612 00			
53 "	2	142,400 00	8 Central Railway, N.B.....		226,012 54
57-8 "	4	48,000 00			
61 "	1				
62-3 "	1				
53 "	2	361,270 00	9 Montreal and Western Railway, Quebec.....		361,270 00
52 "	3	128,000 00	10 Parry Sound and Colonization Railway, Ontario..		152,800 00
57-8 "	4	64,000 00			
52 "	3	163,200 00	11 Shuswap and Okanagan Railway, B.C.....		163,200 00
54-5 "	8	89,600 00			
53 "	2	35,200 00	12 Tobique Valley Railway, N.B.....		134,016 00
55-6 "	5	9,600 00			
53 "	2	112,000 00	13 Columbia and Kootenay, B.C.....		88,800 00
53 "	2	35,200 00	14 Waterloo Junction Railway, Ontario.....		32,800 00
53 "	2	99,200 00	15 Orford Mountain Railway Co., Quebec.....		192,942 50
53 "	2	57,600 00			
55-6 "	5	25,024 00	16 St. Lawrence and Adirondack Railway, Quebec		149,481 60
55-6 "	5	*40,000 00	17 New Glasgow Iron, Coal and Railway Co., N.S.		39,840 00
56 "	2	102,400 00			
57-8 "	4	102,400 00	18 United Counties Railway Co., Quebec.....		188,816 00
55-6 "	5	*21,600 00	19 Philipsburg Junction Ry. Quarry Company, Quebec		23,712 00
55-6 "	5	*430,400 00	20 Ottawa, Arnprior and Parry Sound Ry., Ontario.		779,712 00
56 "	2	67,200 00			
57-8 "	4	38,400 00	21 Montfort Colonization Railway, Quebec...		167,440 00
60-1 "	4	66,000 00			
55-6 "	5	48,000 00			
57-8 "	4	48,000 00	22 Lotbinière and Megantic Railway, Quebec...		96,000 00
56 "	2	48,000 00	23 Grand Trunk, Georgian Bay and Lake Erie Ry., Ont		39,744 00
55-6 "	5	80,000 00	24 Canadian Pac. Ry. B.C., Revelstoke to Arrow Lake		80,000 00
57-8 "	4	121,600 00	25 Nakusp and Slocan Railway, B.C.....		117,760 00
55-6 "	5	89,600 00	26 Dominion Coal Company, N.S.....		87,808 00
56 "	2	22,400 00	27 Oshawa Railway and Navigation Company, Ontario		22,400 00
57-8 "	4	*51,200 00	28 Tilsonburg, Lake Erie and Pacific Ry., Ontario ...		117,431 48
56 "	2	*11,200 00	29 St. Stephen and Milltown Ry., N.B.....		14,848 00
57-8 "	4	*38,400 00	30 Gulf Shore Railway Company, N.B.....		53,669 20
57-8 "	4	9,000 00	31 Cap de la Magdeleine Railway, Quebec.....		7,424 00
56 "	2	32,000 00	32 Ontario, Belmont and Northern Ry. Company, Ont.		30,720 00
*			33 Coast line of N.S., now Halifax and Yarmouth Ry.		160,000 00
*			34 Ottawa and New York Railway Company, Ontario		262,384 00
			Carried forward.....		16,095,737 17

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have been entered into and payments made up to March 31, 1915.—Continued.

Payments.							Total March 31, 1915.	Number.
1908-09.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.	1914-15.		
\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	
55,449 60	164,172 29	273,929 12	113,988 03	374,016 00		405,120 00	12,239,819 69	
							96,000 00	1
							375,000 00	2
							57,600 00	3
							271,200 00	4
							192,000 00	5
							44,800 00	6
							414,931 20	7
							226,012 54	8
							361,270 00	9
							152,800 00	10
							163,200 00	11
							134,016 00	12
							88,800 00	13
					9,984 00		32,800 00	14
							202,926 50	15
							149,481 60	16
							39,840 00	17
							188,816 00	18
							23,712 00	19
							779,712 00	20
							167,440 00	21
							96,000 00	22
							39,744 00	23
							80,000 00	24
							117,760 40	25
							87,808 00	26
							22,400 00	27
						32,640 00	150,071 48	28
							14,848 00	29
							53,699 20	30
							7,424 00	31
							30,720 00	32
							160,000 00	33
							262,384 00	34
55,449 60	164,172 29	273,929 12	113,988 03	384,000 00	32,640 00	405,120 00	17,525,036 21	

6 GEORGE V, A. 1916

STATEMENT showing subsidies voted for Railways as to which contracts

Subsidies Voted.		Number.	Railways.	July 1, 1883, to March 31, 1908.	
Authority.	Amount.			\$	cts.
			Brought forward.....	16,095,737	17
60-61 Vic., c. 5	3,630,000 0	1	Canadian Pacific Ry. Co., B.C. (Crow's Nest Pass)	3,404,720	00
60-61 " " 4	500,000 00	2	Grand Trunk Ry. Co., Victoria Jubilee Bridge, Que.	500,000	00
3 " " 3	*	0			
*7-8 Ed. VII. 63	*	3	International Ry. of New Brunswick, formerly Rétigouche and Western Ry. Co.....	178,408	07
" " " "	*	4	East Richelieu Railway Co., Quebec.....	69,952	00
7-8 Ed. VII, 63	*	5	South Shore Ry. (Quebec, Montreal and Southern)	203,240	81
" " " "	*	6	Pembroke Southern Railway, Ontario.....	64,000	00
" " " "	*	7	Massawippi Valley Railway Co., Quebec.....	5,376	00
" " " "	*	8	Inverness and Richmond Ry. Co., N.S., now Inverness Ry. and Coal Co.....	368,545	97
" " " "	*	9	Canadian Northern Ry. Co., Ontario, Manitoba and N.W.T.....	1,909,132	00
" " " "	*	10	Canadian Pacific Railway Co. (Pipestone Branch)	236,831	38
6-7 Ed. VII, 40	*	11	Central Ontario Railway Co., Ontario.....	99,092	40
" " " "	*	12	Midland Railway Co., N.S.....	367,168	00
62-8 Vic., c. 7	1,000,000 00	13	Quebec Bridge Co., Quebec.....	374,353	33
63-4 " " 8	*				
" " " "	*	14	St. Mary River Railway Co., N.W.T.....	148,094	00
60-1 Vic., c. 4	212,500 00	15	Pontiac & Pacific & Ottawa & Gatineau Ry., Co. (Interprovincial Bridge over Ottawa River).....	212,500	00
63-4 " " 2	*	16	Atlantic and Lake Superior Ry., Quebec.....	144,969	02
1 Ed. VII, c. 7	*	17	Montreal and Province Line Railway, Quebec.....	58,560	00
1 " " " 7	*	18	York and Carleton Railway, N.B.....	32,896	00
62-3 Vic., c. 7	*	19	Algoma Central and Hudson Bay Ry, Ontario.....	924,976	00
62-3 " " 7	*				
63-4 " " 8	*	20	Cape Breton Extension Railway, N.S.....	182,400	00
1 Ed. VII, c. 7	*	21	Can. Pac. Ry. Co. (Kootenay & Arrowhead Branch)	153,866	00
" " " "	*	22	" (Selkirk Branch).....	83,200	00
" " " "	*	23	" (Dymont Branch).....	22,336	00
" " " "	*	24	" (Waskada Branch).....	64,000	00
9-10 Ed. VII, 51	*	25	Algoma Eastern Ry. Co., formerly Manitoulin and North Shore Ry. Co., Ontario.....	32,000	00
" " " "	*	26	Bay of Quinte Railway, Ont.....	141,722	45
" " " "	*	27	Bruce Mines and Algoma Railway, Ont.....	53,920	00
" " " "	*	28	Maganetawan River Railway Co., Ont.....	3,552	00
" " " "	*	29	Canadian Northern Quebec Ry., formerly Chateau guay and Northern Ry., Quebec.....	391,819	75
" " " "	*	30	Canadian Pacific Ry. Co. (Pheasant Hill Branch)	435,200	00
" " " "	*	31	Halifax and Southwestern Railway Co., N.S.....	1,238,450	93
" " " "	*	32	Northern Colonization Railway Co., Quebec.....	133,760	00
" " " "	*	33	New Brunswick Coal and Railway Co., N.B.....	48,000	00
" " " "	*	34	Schomberg and Aurora Railway Co., Ont.....	46,144	00
" " " "	*	35	Lindsay, Bobeaygeon & Pontypool Ry. Co., Ont.....	185,173	06
" " " "	*	36	Middleton and Victoria Beach Ry. Co., N.S.....	125,760	00
Ed. VII, c. 57	*	37	Nicola, Kamloops and Similkameen Coal & Ry. Co.	300,800	00
4 " " 34	*	38	Canadian Pacific Ry. (Staynerville Branch).....	13,024	00
6 " " 43	*	39	Klondike Mines Railway.....	197,184	00
6 " " 43	*	40	Kettle Valley Ry. Co., B.C.....	97,771	52
6 " " 43	*	41	Colchester Coal and Ry. Co., N.S.....	12,800	00
3 " " 57	*	42	Minudie Coal Co., N.S.....	18,544	00
6 " " 43	*	43	Atlantic, Quebec and Western Ry. Co., Quebec.....	64,000	00
9-10 " " 51	*				
6 " " 43	*	44	Napierville Junction Ry. Co., Quebec.....	173,440	00
6-7 " " 40	*	45	Edmonton, Yukon and Pac. Ry. Co., Alberta.....	91,290	00
6-7 " " 40	*	46	Canadian Northern Ontario Ry. Co.....	1,316,096	00
7-8 " " 63	*				
			Carried forward.....	\$31,024,745	84

† Of this amount, \$16,164.43 were in connection with subsidy to Montreal and Sorel Railway.

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have been entered into and payments made up to March 31, 1915.—Continued.

Payments.							Total, March 31, 1915.	Number.
1908-09.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.	1914-15.		
\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	
55,449 60	164,172 29	273,929 12	113,988 03	384,000 00	32,640 00	405,120 00	17,525,036 21	
							3,404,720 00	1
							500,000 00	2
189,849 60	187,494 40	169,536 00					725,288 07	3
							69,952 00	4
43,414 55	184,320 00	60,000 00	23,835 70				1514,811 06	5
							64,000 00	6
							5,376 00	7
							368,545 97	8
							1,909,132 00	9
							160,000 00	10
35,404 64		24,601 32	826 17		969 30		205,862 79	11
							399,060 40	12
							374,353 33	13
							148,094 00	14
							212,500 00	15
							18,449 17	16
							58,560 00	17
							32,896 00	18
			133,584 00	394,859 44	456,304 00	138,980 56	2,048,704 00	19
	14,400 00						196,800 00	20
							153,866 00	21
							83,200 00	22
							22,336 00	23
							64,000 00	24
		68,638 72		254,089 40	179,897 01	13,022 87	547,648 00	25
							141,722 45	26
							53,920 00	27
							3,552 00	28
							391,819 75	29
							435,200 00	30
68,320 00	153,120 00						1,238,450 93	31
							355,200 00	32
							48,000 00	33
							46,144 00	34
							185,173 06	35
							125,760 00	36
							360,800 00	37
							13,024 00	38
							197,184 00	39
			148,500 00	107,138 40	699,389 60	369,497 28	1,422,596 80	40
							12,800 00	41
92,672 00	208,896 00	31,334 40	91,279 60	414,618 00			18,544 00	42
							902,800 00	43
							173,440 00	44
							91,200 00	45
556,864 00	250,982 40	116,889 60			8,948,809 47	2,343,335 80	13,532,977 27	46
1,041,974 39	1,163,385 09	744,929 16	512,313 50	1,554,705 24	10,318,009 38	3,288,405 68	49,648,468 28	

(a) Amount actually paid after deductions amounting to \$1,521.82 made in 1905-06 (being for refunds, etc.), being the total of \$146,490.84, previously reported, for which cheques had issued.

STATEMENT showing subsidies voted for Railways as to which contracts

Subsidies Voted.		Number.	Railways.	July 1, 1883 to June 30, 1908.	
Authority.	Amount.			\$	cts.
	\$			\$	cts.
			Brought forward.. .. .	31,024,745	84
7-8 Ed. VII., c. 63	*	1	Maritime Coal and Railway Co.		
7-8 "	63	2	St. Marys and Western Ontario Ry. Co.		
7-8 "	63	3	North Shore Ry. Co., formerly Beersville Coal and Ry. Co.	20,736	00
7-8 "	63	4	St. Maurice Valley Ry. Co.—Three Rivers to Grand'Mère		
7-8 "	63	5	Grand Trunk Pacific Ry. Co.		
6 "	43	6	Can. Pacific Ry. Co., Teulon to Icelandic River.		
7-8 "	63	7	Canadian Pacific Ry. Co., Moosejaw northwesterly		
7-8 "	63	8	Canadian and Gulf Terminal Ry. Co.		
6-7 "	40	9	Liverpool and Milltown Ry. 5 miles.		
7-8 "	63	10	Thessalon and Northern Ry. Co.		
7-8 "	34	11	Vancouver and Lulu Island Ry. Co.		
7-8 "	51	12	Quebec and Saguenay Ry. Co.		
7-8 "	63	13	Canadian Pacific Ry., Winnipeg to Gimli.		
9-10 "	51	14	Ha Ha Bay Railway Co., Que.		
2 Geo. V.	47	15	Northern New Brunswick and Seaboard Ry. Co., N.B.		
3-4 "	46	16	Can. Northern Pacific Ry. Co., B.C.		
2 "	9	17	Fredericton and Grand Lake Ry. Co., N.B.		
2 "	48	18	Southampton Railway Co., N.B.		
2 "	48	19	St. John and Quebec Railway Co., N.B.		
2 "	7	20	Canadian Northern Alberta Ry. Co., Alta.		
3-4 "	10	21	Central Ry. of Canada, Que.		
2 "	48	22	Temiskaming and Northern Ont. Ry. Co.		
3-4 "	53	23	Lake Erie and Northern Ry. Co., Ont.		
2 "	48	24	Can. Pac. Ry., Bridge at Outlook.		
2 "	48	25	Can. Pac. Ry., Bridge at Edmonton.		
3-4 "	46	26	Alberta Central Railway, Alta.		
2 "	48	27	Kootenay Central Ry. Co., B.C.		
			Total.	31,045,481	84
	186,500 annually				
37 Vic., ch. 14	for 20 years...	28	Atlantic and Northwestern Railway.	3,545,400	00
46 "	2	29	Central Canada Railway.	1,525,250	00
47 "	8	30	Canadian Pacific extension.	1,500,000	00
48-9 "	58		Total.	37,616,131	84

*Acts of Parliament, 60-61 Victoria, Cap. 4; 62-63 Victoria, Cap. 7; 63-64 Victoria, Cap. 8; 1 Edward VII., Cap. 7; and others subsequent to date, authorise \$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 in excess of \$15,000 per mile, such subsidy not exceeding in the whole the sum of \$6,400 per mile.

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have been entered into and payments made up to March 31, 1915—*Concluded.*

Payments.							Total March 31, 1915.	Number.
1908-09.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14	1914-15.		
\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ ct.	
1,041,974 39	1,163,385 09	744,929 16	512,313 50	1,554,705 24	10,318,009 38	3,288,405 68	49,648,468 28	
3,200 00							3,200 00	1
67,344 00			365 00				67,709 00	2
6,880 00							27,616 00	3
112,640 00		60,480 00					173,120 00	4
367,249 00	550,551 96	302,679 04					1,220,480 00	5
	30,800 00			81,200 00			112,000 00	6
	303,360 00		78,432 00		103,682 27		485,474 27	7
		144,803 84	65,249 75				210,053 59	8
		32,000 00					32,000 00	9
			6,112 00				6,112 00	10
			61,790 00				61,790 00	11
			104,992 00	27,641 60	116,167 68		248,801 28	12
			30,176 00	4,346 43			34,522 43	13
				148,148 20	66,919 28	16,158 72	231,226 20	14
				86,528 00	21,632 00		108,160 00	15
				2,705,378 00	2,520,281 00	178,077 80	5,403,736 80	16
				104,996 04		111,579 96	216,576 00	17
				48,442 88	32,837 12		81,280 00	18
				174,120 96	364,617 42	59,581 32	598,319 70	19
					2,832,024 00	262,080 00	3,094,104 00	20
					30,145 02		30,145 02	21
					2,134,080 00		2,134,080 00	22
					135,129 60		135,129 60	23
					115,000 00		115,000 00	24
					126,000 00		126,000 00	25
					119,712 00	209,768 00	329,480 00	26
						1,065,856 00	1,065,856 00	27
1,599,287 39	2,048,097 05	1,284,892 04	859,400 25	4,935,507 35	19,036,236 77	5,191,507 48	66,000,410 17	
186,600 00							3,732,000 00	28
							1,525,250 00	29
							1,500,000 00	30
1,785,887 39	2,048,097 05	1,284,892 04	859,400 25	4,935,507 35	19,036,236 77	5,191,507 48	72,757,660 17†	

†This amount does not include the subsidy of \$25,000,000 to the Canadian Pacific Railway, nor the amount \$660,683.08 expended on the Annapolis and Digby Railway, both of which are included in Capital Account, nor the annual payment of \$219,700 to the Provincial Government of Quebec, being interest at the rate of 5 per cent on the sum of \$2,394,000 up to 1905, granted by 47 Vic., cap. 8 (1884) and the annual payment of \$107,730, being interest at the rate of 4½ per cent since and including 1905 on the said sum of \$2,394,000 for the line between Ottawa and Quebec which sum was transferred to the Public Debt as a liability and is dealt with by the Finance Department. See Public Accounts, 1898-1915 and page 79, 1898.

PART II.

STATEMENTS

OF THE

DEPARTMENTAL SOLICITOR

FOR THE YEAR 1914-1915.

I. Money Subsidy Agreements for the year ended March 31, 1915.

II. Documents, placed on record in the Office of the Departmental Solicitor during the fiscal year ended March 31, 1914, affecting the Canals of the Dominion and the Hudson Bay Railway, viz.:-

- (1) Contracts entered into during the year.
- (2) Leases of Water-power and Properties granted.
- (3) Leases to the Crown.
- (4) Property conveyed to the Crown and lands conveyed by the Crown.
- (5) Damages released.

SUBSIDY AGREEMENTS for the construction of Railways and Bridges

Number of Contract.	Date of Signature.	Company.	Line of Railway. or Work Subsidized.	Authority for Execution.	
				Act of Parliament.	Order in Council.
20732	1914. May 12..	St. Francis Valley Railway Co.	From Melbourne to Drummondville.	Can. 1912, c. 48	1914. April 4 . .
*20825	1914. June 17..	Quebec Central Ry. Co.	Extension of line of railway from point (31-34 mile from St. George) in parish of St. Sabine, county of Bellechasse, to point in township of Dionne, county of L'Islet.	Can. 1912, c. 48	1914. April 17....
21178	1914. Dec. 26..	Kettle Valley Ry. Co.	Construction of a bridge over the Fraser river at or near Hope.	Can. 1910, c 115 Can. 1912, c. 110	1914. Nov. 6....

*Varied by Supplemental Agreement.

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entered into during the Fiscal Year ended March 31, 1915.

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.	Lb.	
3,200	6,400	28	79.00	717	50	20	15	56	July 31, 1914.
3,200	6,400	50	52.80	955	50	20	15	56	July 31, 1914.
	Not exceeding \$250,000.								Aug. 1, 1916.

E. E. FAIRWEATHER,
Departmental Solicitor.

6 GEORGE V, A. 1916

CONTRACTS entered into during the Fiscal Year ended March 31, 1915.

CHAMBLY CANAL.

Number of Contract.	Date of Signature.	Contractors.	Description.
21018	1914. Sept. 24	Marcel Bessette.....	Delivery of crushed stone for macadamizing portion of road along west side of canal in parish of St. Joseph de Chambly, Que.

CORNWALL CANAL.

20682	1914. April 14	Canada Cement Co., Ltd.....	Delivery of 4,500 barrels of Portland cement at Cornwall.
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GALOPS CANAL.

20897	1914. June 30	The Edwardsburg Starch Co., Ltd.	The surrender of the James Jessup lease; the cancellation of a lease of August 25, 1894; the issuing of a new lease of 280 h.-p. of water and land; the abatement of \$25,000 in rental; the payment by His Majesty of actual cost of repairs to company's elevator, and the release by the company of all its claims against His Majesty.
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LACHINE CANAL.

20682	1914. April 14	Canada Cement Company, Ltd.	Delivery of 49,200 barrels of Portland cement for Quebec canals.
20721	May 1	Westmount Plumbing & Heating Co., Ltd.	Supply and installation of fifty sliding doors for new shed at St. Gabriel Basin No. 1.
20788	May 22	The Phoenix Bridge & Iron Works, Ltd.	Supply and place 1,500 feet of angle iron to support the roller track for the sliding doors of the St. Gabriel Shed No. 1.
20800	May 29	The Eastern Sheet Metal Works.	Supply and erection of a galvanized steel siding to cover the new Shed No. 1, Ottawa street, Montreal.

RAPIDE PLAT CANAL.

20682	1914. April 14	Canada Cement Co., Ltd.....	Delivery of 600 barrels of Portland cement at Morrisburg.
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RIDEAU CANAL.

20672	1914. April 3	George P. Murphy.....	Delivery of British Columbia or "Douglas" fir dimension timber.
20682	April 14	Canada Cement Co., Ltd.....	Delivery of 2,000 barrels of Portland cement.

SESSIONAL PAPER No. 20

CONTRACTS entered into during the Fiscal Year ended March 31, 1915—*Continued.*

SOULANGES CANAL.

Number of Contract.	Date of Signature.	Contractors.	Description.
	1914.		
20828	June 17.	General Improvement & Contracting Co., Ltd.	Dredging in connection with protection works at upper entrance of canal.

SAULT STE. MARIE CANAL.

	1914.		
20682	April 14	Canada Cement Co. Ltd.....	Delivery of 2,800 barrels of Portland cement.

ST. OURS LOCK.

	1914.		
20865	July 10.	The Sorel Electric Company (La Cie Electrique de Sorel).	Supply of electric lighting and of electric current for the needs of the lock.

TRENT CANAL.

	1914.		
20682	April 14	Canada Cement Co., Ltd.	Delivery of 35,000 barrels of Portland cement.
20696	April 23	The Inland Construction Co.,	Construction of section No. 2, Severn division.
20893	Aug. 4	The Randolph MacDonald Co., Ltd.	Construction of section No. 3, Severn division.
21035	Sept. 25.	The Trent Valley Woollen Manufacturing Co. Ltd.	For the supply, in perpetuity, to the Woollen Company of electrical energy not exceeding 350 h.-p.
20816	June 10.	Thomas Lannan.....	For the towing from Welland to Trenton, of steel pontoon lock gate lifter constructed by M. Beatty and Sons, Ltd., under contract 20292.

WELLAND SHIP CANAL.

	1914.		
20682	April 14	Canada Cement Co., Ltd.....	Delivery of 84,000 barrels of Portland cement.
20724	May 6..	Maguire & Cameron.....	Construction of section No. 4A.
(a)20875	July 21..	The Dominion Dredging Co. Ltd.; Baldry, Yerburgh & Hutchinson Ltd., and O'Brien & Doheny & Quinlan and Robertson.	For the privilege of using, in connection with sections Nos. 1, 2, and 3, Welland Ship Canal Construction railway.
20903	Aug. 7..	Saxby & Farmer, Limited.....	Supply and installation, complete, of mechanical interlocking plants required for the construction railway.
20914	Aug. 24.	The Gurney Scale Company.....	Supply and installation of one railway track scale at Merritton, Ont.
20930	Aug. 31.	Charles E. Fleming.....	Delivery of 7,000 railway cross ties.
20932	Aug. 31.	Algoma Steel Corporation, Ltd.	Supply and delivery of 140 tons of 60-pound steel rails.
20952	Sept. 5..	The Steel Co. of Canada, Ltd..	Supply and delivery of ten kegs track bolts and seventy-five kegs of track spikes.

(a) Modified as to use of extra siding accommodation at Merritton.

6 GEORGE V, A. 1916

CONTRACTS entered into during the Fiscal Year ended March 31, 1915—*Continued.*WELLAND SHIP CANAL—*Continued.*

Number of Contract.	Date of Signature.	Contractors.	Description.
	1914.		
21033	Oct. 2.	Canadian Allis-Chalmers, Ltd.	Construction and erection of two steel segment valves in the supply weir on section 4A of canal.
	1915.		
21222	Feb. 12.	The Hamilton Bridge Works Co. Ltd.	Erection of single track railway swing bridge to carry Niagara, St. Catharines and Toronto railway over canal at site of guard gates south of Thorold, Ont.

WELLAND CANAL.

	1914.		
20682	April 14.	Canada Cement Co., Ltd.	Delivery of 4,025 barrels of Portland cement.
20799	May 29.	The Hamilton Bridge Works Co. Ltd.	Erection of steel superstructure of double track railway bridge to carry diverted main line of Grand Trunk Railway over site of twin locks No. 4, Welland Ship canal, east of Merriton.
20846	June 29.	Henry Wise.	Delivery of timber, lumber and shingles.
20850	June 29.	J. H. Kratz & Co.	Delivery of timber for year ending March 31, 1915.
20851	July 2.	The Atlantic Lumber Co.	Delivery of timber, lumber and piles.
20870	July 21.	Canadian Western Lumber Co., Ltd.	Delivery of timber.
20874	July 23.	The Hamilton Bridge Works Co., Ltd.	Erection of railway bridge to carry Niagara, St. Catharines & Toronto Railway, over relocated line of Welland Division of Grand Trunk Railway, south of Thorold, Ont.
20894	Aug. 4.	Bradley & Walker.	Placing stone protection along certain portions of the summit level of canal between Thorold and Port Colborne, Ont.
20931	Aug. 26.	Gutta Percha and Rubber, Ltd.	Supply and delivery of rubber grain conveyor belting for extension of Port Colborne elevator.

QUEBEC BRIDGE.

	1914.		
(b) 20847	July 2.	R. W. Mayer.	To completely clear away and remove all wreckage and debris of the old Quebec Bridge superstructure which lies or extends above elevation 810.
	1915.		
21179	Jan. 7.	The James Shearer Co. Ltd.	Delivery of 770 bridge ties.

(b) Assigned to Dominion Iron and Wrecking Co., Ltd.

SESSIONAL PAPER No. 20

CONTRACTS entered into during the Fiscal Year ended March 31, 1915—*Continued.*

HUDSON BAY RAILWAY.

Number of Contract.	Date of Signature.	Contractors.	Description.
1914.			
20734	May 12.	Rhodes, Curry Co., Ltd.	Delivery of lumber and timber for terminals at Port Nelson, Man.
20747	May 12.	Pringle & Cameron.....	Delivery of two gasoline launches.
20754	May 18	MacAlpine & Sherman.....	Delivery of two power dories.
20787	May 20.	Brooklyn Lumber Co. Ltd.....	Delivery of lumber and timber for terminals at Port Nelson.
20814	June 1.	Mason, Gordon & Co.....	Delivery of 218,794 ft. b.m. of select quality British Columbia fir.
20815	June 10.	Mason, Gordon & Co.....	Delivery of derrick timber.
20871	June 21.	F. H. Hopkins & Company ...	Delivery of four steam traction well drills, two locomotive cranes, and two steam shovels.
20885	Aug. 1.	Montreal Locomotive Works, Ltd.	Delivery of three 9' x 14' cylinder, 36" gauge saddle tank locomotives.
20888	Aug. 1.	Nova Scotia Steel & Coal Co., Ltd.	Delivery of 200 gross tons of A.S.C.E. standard steel rails, etc.
20891	Aug. 1.	Mussens Limited.....	Delivery of a "Smith" concrete mixer.
20899	Aug. 4.	Mussens Limited.....	Delivery of one Vulcan dinky locomotive and thirty dump cars.
20909	Aug. 10.	Algoma Steel Corporation, Ltd.	Delivery of 5,000 gross tons of steel rails.
20910	Aug. 17.	The Steel Company of Canada, Ltd.	Delivery of 280 gross tons of splice bars and 168 net tons of spikes.
20915	Aug. 24	Nova Scotia Steel & Coal Co., Ltd.	Delivery of 36 net tons of track bolts and nuts.
20981	Sept. 5.	E. Leonard and Sons, Limited.	Supply and delivery of three locomotive boilers.
21017	Sept. 24.	Dominion Iron and Steel Co., Ltd.	Supply and delivery of 100 gross tons 60-pound steel rails.

HUDSON BAY RAILWAY.

1915.			
21260	Mar. 11	J. D. McArthur..	For the release of the balance of the security deposits held under contracts Nos. 19230, 19638, and 19799, and the substitution in lieu thereof, of the drawback, etc., held under the said contracts; all of such drawback, etc., to apply to any and all of the said contracts.
21288	Mar. 24.	Canadian Bridge Co., Ltd	Erection of a cantilever bridge over Manitou rapids, on the Nelson river.

E. E. FAIRWEATHER,
Departmental Solicitor.

6 GEORGE V, A. 1916

PROPERTY leased by the Department of Railways and
CORNWALL

No. of Lease.	Date of Signature.	Lessee.	Lands or rights demised.
	1914.		
20755	May 18	Isabella & Adeline Blackadder.	Land on side of canal between locks 19 and 20.
20789	" 20	The Cedar Rapids Manufacturing & Power Co	Land on south side of canal between locks 19 and 20; and priv. to erect a transmission line across canal
	1915		
21247	Feb. 23	W. H. Gallinger.....	Land between villages of Moulinette and Mille Roches, tp. of Cornwall, county Stormont.

GALOPS

	1914.		
20852	June 29	George A Binion.....	Land, part of E $\frac{1}{2}$ lot No. 30 in the 1st concession, tp. of Matilda, county of Dundas, Ontario.
20898	" 30	The Edwardsburg Starch Co. Ltd.	Parcels of land and 280 h.p. of water at or above lock 26.
21195	April 28	George A Binion.....	Land on north side of King's highway on the W $\frac{1}{2}$ lot 30, con. 1, tp. of Matilda, county of Dundas, Ontario.

LACHINE

	1914.		
20683	April 14	W. R. Stafford	Land on south bank of canal between St Gabriel bridge and Brewster's bridge, Montreal, Que.
20689	April 15	Montreal Public Service Corporation.	Privilege to lay and maintain two electric cables across canal opposite terminal station of Canadian Light & Power Company, west of Cote St Paul bridge.
20693	April 14	The Dominion Gresham Guarantee & Casualty Co.	Privilege to lay and maintain a 1" electric cable across canal from a Bell Telephone Co's pole to pump house of the N. K. Fairbank Co at Ville La Salle, Que.
20818	June 10	The Montreal Light, Heat and Power Co.	Privilege to lay and maintain two submarine electric cables under canal, and to erect and maintain seven electric poles
20872	July 21	City of Montreal	Privilege to lay and maintain an underground water supply pipe eight feet in diameter from pump house of lessee to canal, and draw water.
20886	Aug. 1	Canadian Rolling Mills Co., Ltd.	Land on south bank of canal, opposite E. part of lot No. 3607 of cad. of parish of Montreal.
20900	Aug. 5	City of Montreal	Privilege to lay and maintain a 12" drain pipe on portion of St Patrick street, lying inside of boundaries of canal land
20933	Aug. 31	The Montreal, Light, Heat and Power Company.	Privilege to erect and maintain two electric pole transmission lines on canal land, and towers for crossing canal
20934	Aug. 31	J. B. Bonhomme	Land on south side of canal, St Gabriel ward, Montreal.
21145	Dec. 4	The Montreal Public Service Corporation.	Privilege to erect and maintain an electric power transmission line on north bank of canal from lessee's terminal station to Brewster's bridge.

SESSIONAL PAPER No. 20

Canals during the Fiscal Year ended March 31, 1915.

CANAL.

Area.	Term.	Commencement of term.	TERMS OF PAYMENT.		
			Annual Rental.	Due each year.	First instalment due.
			\$ cts.		
61 acres.....	During pleasure.....	May 1, 1914	1 00	May 1....	May 1, 1914
1-64 acres.....	"	" 1, 1914	5 00	May 1....	May 1, 1914
3-24 acres.....	"	Jan. 1, 1915	5 00	Jan. 1,...	Jan. 1, 1915

CANAL.

0-018 acres.....	During pleasure.....	May 1, 1914	1 00	May 1....	May 1, 1914
.....	10 years, renewable forever.....	June 30, 1914	50 00 for land 4 00 per h.p. for 200 h.p. no charge for 80 h.p.	June 30....	June 30, 1914
1/2 acres.....	21 years renewable....	Apr. 28, 1914	1 00	Feb. 1,...	Feb. 1, 1915

CANAL.

4,500 sq. ft.....	During pleasure.....	Apr. 1, 1914	180 00	Apr. 1....	Apr. 1, 1914
.....	"	" 1, 1914	10 00	" 1,...	" 1, 1914
.....	"	" 1, 1914	10 00	" 1	" 1, 1914
.....	"	May 1, 1914	12 00	May 1, ..	May 1, 1914
.....	"	Mar. 1, 1914	1 00	Mar. 1....	Mar. 1, 1914
4,000 sq. ft.....	"	Apr. 1, 1914	160 00	Apr. 1....	Apr. 1, 1914
.....	"	July 1, 1914	1 00	July 1....	July 1, 1914
.....	"	" 1, 1914	250 00	" 1....	" 1, 1914
6,000 sq. ft.....	"	Aug. 13, 1914	240 00	Aug. 13....	Aug. 13, 1914
.....	21 years.....	Oct. 1, 1911	150 00	Oct. 1....	Oct. 1, 1911

6 GEORGE V, A. 1916

PROPERTY leased by the Department of Railways and Canals

LACHINE

No. of Lease.	Date of Signature.	Lessee.	Lands or rights demised.
	1915		
21248	Feb. 23	The Canada Sugar Refining Co., Ltd.	Land on south side of canal below St. Gabriel locks, Montreal, Que.
*21267	Mar. 6	Montreal Tramways Co.	Privilege to maintain a 30" pipe from St. Gabriel basin No. 1 to lessee's works on William street, St. Ann's ward, Montreal, and draw water.
21270	Mar. 15	City of Montreal	Privilege to lay and maintain two 42" syphon sewer pipes under canal and adjacent lands at Atwater avenue, Montreal.
21292	Mar. 30	The Sincennes McNaughton Line, Limited.	Land on north wharf at basin No. 2, St. Anne's ward, Montreal.

RIDEAU

	1914		
20703	April 23	Dr. William H. Niebols	Parcel of land covered by water, 50 feet by 22 feet on north side of basin at Brewers Upper Mills lock station, part of lot No 25 in tp. of Pittsburg, county of Frontenac, Ontario.
20911	Aug. 18	Thomas Birkett	Wharf lots Nos. 7 and 8 on west side of canal basin at Ottawa, Ont., together with stone building thereon.
20983	Sept. 5	Perley Home for Incurables.	Land, part S. 1/2 of lot "K," con. "C," tp. of Nepean, county Carleton, Ontario.
21037	Oct. 7	William Acton	Land at Chaffey's Lock station, part of lot No. 17 in 8th con. of tp. of South Crosby, county of Leeds, Ontario.
21040	Oct. 15	Albert F. Leonhard	Land covered by waters of Sand lake, part of lot No. 9 in 6th con. of tp. of South Crosby, county of Leeds, Ontario.
21066	Oct. 22	William E. Cbester	Land, part of lot No. 8, concession "A," tp. of Wolford, county of Grenville, Ontario.
	1915.		
*21182	Jan. 12	The Canadian Northern Ontario Ry. Co.	Privilege to erect and maintain railway bridge over Rideau river on Rideau canal, above Hog's Back lock station.

SOULANGES

	1914.		
20802	May 29	The Provincial Light, Heat & Power Co.	Privilege to cross canal with power transmission lines, opposite cad. lot No. 350 in parish of St. Joseph de Soulanges, Que.
20824	June 10	The Montreal Light, Heat & Power Co.	Privilege to erect and maintain a transmission line on south side of canal from B.S. marked "A" opposite swing bridge at lock No. 3, to B.S. marked "B" opposite regulating weir No. 2.
20848	June 29	The Cedar Rapids Manufacturing & Power Co.	Land on north side of canal in parish of St. Ignace du Coteau du Lac, county Soulanges.
20849	June 29	"	Privilege to erect and maintain a transmission line over canal and across canal lands, the wires to be stretched across canal between towers on cad. lot 346 of parish of St. Joseph de Soulanges.
20869	July 13	Vaudreuil Electric Co., Ltd.	Priv. to lay and maintain certain transmission wires and a submarine cable across canal near St. Antoine bridge.

SESSIONAL PAPER No. 20

during the Fiscal Year ended March 31, 1915—Continued.

CANAL—Concluded.

Area.	Term.	Commence- ment of term.	TERMS OF PAYMENT.		
			Annual Rental.	Due each year.	First instal- ment due.
			\$ cts.		
3,888 sq. ft.....	During pleasure.	Feb. 1, 1915	311 00	Feb. 1 ..	Feb. 1, 1915
.....	"	Aug. 25, 1914	2,325 00	Aug. 25 ..	Aug. 25, 1914
.....	"	Mar. 1, 1915	1 00	Mar. 1 ..	Mar. 1, 1915
325 sq. ft.....	"	May 1, 1915	26 00	May 1...	May 1, 1915

CANAL.

.....	During pleasure.....	Apr. 1, 1914	5 00	Apr. 1 ..	Apr. 1, 1914
.....	6 yrs., 9 mths., 7 dys. renewable.	Aug. 24, 1914	230 00	Aug. 24...	Aug. 24, 1914
0.6 ac.....	During pleasure.	May 1, 1914	1 00	May 1 ..	May 1, 1914
896 sq. ft.....	"	Sept. 1, 1914	5 00	Sept. 1...	Sept. 1, 1914
800 sq. ft.....	"	Oct. 1, 1914	1 00	Oct. 1....	Oct. 1, 1914
0.11 ac.....	"	Nov. 1, 1914	2 00	Nov. 1....	Nov. 1, 1914
.....	21 years, renewable...	June 1, 1911	1 00	June 1....	June 1, 1911

CANAL.

.....	14 years.....	May 1, 1908	10 00	May 1...	May 1, 1908
.....	During pleasure.	May 1, 1914	1 00	" 1...	" 1, 1914
10.70 | 0.30 | arpents.....	"	June 1, 1914	55 00	June 1...	June 1, 1914
.....	"	" 1, 1914	10 00	" 1....	" 1, 1914
.....	"	July 1, 1914	10 00	July 1....	July 1, 1914

6 GEORGE V, A. 1916

PROPERTY leased by the Department of Railways and Canals

TRENT

No. of Lease.	Date of Signature.	Lessee.	Lands or rights demised.
1914.			
20749	May 12	Claude H. Rogers.....	Land on west side of canal prism in block "W" of village of Ashburnham, now part of city of Peterborough.
20895	July 4	The Imperial Oil Co., Ltd.	Land on north side of Huron street, town of Newmarket, Ont., and right and privilege to lay and maintain an oil pipe.
20916	Aug. 24	David Anderson.....	Land, part of lots 1 and 2 in 12th con. of tp. of Douro, county of Peterborough, Ontario.
21166	Dec. 18	Hydro-Electric Power Commission of Ontario	Privilege to erect and maintain a 22,000-volt transmission line across canal land and crossing canal between swing bridge and between lots 10 and 11 in 10th con., tp. of Thorah, and lower entrance of lock No. 5, Simcoe-Balsam Lake division.
1915.			
21183	Jan. 12	The Bell Telephone Co. of Canada, Limited.	Privilege to erect and maintain telephone line over Trent river and canal right of way at Heeley Falls, tp. of Seymour, Northumberland.
21204	Feb. 1	C. F. Boynton.....	Land, part of lot 52 on south side of Portage Road, township of Eldon, county of Victoria, Ontario.
21206	Feb. 3	The Water & Light Commissioners of Campbellford.	The right, etc., to erect, etc., electric transmission line over canal right of way and Trent river or Tice or Bridge street, Campbellford.
21210	Feb. 5	The Bell Telephone Co. of Canada, Limited	The right, etc., to erect, etc., telephone line over canal right of way and Trent river on Tice or Bridge street, Campbellford.
21223	Feb. 13	The Canadian Northern Ontario Ry. Co.	Privilege to construct, etc., bridge and line of railway at Trenton, county Hastings.
21256	Feb. 23	The Bell Telephone Co. of Canada, Limited.	Privilege to erect and maintain a telephone line over canal and its right of way on Bridge street, village of Frankford, county of Hastings.

WELLAND

1914.			
20686	April 16	S. H. Pitts.....	Land and land covered with water in Port Colborne harbour, county Welland.
20687	April 20	S. H. Pitts.....	Privilege to erect and maintain a marine tower on north end of government elevator at Port Colborne, Ont.
20694	April 20	The Bell Telephone Co. of Canada.	Privilege to lay and maintain a subaqueous cable across Old Welland canal at head of lock No. 12, Merriton, and erect and maintain a short telephone line on canal lands.
20727	May 6	The Sterling Natural Gas Co., Ltd.	Privilege to lay and maintain a natural-gas pipe along east side of canal from point south of Wabash Railway crossing of canal to village of Humberstone.
20750	May 1	City of St. Catharines..	Privilege to lay and maintain a 12-inch sewer pipe across canal lands and into deep waters of canal at St. Catharines, Ont.
20793	May 23	Electro-Metals, Ltd.....	Privilege to lay, maintain and operate railway tracks in rear of government dock, south of Welland.
20794	May 23	Union Carbide Co. of Canada, Ltd.	Privilege to lay and maintain a railway siding on east side of canal, in rear and to the south of government dock at Welland, Ont.
20807	June 5	Page-Hersey Iron, Tube and Lead Co., Ltd.	Privilege to lay and maintain two sidings in rear of government dock, south of Welland, Ont.
20830	June 17	The Canadian Steel Foundries Co., Ltd.	Privilege to lay, maintain and operate railway tracks from its property to government dock, south of Welland, Ont.
20887	Aug. 1	Niagara Grain and Feeds, Limited.	Privilege to lay, maintain and operate a stub siding and connection with government elevator at Port Colborne, Ont.

SESSIONAL PAPER No. 20

during the Fiscal Year ended March 31, 1915—Continued.

CANAL.

Area.	Term.	Commencement of term.	TERMS OF PAYMENT.		
			Annual Rental.	Due each year.	First instalment due.
			\$ cts.		
0-001 acres.....	During pleasure.....	May 1, 1914	1 00	May 1...	May 1, 1914
0-06 acres.....	".....	June 1, 1914	10 00.....	June 1...	June 1, 1914
10-64 acres.....	".....	Jan. 1, 1914	10 00	Jan. 1...	Jan. 1, 1914
.....	".....	Nov. 1, 1914	1 00	Nov. 1...	Nov. 1, 1914
.....	During pleasure.....	Jan. 1, 1915	1 00	Jan. 1...	Jan. 1, 1915
3 acres.....	".....	Apr. 1, 1915	3 00	Apr. 1...	Apr. 1, 1915
.....	".....	Jan. 1, 1915	1 00	Jan. 1...	Jan. 1, 1915
.....	During pleasure.....	Jan. 1, 1915	1 00	Jan. 1...	Jan. 1, 1915
.....	21 years renewable.....	" 1, 1915	1 00.....	.....	Jan. 1, 1915
.....	During pleasure.....	" 1, 1915	1 00	Jan. 1...	" 1, 1915

CANAL.

1-18 acres.....	21 years, renewable...	Apr. 1, 1914	250 00	Apr. 1...	Apr. 1, 1914
.....	During pleasure.....	" 1, 1914	50 00	" 1...	" 1, 1914
.....	".....	" 1, 1914	5 00	" 1...	" 1, 1914
.....	".....	" 1, 1914	20 00	" 1...	" 1, 1914
.....	".....	May 1, 1914	2 00	May 1...	May 1, 1914
.....	".....	" 1, 1914	25 00	" 1...	" 1, 1914
.....	".....	" 1, 1914	25 00	" 1...	" 1, 1914
.....	".....	" 1, 1914	25 00	" 1...	" 1, 1914
.....	".....	" 1, 1914	25 00	" 1...	" 1, 1914
.....	".....	July 1, 1914	1 00	July 1...	July 1, 1914

6 GEORGE V, A. 1916

PROPERTY leased by the Department of Railways and Canals

WELLAND

No. of Lease.	Date of Signature.	Lessee.	Lands or rights demised.
	1914.		
20890	Aug. 1	Electro-Metals, Ltd.....	Privilege to install and maintain a belt conveyer in rear of government dock, south of Welland, Ont.
20984	Sept. 8	The Dain Manufacturing Co., Ltd.	Privilege to lay and maintain a 2-inch pipe from canal and across canal land at a point on east side of canal north of Welland Junction bridge, township of Humherstone, and draw water therethrough.
21002	Sept. 21	Town of Thorold.....	Land, part of lots 29 and 30, township of Thorold, county of Welland.
21036	Oct. 5	Erie and Ontario Ry. Co., Cor. Town of Dunnville, joining for purpose of clause 8.	Land, being part of lots 2, 3 and 4, range 1, township of Moulton, of county Haldimand, Ontario.
21044	Oct. 19	John Gillap.....	Land south of Dunnville lock, in town of Dunnville, county of Haldimand, Ontario.
21045	Oct. 19	John Haith.....	Land south of Dunnville lock, in town of Dunnville, county of Haldimand, Ontario.
21097	Nov. 6	Hydro-Electric Power Commission of Ontario	Privilege to erect and maintain an overhead 46,000-volt transmission line crossing Welland river at lot No. 200, township of Thorold, county Welland, Ontario.
21111	Nov. 12	The Erie and Ontario Railway Co.	Land on north side of feeder, east of Niagara street, Dunnville, Ont., and privilege to build bridge across feeder, and lay tracks.
21118	Nov. 20	Hydro-Electric Power Commission of Ontario.	Privilege to erect and maintain an overhead electrical transmission line across canal within the limits of town of Welland.
21143	Dec. 1	The Hydro-Electric Commission of the city of St. Catharines.	Privilege to lay and maintain two 3-wire submarine cables across canal near Niagara Street bridge in city of St. Catharines.
21160	Dec. 15	Hydro-Electric Power Commission of Ontario.	Privilege to erect and maintain two overhead electric power transmission lines across the canal south of Allanburgh, county of Welland, Ontario.
	1915.		
21181	Jan. 7	Cor. of city of St. Catharines.	Land and land covered with water below St. Paul Street bridge in city of St. Catharines, and privilege to erect piers thereon on a steel viaduct to be carried over canal.
21189	Jan. 12	Hydro-Electric Power Commission of Ontario.	Privilege to lay and maintain a 4,000-volt subaqueous transmission cable across canal near Niagara Street bridge, St. Catharines, Ont.
21287	Mar. 24	W. B. Clark	Land, part of lot No. 21 in 1st concession, township of Grant-ham, county of Lincoln.

WELLAND SHIP

	1914.		
20728	May 8	J. B. Tromanhauser Co., Ltd.	To occupy 25,000 square feet of land covered by waters of Port Dalhousie harbour for the purpose of constructing six reinforced concrete cribs required in connection with Ontario entrance of ship canal.

¹Cancels and supersedes lease No. 18782, dated December 6, 1910.²Supersedes in part lease No. 17266 to James Wilson.³Cancels and supersedes lease No. 13764, dated February 22, 1900.⁴Payable in advance every ten years.

SESSIONAL PAPER No. 20

during the Fiscal Year ended March 31, 1915—*Concluded.*CANAL—*Concluded.*

Area.	Term.	Commencement of term.	TERMS OF PAYMENT.		
			Annual Rental.	Due each year.	First instalment due.
			\$ cts.		
	During pleasure...	July 1, 1914	25 00	July 1	July 1, 1914
	"	Sept. 1, 1914	5 00	Sept. 1	Sept. 1, 1914
4.70 acres...	"	" 1, 1914	1 00	" 1	" 1, 1914
2.44 acres...	"	" 1, 1914	100 00	" 1	" 1, 1914
0.05 acres...	"	Nov. 1, 1914	10 00	Nov. 1	Nov. 1, 1914
0.03 acres...	"	" 1, 1914	10 00	" 1	" 1, 1914
	"	July 1, 1914	1 00	July 1	July 1, 1914
0.11 acres...	"	Oct. 1, 1914	5 00	Oct. 1	Oct. 1, 1914
	"	July 1, 1914	25 00	July 1	July 1, 1914
	"	Nov. 1, 1914	10 00	Nov. 1	Nov. 1, 1914
	"	Dec. 1, 1914	5 00	Dec. 1	Dec. 1, 1914
0.12 acres...	21 years, renewable	Jan. 1, 1915	1 00	Jan. 1	Jan. 1, 1915
	During pleasure...	" 1, 1915	5 00	" 1	" 1, 1915
0.32 acres...	"	Nov. 1, 1911	10 00	Nov. 1	Nov. 1, 1911

CANAL.

25,000 sq. ft.	During pleasure...	May 1, 1914	100 00	May 1	May 1, 1914
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⁴Surrendered.⁵Supersedes leases Nos. 18416, 18929, 19055, and 19498.⁷Cancels and supersedes lease No. 18283, dated April 1, 1910.

E. E. FAIRWEATHER,
Departmental Solicitor.

6 GEORGE V, A. 1916

PROPERTY leased to the Department of Railways and Canals by

No. of Lease.	Date of Lease.	Lessee.	Land or rights demised.
	1915.		
21249	Feb. 23	William Massey Birks, <i>et al.</i>	Of rooms Nos. 301, 302, 303, 304, 305, 306, and 307 in building known as "New Birks building" on Phillips square, Montreal.

QUEBEC

	1915.		
21250	Feb. 23	William Massey Birks <i>et al.</i>	Rooms Nos. 708, 709, 710, 711 and 713 in building known as "New Birks building" on Phillips square, Montreal.

TRENT

	1915.		
21231	Feb. 20	John Collins	Parcel of land in village of Hastings county of Northumberland, Ontario.

WELLAND

	1914.		
20698	April 23	The Niagara, St. Catharines & Toronto Ry.	To move over railway tracks a gasoline inspection car for engineer in charge between St. Catharines and Port Weller.
	1915.		
21193	Jan. 20	The Niagara, St. Catharines & Toronto Ry.	To move over railway tracks a gasoline inspection car for engineer in charge between St. Catharines and Port Weller.

¹ Renews lease No. 19409, dated March 4, 1912.

SESSIONAL PAPER No. 20

various parties during the Fiscal Year ended March 31, 1915.

CANAL.

Term.	Commencement of term.	TERMS OF PAYMENT.		
		Annual Rental.	Due each year.	First instalment due.
		\$ cts.		
1 year.....	May 1, 1915	2,250 00	Quarterly...	

BRIDGE.

1 year.....	May 1, 1915	1,620 00	Quarterly...	
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CANAL.

1 year.....	Mar. 1, 1915	25 00	Per annum..	
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SHIP CANAL.

Expires January 1, 1915.....				
Expires January 1, 1916.....				

E. E. FAIRWEATHER,
Departmental Solicitor

6 GEORGE V, A. 1916

PROPERTY conveyed to the Department of Railways

CORNWALL

Number of Deed.	Date of Deed.	Grantor.	Lot.
	1914.		
21011	Aug. 6	Mary Jane Ross and Louis A. Ross.	Land on Race Street, on N. side of canal near old lock 17.

LACHINE

Number of Deed.	Date of Deed.	Grantor.	Lot.
	1914.		
21054	July 18	Eugenie Bleigner dit Jarry.	Land, sub. 6 of lot 3520 and sub. 5 of lot 3558.
21332	Dec. 31	Canadian Pacific Ry. Co., et al.	Land, N. parts of lots Nos. 3560 and 3599.

RIDEAU

Number of Deed.	Date of Deed.	Grantor.	Lot.
	1914.		
20969	July 6	Herbert A. Derbyshire, et uz.	Water-power lying on part of lot No. 15 in 9th con., tp. of North Crosby; and roadway leading to said water-power.
	1914.		
21302	May 1	Estate of P. Kyle . . .	Pts. of lots Bb, Cc, Dd, and Ee, in village of
21303	Sept. 9	Cor. Village of Merrickville.	Land, pt. of Brook street

TRENT

Number of Deed.	Date of Deed.	Grantor.	Lot.
	1914.		
20769	April 28	Finley J. McRae, et uz	Land, pt. of lot No. 23 in 8th con., top. of
20770	April 27	Neil McEachern, et uz	Land, pt. of E. ½ of lot No. 24, 8th con.
20821	April 23	Patrick McCambridge	Land, pt. of lot "A"
20960	June 17	James Capstick, et uz.	Land, pt. of lot No. 3 in range 5
20961	June 17	Edward J. Woollard, et uz.	Land, pt. of lot 3, in range 5
	1911.		
20964	July 29	William J. Doxsee, et uz	Land, pt. of lots Nos. 13 and 14 in south block
21078	July 13	Township of Seymour.	Land, lot No. 6, block 39, town of Campbellford
21079	June 30	The Bank of British North America.	Land, pt. of lot No. 3, range 5, village of Bobcaygeon
21086	Sept. 4	Town of Campbellford	Land, pt. of lot No. 9, 6th con., town of Campbellford
21087	Sept. 4	"	Land, in town of Campbellford, pt. lot No. 10, in 6th con.
21088	Sept. 4	"	Land, in town of Campbellford, pt. lot No. 9, in 6th con.
21089	Sept. 4	"	Land, in town of Campbellford, pt. lot No. 9, in 6th con.
21132	Sept. 30	Sir Wm. MacKenzie, et uz.	Land, pts. lots Nos. 44, 45, and 46 south of Portage road in 8th con., grantor reserving right to cut and remove timber for five years from date hereof.
21155	Oct. 17	Cor. of Township of Seymour.	Land in
21242	Dec. 18	Robert Cowan	Land, "Wallace island" in Severn river

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and Canals during the Fiscal Year ended March 31, 1915.

CANAL.

District.	County.	Area.	Amount.
			¢ cts.
Cornwall.....	Stormont.....	1.74 acres....	3,500 00

CANAL.

Cote St. Paul.....	Hochelaga.....	7,562 sq. ft.....	13,697 75
Montreal.....	"	12,126 sq. ft.....	Exchange of land.

CANAL.

North Crosby.....	Leeds.....		750 00
Merriekville.....	Grenville.....	1.532 acres.....	300 00
"	"	0.13 acres.....	1 00

CANAL.

Eldon.....	Victoria.....	35.00 acres.....	525 00
"	"	5.8 acres.....	87 00
Sydney.....	Hastings.....	0.25 acres.....	125 00
Bobcaygeon.....	Victoria.....	0.003 acres.....	20 00
"	"	0.002 acres.....	20 00
Campbellford.....	Northumberland.....	0.65 acres.....	175 00
Seymour.....	"	0.17 acres.....	300 00
Verulam.....	Victoria.....	0.051 acres.....	1,900 00
Seymour.....	Northumberland.....	0.11 acres.....	1 00
"	"	0.005 acres.....	1 00
"	"	0.063 acres.....	1 00
"	"	7.48 acres.....	1 00
Eldon.....	Victoria.....	34 acres.....	680 00
Seymour.....	Northumberland.....	11.50 acres.....	345 00
Wood.....	Muskoka.....	5.42 acres.....	2,225 00

PROPERTY conveyed to the Department of Railways and

TRENT

Number of Deed.	Date of Deed.	Grantor.	Lot.
	1915.		
21339	Mar. 8	Jacob Geroux, <i>et al.</i>	Land, pts. of W $\frac{1}{2}$ of lot No. 18 in 13th con.
21340	Mar. 31	John S. Westcott.	Land, pt. of S. $\frac{1}{2}$ of lot No. 10, con. 10.
21341	Mar. 31	James H. Gordon, <i>et uz.</i>	Land, pt. of S. $\frac{1}{2}$ of lot No. 9, con. 10
	1911.		
21468	July 28	Patrick P. Young, <i>et uz.</i>	Land, pt. of lot No. 37, 12th con.

WELLAND

	1914.		
20766	April 3	James R. Emmett, <i>et al.</i>	Land, pts. of lots Nos. 7 and 8 con. 9, township of.
20767	April 22	Mary Griffis.	Land, pt. of lot No. 11, 1st con. township of.
20768	April 8	William A. Griffis, <i>et al.</i>	Land, pt. of lot No. 9, con. 4, township of.
20820	April 21	Elizabeth M. Taylor (Executrix estate of Thomas Taylor).	Land, pt. of lots 6 and 7, con. 7, township of.
20836	May 21	Ernest H. Hack, <i>et uz.</i>	Land, pt. of N. $\frac{1}{2}$ of lot 10 in con. 3, and right to flood, etc., pt. of N. $\frac{1}{2}$ of said lot. 10.
20837	May 6	Stephen E. Emmett, <i>et al.</i>	Land, pt. of lots 7, 8, and 9, con. 10.
20842	April 6	Sydney White, <i>et uz.</i>	Land, pt. of lots 7 and 8 in con. 7
20965	July 6	Jacob Dorr, <i>et uz.</i>	Land, pt. of S. $\frac{1}{2}$ of lot No. 5, con. 9.
20966	June 20	Frederick Landgraaf, <i>et uz.</i>	Land, east part of lot 5, village of.
20967	May 4	Aaron R. Parnall, <i>et uz.</i>	Land, pt. of lot No. 10, con. 2.
	1913.		
20968	Dec. 16	William A. Briggs.	Land, pt. of lot No. 11, con. 1st, demised under lease dated Feb. 10, 1909, from William Muir.
	1914.		
21021	June 15	Walter John Elkins, <i>et uz.</i>	Land, pt. lot No. 2 on subdivision of lot 5 and 6, township of Thorold; together with release of all claims for damages.
21052	April 13	Douglas Foster, <i>et uz.</i>	Land, pt. of lots 26 and 27 in 3rd con.
21053	Aug. 11	Necnah Brady.	Lot No. 5 on south side of Rose street.
21076	Oct. 14	Louis A. Kottmeier, <i>et uz.</i>	Land, pt. of lot No. 97, township of.
21077	Oct. 15	Mary E. Ballantyne.	Land, pt. of lot No. 74.
21131	Oct. 3	Louise A. Landgraf.	East pt. of lot No. 6, on east side of Victoria street, village of
21153	Nov. 13	James Wilson, <i>et uz.</i>	Lots Nos. 18, 19, 20, 21, and 22 in block 1 on Chapel street, town of.
21154	Nov. 19	James Wilson, <i>et uz.</i>	Lots or block "T" and "U" on east side of Chapel street, and south of Peter street.
21172	May 21	Jonas Anthes, <i>et uz.</i>	Land, pt. of N. $\frac{1}{2}$ of lot No. 27 in con. 2, and pts. lots Nos. 26, and 27 con. 3.
21185	Sept. 25	Arabella E. Steele	Pt. of lot No. 12 of the "John Thompson survey" on south side of Thompson street.
	1915.		
21241	Jan. 11	Honora Hanley.	Land, east pt. of lot No. 12, village of.

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Canals during the Fiscal Year ended March 31, 1915—Continued.

CANAL—Concluded.

District.	County.	Area.	Amount.
			\$ cts.
Tay.....	Simcoe.....	16.88	
Thorah.....	Ontario.....	3.23} acres.....	925 00
".....	".....	0.61 acres.....	61 00
".....	".....	0.23 acres.....	23 00
Smith.....	Peterborough.....	1.16 acre.....	75 00

SHIP CANAL.

Grantham.....	Lincoln, Ont.....	29.45 acres.....	16,775 00
".....	".....	41.56 acres.....	22,071 50
".....	".....	43.27 acres.....	30,000 00
".....	".....	59.8 acres.....	13,150 00
".....	".....	19.41 acres.....	16,000 00
".....	".....	123.6 acres.....	20,500 00
".....	".....	5.74 acres.....	5,900 00
".....	".....	49.75 acres.....	5,000 00
Humberstone.....	Welland.....	0.21 acre.....	325 00
Grantham.....	Lincoln.....	23.53 acres.....	9,500 00
".....	".....	6.33 acres.....	300 00
Thorold.....	Welland.....	1 acre.....	3,875 00
Humberstone.....	Welland.....	18.46 acres.....	3,250 00
Welland.....	".....		950 00
Thorold.....	".....	23 acres.....	4,000 00
".....	".....	17 acres.....	3,500 00
Humberstone.....	".....		375 00
Thorold.....	".....		6,800 00
".....	".....		6,500 00
Humberstone.....	".....	108.23 acres.....	19,500 00
".....	".....		750 00
".....	".....	0.21 acres.....	400 00

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PROPERTY conveyed to the Department of Railways and
WELLAND

Number of Deed.	Date of Deed.	Grantor.	Lot.
	1914.		
21281	Aug. 18	Oren R. Garner, <i>et uz</i>	Lots Nos. 1, 2, 3, 4, 6, 12, 13, 14, 15, 16, 17, 18, 19, 22, 23, 24, 25, 26, 27, 28, 42, 43, 44, 46, 47, and 82.
21282	Aug. 24	Arthur MacDonald, <i>et uz</i> .	Lot No. 20, on south side of Raymond street.....
21283	Nov. 19	Euphemia Higgins....	Land, pt. of lot 74, township of Thorold.....
21313	Aug. 24	John Craig, <i>et uz</i>	Lot No. 45 on north side of Raymond street.....
21314	Aug. 24	Robert H. Howes....	Lot No. 81 on north side of McCormick street.....
21469	Sept. 8	William H. Secord, <i>et uz</i> .	Land, pt. of lots Nos. 6 and 7, in 9th con., with pt. of allowance for road between said lots, and pt. of lot No. 7 in 9th con., and pt. of lots 8 in 8th and 9th cons.

HUDSON BAY

	1914.		
20839	May 2	The Northern Townsites Company.	Pt. of W. $\frac{1}{2}$ of section 2, in township 56, range 26, west of Principal meridian.
21008	June 26	Louis Culliere.....	Parts of lots 15 and 16, block 36.....
21009	June 13	The Standard Securities Co.	Part of SW. $\frac{1}{4}$ of section 11, township 56, range 26, west of Principal meridian.
21010	June 13	H. Olsensky.....	Part of lot 14, block 36.....
21043		Dept. of Indian Affairs	Land at Le Pas block "A"
21068	July 2	The Finger Lumber Co. Ltd.	Lots 9 and 10, block 36, and lots 12, 13, 14, 15, and 16, block "H".
21092	June 30	Louisa Ann Marion....	Lots 11 and 12 in block 36.....
	1915.		
21277	Jan. 9	Edward D. Beatty and Robert M. Shirley.	Lot 3 in block 35, townplot of.....
21278	Jan. 6	Robert M. Shirley....	Lot 6 in block 35, townplot of.....*
21279	Jan. 4	Moses Kenley.....	Lot 5 in block 35, townplot of.....
21280	Jan. 13	Ulric St. Godard.....	Lot No. 13, block 36.....

* Too late for last year's report. * Surrender of lease.

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Canals during the Fiscal Year ended March 31, 1915—*Concluded.*SHIP CANAL—*Concluded.*

District.	County.	Area.	Amount.
			\$ cts.
Welland.....	Welland.....		15,950 00
".....	".....		1,750 00
Thorold.....	".....	{ 6 ac., 3 roods } { 33 perches.... }	3,750 00
Welland.....	".....		650 00
".....	".....		400 00
Grantham.....	Lincoln.....	37 acres.....	24,000 00
		Principal Interest	644 93

RAILWAY.

	Manitoba		
Le Pas.....	".....	0-34 acre.....	3,650 00
".....	".....	16-33 acres....	600 00
".....	".....	0-24 acres....	5,000 00
Le Pas Indian Reserve.....	".....	4-42 acres....	8,840 00
Le Pas.....	".....	1-43 acres....	7,800 00
".....	".....		2,500 00
".....	".....		1,500 00
".....	".....		1,500 00
".....	".....		1,500 00
".....	".....		1,400 00

E. E. FAIRWEATHER,
Departmental Solicitor.

6 GEORGE V, A. 1916

LETTERS PATENT issued by the Department of Railways and Canals during the Fiscal Year ended March 31, 1915.

LACHINE CANAL.

No.	Date.	Grantee.	Description.	Area.	Amount.
	1914.				\$ cts.
21139	Nov. 16	Canadian Pacific Railway	Parts of lots 3520-6, 3520-5, 3520A-1, and lots 3520-4, 3520-2, 3520-1, 3558-4, 3558-5 on official plan and Book of Reference of parish of Montreal, on south side of canal.	15,230 sq.ft.	

WELLAND CANAL.

	1914.				
21069	Oct. 5	Corporation of the Town of Thorold.	Land, part of lot No. 30, township of Thorold, county Welland.	0.87 acres...	435 00

E. E. FAIRWEATHER,
Departmental Solicitor.

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DAMAGES released during the Fiscal Year ended March 31, 1915.

CORNWALL CANAL.

No. of Release.	Date of Release.	Grantor.	Description.	Amount.
21034	1914. Sept. 16	Ottawa & New York Ry. Co.	For claim, etc., for reimbursement of expenditure in removing and relocating portion of railway bridge over canal, together with spur track leading thereto.	\$ 3,812 cts. 59

GALOPS CANAL.

21196	1914. Apr. 27	George A. Binion.....	For damages to the E. $\frac{1}{2}$ of lot No. 30 in 1st con., first range, tp. of Matilda, county of Dundas, Ontario, consequent upon construction of canal.	912 56
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TRENT CANAL.

20804	1914. June 2	The Trent Valley Woolen Manufacturing Company, Limited.	Of all claims arising from or incidental to revocation of license No. 3264, and destruction of dam at Campbellford and water-power in connection therewith.	21,477 86 & supply in perpetuity of electrical energy up to 350h.p.
20840	June 19	The Dickson Bridge Works Co., Ltd.	Of all claims arising from or incidental to revocation of license No. 3264, and destruction of dam at Campbellford and water-power in connection therewith.	7,000 00
*20962	Mar. 3	The Corporation of the Township of Emily.	For damages by water to roads, highways, and bridges within municipality of the tp. of Emily, occasioned by the raising of the dam at Bobcaygeon.	1,897 78
*20963	Jan.....	Thomas. M. C. Sidey <i>et al.</i>	For damages by water to parts of lot No. 33 and part of lot No. 34 in the 8th con. of the tp. of Hamilton, county of Northumberland, Ontario	30 00
20972	Apr. 3	Joseph Meehan.....	For damages consequent upon the erection on his farm of a shed for the storage of explosives.	40 00 and int.
20973	May 30	Isabella French <i>et al.</i>	For damages by water to the N. $\frac{1}{2}$ of lot No. 24 in the 8th con. of the tp. of Eldon, county of Victoria.	64 00
21016	Aug. 22	Edith Carr.....	Of all claims, etc., owing to the death of her husband, James Carr.	500 00
21080	June 3	Ada E.F. MacDougall..	For damages by water to park lots 1, 2, 3, 4, 5 and 6 east of Bridge street, and to lots 9 and 10 south of Coldstream and west of Pine streets, village of Rosedale, tp. of Fenelon, county of Victoria.	90 00
21090	Oct. 7	Corporation of the town Campbellford.	For all claims, etc., in connection with the revocation of license No. 3264 permitting the maintenance of a certain dam at Campbellford, destruction of said dam and water-power in connection therewith, and for all lands taken for the purpose of sec. 4 of Ontario Rice Lake Division of canal.	12,000
21207	1915. Jan. 30	E. G. Weeks.....	For all damages caused by reason of the removal of the temporary bridge across canal below lock No. 1.	10 00
21285	Feb.	The Fesserton Timber Co., Ltd.	For damages to timber on parts of lots Nos. 12, 13, 14 in con. 9; 11 and 12, con. 10; and 10 and 11, con. 11; tp. of Matchedash, county of Simcoe, Ontario.	630 00

DAMAGES released during the Fiscal Year ended March 31, 1915.—*Concluded.*TRENT CANAL—*Concluded.*

No. of Release	Date of Release.	Grantor.	Description.	Amount.
	1910.			\$ cts.
*21304	Nov. 19	Harriet L.C. Dunford...	For damages by water to east $\frac{1}{2}$ of lot No. 30 in 5th con., and parts of lot No. 31 in 8th con. of tp. of Dummer, county of Peterborough.	176 00
	1914.			
21305	Oct. 12	Cor. of the Township of Rawdon.	Of all claims for damages to a certain boundary road or bigway between the townships of Seymour and Rawdon.	300 00
21306	Nov. 18	Michael Saries.....	For damages by spring freshet of 1914 to lots Nos. 118 and 119 on east side of Trent street in village of Frankford, county of Hastings, Ontario.	158 00
21307	Nov. 18	Thomas H. Foster....	For damages by spring freshet of 1914, to lots Nos. 116 and 117 on east side of Trent street in village of Frankford, county of Hastings, Ontario.	55 00
21308	Nov. 18	Jesse Snider.....	For damages by spring freshet of 1914 to part of lot letter "J" on east side of Trent street in village of Frankford, county of Hastings, Ontario.	25 00
21309	Nov. 18	William J. Lyons.....	For damages by spring freshet of 1914 to part of block No. 27 on south side of Elgin street in village of Frankford, county of Hastings, Ontario.	13 35
21310	Nov. 18	Agnes Hubble.....	For damages by spring freshet of 1914 to lot No. 113 on east side of Trent street in village of Frankford, county of Hastings.	50 00
21311	Nov. 18	Byron B. Ostrom....	For damages by spring freshet of 1914 to block "G" and part of block "L" in village of Frankford, county of Hastings, Ontario.	70 00
	1915.			
21312	Jan. 26	Jane Pearson.....	For damages by water to the N. $\frac{1}{2}$ of lot No. 29 in the 15th con. of tp. of Smith, county of Peterborough.	600 00
21357	Mar. 8	Jacob Geroux <i>et al.</i>	For damages by water to crop and lands, part of lots Nos. 17 and 18 in the 13th con. of the tp. of Tay, county of Simcoe, Ontario.	100 00

SOULANGES CANAL.

21015	Aug. 15	Zoe Deguire.....	Of all claims, etc., owing to the death of her husband, Norbert Deguire.	500 00
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WELLAND SHIP CANAL.

	1914.			
21156	Nov. 21	Charles W. Badger.....	Of leasehold interest in lots YY, ZZ, 226A, 228A and 50, (plan No. 11 for town of Thorold, county of Welland, Ontario, owned by one Alexander Campbell.	350 00

SAULT STE. MARIE CANAL.

	1914.			
20697	Apr. 24	His Majesty the King to the Gilchrist Transportation Company, John Holman and Sons, Limited, and others.	Of all claims arising out of a collision, on June 9, 1909, of the vessel <i>Perry G. Walker</i> , owned by Gilchrist Transportation Co., with one of the moveable gates at the lower end of the Canadian lock in the St. Mary's river, Sault Ste. Marie, Ont., and with the steamer <i>Assiniboia</i> .	57,824 15

*Too late for last year's report.

E. E. FAIRWEATHER,
Departmental Solicitor.

PART III.

REPORT OF THE GENERAL MANAGER OF GOVERNMENT RAILWAYS AND OTHER OFFICIALS FOR THE YEAR 1914-15.

General Manager of Government Railways, with appendices, including reports of the Railway Employees Relief and Insurance Association and the Government Railways Provident Fund Board.

Report of the Chief Engineer, Government Railways.

- “ Mechanical Accountant, Government Railways.
- “ General Solicitor, Government Railways.
- “ Comptroller and Treasurer, Government Railways.
- “ Superintending Engineer, Halifax Ocean Terminals.

GOVERNMENT RAILWAYS.

MONCTON, N.B., August 31, 1915.

SIR,—The undersigned has the honour to submit the following report on the working of the Canadian Government railways for the fiscal year ending March 31, 1915.

This report covers the Intercolonial railway, the Windsor Branch, the Prince Edward Island railway, the International railway, the New Brunswick and Prince Edward Island railway, the St. John and Quebec railway, and that portion of the Transcontinental railway east of Quebec, Que.

Capital expenditures authorized for the year were curtailed on account of the call for retrenchment in September, caused by the war, to the extent of \$2,088,650 on the Intercolonial, and \$250,800 on the Prince Edward Island railway.

The gross earnings of the Intercolonial railway for the year as compared with the previous year show a decrease of \$1,433,075.86, caused by the war and the subsequent depression in business.

Working expenses were decreased as compared with the previous year, \$1,428,875.86.

This reduction in operating expenses was secured without the laying off of any permanent employees, as it was decided that in the interest of business conditions in the Maritime Provinces and Quebec that the regular staff should be maintained.

This reduction in operating expenses was secured on account of requiring less train service and on account of various economies in operation and maintenance.

Notwithstanding the economies effected in operation, as per the preceding paragraph, the advisability for improving the property in the way of extraordinary repairs and improvements was not lost sight of, and the sum of \$295,586.90 was authorized for work of this character, as shown in the comptroller and treasurer's statement, Appendix "A," all of which is a charge against operating expenses.

Attention is called to the statistical statement of earnings and operating expenses by divisions for the year, Appendix "B," which shows the surplus or deficit for each of the divisions.

Following the policy of the Government to retain the surplus of earnings over operating expenses for the benefit of the railway and its appurtenances, the surplus this year of \$36,465.08 was credited to Fire Renewal Suspense Account.

A reorganization of the Stores Department was completed during the year, whereby all material has been properly assembled, classified and carded, and placed under lock and key, with a storekeeper in charge at each important divisional point, instead of being carried in tool houses, engine houses, car repair shops, freight sheds, etc., and being subject to the loss and damage which that system involves. In this reorganization about five hundred carloads of material and supplies were gathered up along the line and turned into the general stores or disposed of; the value of this material and supplies being about \$195,000.

The stores stocks are now being carried at the important divisional points, from which supplies of every name and nature are furnished upon requisition as required along the line, instead of being carried as heretofore in tool houses, engine houses, car repair shops, freight sheds, etc., where they were subjected to the loss and damage which that system involved.

The detail of this reorganization in regard of local stores is outlined in the letters of the general storekeeper, copies attached under Appendix "C."

The work of the recently organized Fuel Department is now beginning to show results. Prior to the establishment of this department, fuel for these railways was handled by the Mechanical, Stores, and Purchasing Departments, with divided responsibility.

The present organization has charge of purchases, distribution and handling of fuel, and maintains detail records thereof and supplies statistical information in connection therewith, all of which has resulted in an economy equal to about \$50,000 for the year, as outlined in the general fuel agent's letter, copy of which is to be found in Appendix "D."

The management has been relieved of great responsibility in connection with the safety of trains by the replacement of the light steel bridges on the main line between Halifax and Ste. Rosalie.

The bridge engineer discovered, when measuring and calculating the old steel bridges on the line, that 105 of these structures were not strong enough to carry safely the traffic which was then passing over them.

In the meantime, many of these bridges were supported with wooden bents.

We are now pleased to advise that they have all been replaced by modern structures of sufficient strength to carry the heaviest loads which good railway practice at this date required.

The annual statement of the Employees' Relief and Insurance Association is hereto attached, Appendix "E."

It should be pointed out that the Railway's contribution from earnings amounted to \$10,000.

The annual statement of the Intercolonial and Prince Edward Island Railways Employees' Provident Fund is hereto attached, Appendix "F."

It should be pointed out that the Railway's contribution from earnings to this fund amount to \$100,000.

First Aid work under the direction of the St. John Ambulance Association has been largely extended, more particularly by the appointment of a French-speaking First Aid Instructor to look after the interests of our French-speaking employees. A number of employees have taken advantage of the privileges extended to them by attending the instruction classes, and satisfactory examinations have been passed and certificates awarded as follows:—

Certificates	357
Vouchers	92

Separate accounts were, during the said fiscal year, kept for each railway, and these accounts will be considered separately in this report.

INTERCOLONIAL RAILWAY.

The following reports of the officials are enclosed:—

The report of the Chief Engineer on works chargeable to Capital and Revenue Accounts.

Report of the Superintendent of Rolling Stock, statements relating to the Mechanical Department.

Report of the General Solicitor.

Report of the General Superintendent, statement of casualties.

Report of the Safety Engineer.

INTERCOLONIAL RAILWAY.—Continued.

Report of the Comptroller and Treasurer, as follows:—

1. Capital Account.
2. Revenue Account.
3. Maintenance of Way and Structures.
4. Maintenance of Equipment.
5. Traffic Expenses.
6. Transportation Expenses.
7. General Expenses.
8. General Stores Account.
9. General Balance.
10. Statement of Receipts and Expenses.
11. Equipment-Renewal Account.
12. Rail Renewal Account.
13. Fire Renewal Account.
14. Statement of Cash Received.
15. Statement of Averages.
16. Statement of Articles carried by the Railway.
17. Statement of Freight and Passenger Receipts.

The length of railway in operation during the year 1914-15 was 1,454.22 miles, a shortening, on account of the track diversion, of the mileage in operation for the previous year.

CAPITAL ACCOUNT.

The cost of the road and equipment on March 31, 1914, was \$101,467,501.84. The additions during the year were as follows:—

To Strengthen bridges.	\$ 899,941 39
" Increase accommodation and provide machinery, Halifax.	18,183 09
" Locomotive and car shops, with equipment.	21,247 78
" Sydney Mines diversion.	4,044 85
" Diversion of line and branch to wharf, Chatham.	2,877 19
" Increase accommodation at Truro.	14,806 05
" Surveys and inspections.	95,752 83
" Increase accommodation at Ste. Flavie.	7,279 03
" Improvements at Point Tupper.	5,353 69
" Increase accommodation at Fredericton.	5,188 39
" Improvements at Sussex.	22,940 54
" Rolling stock.	2,519,998 50
" General protection of highways.	4,098 97
" Diversion of line between Nelson and Derby Junction.	82,952 01
" Increased facilities and accommodation along the line.	114,123 76
" Increase water supply.	11,444 47
" Spur line to Courteney Bay, St. John.	2,671 47
" New terminal facilities, Halifax.	1,327,203 52
" Spur line Pugwash harbour, Pugwash.	21,071 79
" Double tracking, Chaudière Junction to St. Romuald.	58,410 37
" Additional facilities, Rivière-du-Loup.	142 59
" Docks and wharves, Halifax.	449,075 34
" Increase accommodation at St. John.	3,280 61
" Diversion of line between North Sydney and Leitches Creek.	159,978 86
" Installation of block system in connection with operation.	45,364 45
" Installation of telephone system in connection with operation.	2,572 88
" Electric equipment for charging electric lighted cars, Halifax.	928 33
" Provide car ferry and dock for same, Mulgrave.	3,440 40
" Installation of roofing, Moncton.	176 06
" Subway and facilities, Hampton.	576 55
" Increase facilities at divisional points—power plants.	24,163 30

INTERCOLONIAL RAILWAY.—Continued.

CAPITAL ACCOUNT—Continued.

To Safety appliances.	\$ 14,000 00
" Willow Park yard sewer, Halifax.	245 93
" Original construction.	500 00
" Elimination of level crossings and grades, Moncton.	24,290 85
" Permanent wiring of engine houses.	3,800 00
" Towards construction of railway, Dartmouth to Deans.	623,953 00
" Increased facilities, Trenton.	26 20
" Interlocking tower and plant, Aston Junction.	41 15
" Anti-creepers and tie plates.	32,000 00
" Raise grain conveyor, Halifax.	9,270 67
" Pintsch gas equipment for charging cars.	4,018 77
" Improve triple valves of air brakes.	4,745 73
" Increased accommodation, Campbellton, Exchequer Court award.	10,691 63
	<hr/>
	\$6,657,192 99
Less:—	
By Increased accommodation and facilities along the line (previous year's expenditure) old turntable.	1,400 00
	<hr/>
	\$6,655,792 99

Making the total cost on March 31, 1915, \$108,123,294.84.

Explanations in regard to the expenditure on Capital Account will be found in the reports of the Chief Engineer and Superintendent of Rolling Stock.

The gross earnings and the working expenses for the year compare as follows:—

Gross earnings	\$11,444,873 00
Working expenses	11,438,373 00
	<hr/>
Net earnings	\$ 6,500 00

There was a gain of \$42,965.08 from the operation of the railway for the year. Of this surplus, \$36,465.08 was transferred in March to Fire Renewal Account, so that when the books were closed at the end of the year they showed net earnings, \$6,500.

The gross earnings compare as follows with those of the previous year:—

In 1913-14	\$12,878,549 00
In 1914-15	11,444,873 14
	<hr/>
Decrease	\$ 1,433,675 86

The earnings from passenger traffic compare as follows:—

In 1913-14	\$ 3,674,878 75
In 1914-15	3,291,916 96
	<hr/>
Decrease	\$ 382,961 79

The earnings from freight traffic compare as follows:—

In 1913-14.	\$ 8,469,590 32
In 1914-15	7,310,765 11
	<hr/>
Decrease	\$ 1,158,825 22

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INTERCOLONIAL RAILWAY.—Continued.

CAPITAL ACCOUNT—Continued.

The earnings from mails, express freight, and miscellaneous compare as follows:—

In 1914-15	\$ 842,191 07
In 1913-14	734,079 92
Increase	\$ 108,111 15

The earnings by mile of railway, compare as follows:—

In 1913-14	\$ 8,839 27
In 1914-15	7,855 26
Decrease	\$ 984 01

The earnings by train mile compare as follows:—

In 1913-14	\$ 1 54
In 1914-15	1 52

The number of passengers carried compares as follows:—

In 1913-14	3,983,511
In 1914-15	3,613,371
Decrease	370,140

There was a decrease of 288,868 in the number of local passengers, and 81,272 in the number of through passengers.

The weight of revenue-producing freight compares as follows:—

In 1913-14	5,287,740 tons.
In 1914-15	4,529,002 "
Decrease	758,738 "

There was a decrease in local freight of 799,859 tons, and an increase in through freight of 41,121 tons.

A number of statements which give detailed information in regard to the traffic are appended to this report. They are as follows:—

Statement of receipts, showing the receipts monthly from Passenger Traffic, Freight Traffic, and Mails and Sundries.

Passenger Statement, showing monthly the number of local and of through passengers carried and the mileage.

Freight Statement, showing monthly the number of tons of local and through freight carried and the mileage.

Comparative Statement, showing the principal articles of freight carried during this year and the preceding year.

Descriptive Statement of freight transported, showing a few of the principal articles.

Statement of coal transported, showing the station from which it was sent.

Statement showing the quantity of raw and of refined sugar, of fresh and salted fish, of grain for export, and of European freight carried over the Railway.

INTERCOLONIAL RAILWAY.—Continued.

WORKING EXPENSES.

The working expenses compare as follows with the previous year:—

In 1913-14	\$12,867,249 00
In 1914-15	11,438,373 14
	Decrease \$ 1,428,875 86

The averages compare with those of last year as follows:—

Per mile run by engines—

In 1913-14	1 25
In 1914-15	1 25

Per mile run by trains—

In 1913-14	1 54
In 1914-15	1 52

Working expenses per mile of Railway—

In 1913-14	8,831 51
In 1914-15	7,894 96

During the year ending March 31, 1915, 689,991 ordinary ties were put in track, and 104.78 miles ballasted, and a total of 24.04 miles of ditching completed to provide better drainage for the road-bed; 5.59 miles of additional meeting sidings, and 2.47 miles additional private sidings were provided at various points. Bridges, culverts, wharves, fences, and buildings repaired, and 12.16 miles of standard woven-wire fence, and 2.5 miles of standard board fence erected.

The Superintendent of Rolling Stock reports rolling stock purchased, rebuilt in shops, etc.

NEW LINES.

The construction of the double track between St. Romuald and Chaudière Junction, a distance of 3.75 miles, was completed this year.

The diversion of the line from Nelson, on the Loggieville subdivision, to the Southwest Miramichi bridge, on the Moncton subdivision, 2.69 miles in length, to replace existing lines, 5.55 miles, was opened for traffic on January 10, 1915.

The diversion from Leitches Creek on the Sydney subdivision to North Sydney, 4.26 miles in length, was put in operation January 10, 1915.

The result of surveys to get preliminary information required to ascertain the cost of double tracking and reduction of grades will be found in the report of the Chief Engineer. A large number of bridges on the railway were repaired, and the remainder of the light steel bridges between Halifax and Ste. Rosalie were replaced by new ones. A statement of the bridges repaired and replaced will also be found in the report of the Chief Engineer.

HALIFAX OCEAN TERMINALS.

A progress report of the work done on the new Halifax ocean terminals will also be found attached to the Chief Engineer's report.

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NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY.

This road was taken over August 31, 1914, and forms the connecting link between the main line of the Intercolonial railway and the new car ferry, which is to be operated between Cape Tormentine, N.B., and Carleton Point, Prince Edward Island. The line runs from Sackville to Cape Tormentine, and is 35.79 miles in length.

CAPITAL ACCOUNT.

Amount expended to March 31, 1915, to bring line up to Intercolonial Branch line standard	\$24,700 00
The gross earnings and the working expenses to March 31, 1915, compare as follows:—	
Gross earnings	\$25,419 81
Working expenses	43,942 53
	<hr/>
Deficiency	\$18,522 72

Statements giving detailed information in regard to traffic, etc., will be found appended to this report.

INTERNATIONAL RAILWAY.

This road was taken over August 1, 1914. It extends from Campbellton, N.B., to St. Leonards, N.B., and is 111.30 miles in length.

CAPITAL ACCOUNT.

Amount expended to March 31, 1915, to bring line up to Intercolonial Branch line standard	\$ 1,300 00
The gross earnings and the working expenses to March 31, 1915, compare as follows:—	
Gross earnings	65,468 92
Working expenses	66,706 35
	<hr/>
Deficiency	\$ 1,237 43

Statements giving detailed information in regard to traffic, etc., will be found appended to this report.

NATIONAL TRANSCONTINENTAL RAILWAY.

This line extends from Moncton to Chaudière, and is 455.15 miles in length. The gross earnings and the working expenses to March 31, 1915, compare as follows:—

Gross earnings	\$142,311 65
Working expenses	288,625 35
	<hr/>
Deficiency	\$ 86,313 70

Statement giving detailed information in regard to traffic, etc., will be found appended to this report.

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ST. JOHN AND QUEBEC RAILWAY.

This road extends from Centreville to Gagetown, the portion Centreville to Fredericton being taken over on January 1, 1915, and the portion Fredericton to Gagetown on March 2, 1915, for operation by the Canadian Government Railways. The mileage from Centreville to Fredericton is 88.69 miles, and that from Fredericton to Gagetown, 30.13 miles.

The gross earnings and working expenses for the three months ended March 31, 1915, compare as follows:—

Gross earnings	\$18,739 73
Working expenses	24,694 75
	<hr/>
Deficiency	\$ 5,955 02

Statements giving detailed information in regard to traffic, etc., will be found appended to this report.

WINDSOR BRANCH RAILWAY.

This railway extends from Windsor Junction to Windsor, Nova Scotia, and is thirty-two miles in length. It is operated by the Dominion Atlantic Railway Company, and was maintained by the Government under an agreement whereby the Company paid the Government one-third of the gross earnings.

On account of the large maintenance expenditure, estimated at from \$275,000 to \$300,000, that was necessary to put this railway in a proper, safe and satisfactory condition to handle traffic in a safe and economical manner, particularly in the matter of strengthening bridges, the Government deemed it advisable to lease this property to the Dominion Atlantic Railway Company, with the understanding that they undertake the above expenditure and pay the Government a rental of \$22,500 per annum from January 1, 1914. On that date a new agreement was entered into with the company, and the accounts are being adjusted accordingly.

INTERCOLONIAL AND PRINCE EDWARD ISLAND RAILWAYS
EMPLOYEES' PROVIDENT FUND.

The report of the fund, which has been separately furnished, shows a credit balance on March 31, 1914. \$389,221 76

During the fiscal year the contribution of the employees
amounted to. \$105,631 91

The contribution of the Railway amounted to. 100,000 00

Amount received for refunds, etc. 184 91

To which is to be added the interest 10,515 85

Total of. \$605,554 43

Total expenditure was. 228,728 14

Leaving a balance to the credit of the fund on March 31, 1915. 376,826 29

I have the honour to be, sir,

Your obedient servant,

F. P. GUTELIUS,

General Manager of Government Railways.

A.

STATEMENT OF SPECIAL MAINTENANCE AUTHORITIES ISSUED IN
THE YEAR 1914-15.

DIVISION NO. 1.

No.	Name.	Amount of Authorization.	
		\$	cts.
1-1001	Rivière-du-Loup—Roof, machine shop.....	1,050	00
1-1002	St. Romuald.....	1,996	70
1-1003	Trois Pistoles.....	380	00
1-1004	District No. 1—Fence renewal and repairs.....	12,000	00
1-1005	Rivière-du-Loup subdivision—Smoke jacks.....	1,940	00
1-1006	Isle Verte—Roof, station building.....	450	00
1-1007	Ste. Lucie—Renewing station platform.....	432	00
1-1008	Rimouski—Renewing station platform.....	877	50
1-1009	Bic—Renewing station platform.....	360	00
1-1010	Isle Verte—Renewing station platform.....	756	00
1-1011	Carrier—Renewing station platform.....	450	00
1-1012	Bagot—Renewing station platform.....	432	00
1-1013	District No. 1—Ballasting of tracks.....	17,630	00
1-1014	Levis—Renewing baggage room floor.....	750	00
1-1015	Nicolet spur for International Harvester Co.....	194	60
1-1016	Ditching mileage between 44.70 and 46.50.....	1,636	00
		41,334	80

DIVISION No. 2.

2-1003	Over District—Repairs and renewal of fences.....	9,000	00
2-1004	Harcourt—Mileage 36-80.....	330	00
2-1005	Bathurst Overhead Bridge—Mileage 310-25.....	500	00
2-1006	Jacquet River Bridge—Mileage 337-80.....	375	00
2-1007	Fredericton Bridge—Mileage 1-00.....	500	00
2-1008	Doaktown Bridge—Mileage 64-38.1.....	1,050	00
2-1009	Stone Arch Culvert—Mileage 127-46, Moncton subdivision.....	350	00
2-1010	Furlottes Overhead Bridge—Mileage 338-00, Moncton subdivision.....	320	00
2-1011	Stone Arch Culvert—Mileage 57-80, Moncton subdivision.....	375	00
2-1013	Surface and off-take ditches—Fredericton subdivision.....	3,450	00
2-1014	Ballasting tracks, district No. 2.....	24,390	00
2-1015	Nicholsons Siding—Continental Lumber Co.....	715	00
2-1016	Milouke—Matapedia Lumber Co.....	479	02
2-1017	Little River Bridge—Mileage 119-86.....	300	00
2-1018	Causapsal Bridge—Mileage 47-34.....	675	00
2-1019	Middle River Bridge—Mileage 120-61.....	850	00
2-1020	Beau Rivage bridge.....	675	00
2-1021	S. W. Miramichi bridge.....	7,000	00
2-1022	N. W.....	6,000	00
2-1023	Millstream bridge.....	900	00
2-1024	Mill Creek bridge.....	900	00
2-1025	Louison Brook bridge.....	300	00
2-1026	Nigadoo bridge.....	350	00
2-1027	Fredericton and Loggieville—Relay rails.....	43,000	00
2-1028	Bathurst Lumber Co.—Provide siding.....	533	46
2-1029	Fredericton—Siding for L. T. Baird.....	388	50
2-1030	Shelter at Priceville.....	128	00
		103,830	98
2-1001	Transferred to 3rd division.....		
2-1002	“.....		
2-1012	“.....		

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STATEMENT OF SPECIAL MAINTENANCE AUTHORITIES ISSUED IN
THE YEAR 1914-15—Continued.

DIVISION No. 3.

No.	Name.	Amount of Authorization.
		\$ cts.
3-1000	Truro—Thirteen asbestos smoke jacks.....	1,430 00
3-1001	Truro Roundhouse—Additional generator set.....	450 00
3-1002	St. John Iron Works Siding—Alteration.....	530 00
3-1003	Halifax—Retaining wall between piers 3 and 4.....	1,400 00
3-1004	Halifax—Motor driven circular saw and table.....	300 00
3-1005	Halifax Subdivision—Replace wooden and open culverts with concrete pipes.....	1,100 00
3-1006	Truro Subdivision—Replace wooden and open culverts with concrete pipes.....	2,500 00
3-1007	Nauwigewauk—Renew station and loading platform.....	760 00
3-1008	Quispamsis—Renew station platform.....	510 00
3-1009	St. John—Repair roof of engine house.....	320 00
3-1010	Truro, N.S.—Repairs to roundhouse.....	1,275 00
3-1011	Pt. du Chêne—Renewing top of wharf.....	550 00
3-1012	Halifax—Repairs to top of wharves.....	3,050 00
3-1013	St. John Subdivision—Replace wooden and open culverts with concrete pipes.....	1,300 00
3-1014	Halifax Subdivision—Renew old fence.....	1,216 00
3-1015	St. John Subdivision—Renewing fences.....	3,640 00
3-1016	Truro Subdivision—Renewing old fence.....	4,100 00
3-1017	Halifax—Diversion of road.....	450 00
3-1018	District No. 3—Ballasting tracks.....	15,115 00
3-1019	Dartmouth—Coal & Supply Co. siding.....	400 00
3-1020	Kirkpatrick's siding for McDougall.....	300 00
3-1021	Halifax—Repair buildings.....	1,740 00
3-1022	The Amherst Boot & Shoe Co.—Siding extensions.....	450 00
3-1023	Repairs to old roundhouse—Moncton.....	4,900 00
3-1024	Repairs to Bridge 146-8, Truro subdivision.....	700 00
3-1025	Repairs to power-house and train shed, St. John, N.B.....	3,500 00
3-1026	Accommodation to Loodonderry station.....	315 00
3-1027	Repairs to D.A.R. shed, Halifax.....	600 00
3-1028	Applying drop points to fourteen snow ploughs, Moncton.....	4,900 00
3-1029	N. S. Clay Works Co., siding.....	300 00
3-1030	New siding at Port Elgin for Mr. Hickman.....	730 00
3-1031	Private siding for O'Brien and Dohoney.....	788 00
3-1032	Moving engine house and repairing same at Cape Tormentine.....	560 00
3-1033	N.S. Carriage & Motor Car Co.—Construction of siding.....	670 40
3-1034	Ash Pit for Truro, N.S.....	550 00
3-1035	Rearranging the north approach of Moncton yard.....	490 00
3-1037	Removing pole line to Moncton yard.....	385 00
3-1036	J. Lewis & Son—Siding.....	732 10
3-1038	Moncton Enginehouse—Installing reflectors, plugs, and tungsten lamps.....	295 00
3-1039	F. Dexter & Co., Truro—Renewing hot-water boilers.....	684 00
2-1001	Moncton New Shops—Renew skylight frame.....	5,250 00
2-1002	Moncton Mechanical Shop—Replacing roof.....	4,900 00
2-1012	Moncton Shops—Paint walls, offices.....	340 00
		\$74,295 50

6 GEORGE V, A. 1916

STATEMENT OF SPECIAL MAINTENANCE AUTHORITIES ISSUED IN
THE YEAR 1914-15—Continued.

DIVISION No. 4.

No.	Name.	Amount of Authorization.	
		\$	cts.
4-1001	French River Bridge, Stellarton Subdivision—Replace masonry in piers.....	2,800	00
4-1002	S. S. Scotia—Electric light wiring.....	1,000	00
4-1003	Repairs to Bridge—Pictou harbour.....	7,500	00
4-1004	Sydney and Stellarton—Supply six smoke jacks at each place.....	1,320	00
4-1005	Wallace quarry.....	663	00
4-1006	North Sydney—Repairs to wharf and freight shed.....	5,300	00
4-1007	Sydney—Repairs to roof and engine pits.....	1,000	00
4-1008	Stellarton—Replace steam and water pipe in engine.....	1,400	00
4-1009	Pictou—Renew steam pipe in engine pits.....	650	00
4-1010	Pictou—Repairs to wharf.....	1,400	00
4-1011	Point Tupper—Repairs to wharf.....	1,000	00
4-1012	District No. 4—Replace fences.....	10,000	00
4-1013	District No. 4—Ballasting tracks.....	19,440	00
4-1014	North Sydney—Renew station platform.....	650	00
4-1015	Sydney—Freight shed, roof.....	700	00
4-1016	Repairs to Bridge 49-25—Stellarton subdivision.....	897	00
4-1017	Stellarton Subdivision—Bridge 72-89.....	800	00
4-1018	Bridge 20-93—Stellarton subdivision.....	850	00
4-1019	Bridge 74-84—Stellarton subdivision.....	900	00
4-1020	Bridge 35-75—Tatamagouche Stellarton subdivision.....	600	00
4-1021	Bridge 37-55—Sydney subdivision.....	600	00
4-1022	Bridge M. 1008—Sydney subdivision.....	500	00
4-1025	Bridge 41-35—Sydney subdivision.....	800	00
4-1026	Bridge 41-21—Sydney subdivision.....	900	00
4-1027	Bridge 38-80—Sydney subdivision.....	700	00
4-1028	Bridge 13-17—Sydney subdivision.....	800	00
4-1029	Repairs to Bridge, Mileage 11-87—Sydney subdivision.....	600	00
4-1030	Bridge 3-9—Pugwash subdivision.....	1,600	00
4-1031	Gammon & Wier—Siding, 202 feet.....	300	00
4-1032	Bridge 82-5—Mulgrave subdivision.....	450	00
4-1033	Mutual Wholesale Grocery Co., Sydney Mines—Private siding, 315 feet.....	341	80
4-1034	Sydney Subdivision—Private siding, A. H. McSween.....	356	69
4-1035	Imperial Oil Co.—Pugwash Spur, private siding.....	305	68
4-1036	Business Siding—Tatamagouche Stellarton subdivision.....	551	45
A-4-13	Tool houses.....	800	00
B4-2-18	Mulgrave Road bridge.....	175	00
B4-2-23	Murphys Yankee Grant.....	900	00
B4-2-24	Yankee Grant.....	1,450	00
B4-2-26	Barney's River bridge (east).....	1,000	00
B4-2-27	" (west).....	2,050	00
B4-2-28	French River bridge.....	1,400	00
B4-2-29	Union bridge.....	675	00
		76,125	62

RECAPITULATION.

Division No. 1.....	41,334	80	
" No. 2.....	103,830	98	
" No. 3.....	74,295	50	
" No. 4.....	76,125	62	
		295,586	90

S. L. SHANNON,

Comptroller and Treasurer.

MONCTON, N.B.

E. & O. E.

B.
INTERCOLONIAL RAILWAY.

STATISTICAL STATEMENT of Earnings and Operating Expenses, by Divisions, Year ending March 31, 1915.

	FIRST DIVISION.			SECOND DIVISION.		
	Passenger.	Freight.	Total.	Passenger.	Freight.	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Train miles.....	909,104	1,625,492	2,534,596	688,800	1,209,370	1,898,170
Locomotive miles.....	944,023	1,929,449	2,873,472	707,628	1,388,231	2,095,859
Gross ton miles.....	296,561,629	1,303,715,848	1,600,277,477	200,727,558	890,852,218	1,091,579,776
Passengers and tons freight moved one mile.	55,985,732	506,908,823		32,039,320	327,642,887	
Earnings—						
Passenger.....	1,003,129 64	\$ cts.	1,003,129 64	582,464 13	\$ cts.	582,464 13
Freight.....	220,042 76	3,064,214 21	3,064,214 21	178,336 95	1,647,547 87	1,647,547 87
Mails and express.....	13,102 62	22,479 32	35,581 94	14,111 00	23,706 52	178,336 95
Miscellaneous.....						37,817 52
Total revenue.....	1,236,275 02	3,086,693 53	4,322,968 55	774,912 08	1,671,164 39	2,446,076 47
Revenue per train mile.....	1 36	1 90	1 71	1 13	1 38	1 29
“ locomotive mile.....	1 28	1 60	1 49	1 10	1 25	1 20
“ 1,000 gross ton miles.....	4 17	2 37	3 86	* 2 38	1 88	2 24
“ passenger and ton freight moved one mile.....	* 2 18	* 0 60	763,487 87		* 0 50	
Surplus.....	176,525 48	586,962 39			60,425 24	30,559 45
Operating Expenses—						
Maintenances of way and structures.....	173,376 98	302,128 59	475,505 57	180,938 74	270,698 73	451,637 47
“ equipment.....	231,685 35	526,426 00	748,111 35	184,275 83	400,893 48	585,169 31
Traffic expenses.....	43,863 33	42,000 63	-85,863 96	32,583 45	31,728 30	64,281 75
Station service.....	58,564 17	203,147 72	261,711 89	40,262 99	56,737 38	97,000 37
Yard service.....	20,351 82	242,224 97	262,576 79	5,457 11	39,545 60	45,000 71
Locomotive service (road).....	289,697 15	733,489 38	1,023,186 53	192,305 86	521,412 86	713,718 72
Train service.....	145,074 47	235,128 30	380,202 77	114,823 43	154,806 23	269,629 66
Other transportation expenses.....	67,655 15	144,501 83	212,156 98	44,373 34	82,129 55	126,502 89
Total transportation expenses.....	581,342 76	1,558,402 20	2,139,834 96	397,222 73	854,631 62	1,251,854 35
General expenses.....	39,481 12	70,683 72	110,164 84	29,787 12	52,787 12	82,574 14
Total operating expenses.....	1,059,749 54	2,469,731 14	3,559,489 68	804,777 87	1,610,739 15	2,415,517 02
Cost per train mile.....	1 17	1 54	1 40	1 17	1 33	1 27
“ locomotive mile.....	1 10	1 30	1 23	1 14	1 30	1 18
“ 1,000 gross ton miles.....	3 57	1 92	2 22	4 01	1 81	2 21
“ passenger and ton freight moved one mile (cents).....	1 89	0 49		2 51	0 49	
Deficit.....				29,865 79		

Mont Joli to Montreal and Branches.

Moncton to Mont Joli and Branches.

*Miscellaneous revenue not included.

INTERCOLONIAL RAILWAY.—Continued.

STATISTICAL STATEMENT of Earnings and Operating Expenses, by Divisions, Year ending March 31, 1915.

	THIRD DIVISION.						FOURTH DIVISION.						TOTAL ALL DIVISIONS.						
	Passenger.		Freight.		Total.		Passenger.		Freight.		Total.		Passenger.		Freight.		Total.		
	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	
<i>Earnings—</i>																			
Train miles.....	1,024,005		936,438		1,960,533		407,017		732,362		1,139,379		3,099,016		4,503,662				7,532,678
Locomotive miles.....	1,117,018		1,618,144		2,731,162		445,533		1,011,179		1,346,712		3,254,202		5,893,003				9,127,205
Gross ton miles.....	314,263,654		831,270,958		1,145,474,612		107,409,528		403,227,030		516,636,953		918,962,569		3,429,006,930				4,347,968,619
Passengers and tons freight moved one mile.....	63,660,188		238,134,338		301,794,526		24,483,309		116,331,846		130,815,155		176,189,749		1,189,017,914				
<i>Revenue—</i>																			
Passenger.....	1,209,571	58	1,724,938	17	2,934,509	75	1,209,571	58	1,724,938	17	2,934,509	75	3,291,916	96	4,959,421	11			8,291,916
Freight.....	170,333	03	18,446	87	186,779	90	170,333	03	18,446	87	186,779	90	704,908	60	723,354	48			731,765
Mails and express.....	18,446	87	16,937	84	35,384	71	10,076	10	18,422	20	28,498	30	55,735	59	81,545	88			704,908
Miscellaneous.....	1,398,351	48	1,741,876	01	3,140,227	49	643,023	57	892,577	06	1,535,600	63	4,052,562	15	7,392,310	99			11,444,873
Total revenue.....	1,377		1,808		3,175		1,600		2,222		3,175		4,844		7,392				11,444
Revenue per train mile.....	1.37		1.80		3.17		1.60		2.22		3.17		4.84		7.39				11.44
“ locomotive mile.....	1.25		1.08		1.15		1.44		0.88		1.14		1.25		1.25				1.25
“ 1,000 gross ton miles.....	4.45		2.10		2.74		5.99		2.21		3.01		4.41		2.16				2.63
“ passenger and ton freight moved one mile.....	*2 17		*0 72		.....		*2 50		*0 75		.....		*2 37		*0 62				.....
Surplus.....	4,448	97	.....		.....		32,906	08	.....		.....		184,014	74	.....				6,500
<i>Operating Expenses—</i>																			
Maintenance of way and structure.....	308,157	91	275,203	60	583,361	51	162,581	40	287,280	65	459,862	05	805,055	03	1,145,311	57			1,950,366
“ equipment.....	209,469	48	358,289	11	624,784	59	114,588	21	259,231	02	348,819	23	790,044	87	1,511,839	61			2,301,884
Traffic expenses.....	49,906	37	24,579	46	74,485	83	17,834	90	20,181	15	33,015	65	144,157	65	118,489	54			262,647
Station service.....	96,602	04	381,999	89	458,601	93	37,991	40	152,931	21	190,942	61	253,510	00	774,836	20			1,008,346
Yard service.....	31,078	02	305,426	12	336,504	14	15,094	07	123,061	33	138,145	40	71,981	02	710,229	04			782,229
Locomotive service (road).....	331,552	29	470,147	16	801,699	45	138,902	53	336,097	73	475,000	26	952,457	83	2,061,147	13			3,013,604
Train service.....	162,506	35	137,986	30	300,492	38	65,849	02	108,504	96	174,353	98	488,253	27	636,425	52			1,134,678
Other transportation expenses.....	99,780	11	90,039	10	189,819	21	39,588	37	98,979	53	138,567	90	251,396	97	415,650	01			667,046
Total transportation expenses.....	721,608	81	1,365,598	30	2,087,207	11	297,425	39	819,584	76	1,117,015	15	1,997,599	60	4,568,306	88			6,595,906
General expenses.....	44,733	94	40,475	46	85,209	40	17,687	99	31,931	93	49,619	92	131,690	17	195,878	13			327,568

C

GENERAL STOREKEEPER.

DEAR SIR,—Previous to the month of February, 1913, all the stores, except those at Moncton, Halifax and Rivière-du-Loup were under the jurisdiction of the Mechanical Department, but within the past year all the outside stores have been transferred to this department, and they have been completely reorganized. At almost all the points where transfers were made, we found conditions far from satisfactory. New materials of all kinds were mixed up with scrap and obsolete supplies. There was an unfixed responsibility, an open store, and every one helping himself. Under this system, the stores accumulated material greatly in excess of requirements. Innumerable supplies spread out promiscuously—no person knowing exactly what was on hand—consequently there were many duplicate demands for materials already in store. Since the reorganization, all material has been properly assembled, classified and carded, and placed under lock and key, with a storekeeper in charge. A requisition is demanded for every article required, and thus material is properly charged and accounted for. Similarly, we demand from each storekeeper a strict accounting for his stock, as we give him supplies for thirty days only, except a few lines such as special castings for certain engines, and also a few other lines of which he is permitted to carry a little more than thirty days' stock. Thus he must necessarily see to it that good and proper use be made of every article passing over his counter, otherwise he will be out of stock before the month's end, in which case he expects to hear from this office. I feel that a very great saving takes place every month by reason of the vigilance that the storekeeper is bound to exercise under the system which we have inaugurated.

At the present time we have, in good shape, stores at St. John, Gibson (including Newcastle), Truro, Stellarton, Sydney (including Mulgrave and Point Tupper), Halifax, and Campbellton. Stores at Rivière-du-Loup and Chaudière Junction are now undergoing reorganization. Ste. Flavie store, which was an auxiliary to the one at Rivière-du-Loup, has been practically cut out. The same applies to Loggieville store, which heretofore was under the survey of the man at Gibson.

In the working out of these improvements, I have had the hearty co-operation of the general master mechanic and master car builder, both of whom were able to decrease their respective staffs and transfer other good men to us, who act as storekeepers at better salaries than were formerly paid them as mechanical clerks or foremen, but without increasing the general expense to the railway. We have already had many evidences of increased efficiency, but inasmuch as the stores concerned have only been on a working basis since last July (some of them not that long) it is not possible to make a comparison one year with another. However, a glance at the oil and waste issue for Moncton roundhouse will give some idea of the far-reaching effect under the new order of things, and what is true as regards these items is equally certain in respect to other commodities issued here and elsewhere.

MONCTON ROUNDHOUSE OIL AND WASTE.

Engine Oil.—Formerly used, approximately, 36 barrels per month—about 1,440 gallons. Total issue last three months November, December, January, about 1,100 gallons.

Superheater Oil.—Formerly used almost 500 gallons per month. Total issues last three months, about 400 gallons.

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Perfection Valve Oil.—Formerly used about 500 gallons per month. Total last three months, about 400 gallons.

Waste.—Formerly used about 4 bales per week. Now two bales last about twelve days.

During the year we have decreased a number of the stores balances very materially as the following figures will show, since July 1914, to end of November 1914:—

Truro has decreased from..	\$12,001 55	to	\$ 6,948 46
Halifax has decreased from..	23,451 88	to	21,411 37
Sydney has decreased from..	18,783 21	to	16,511 45
Stellarton has decreased from..	10,726 33	to	6,780 90
Rivière-du-Loup has decreased from..	39,279 05	to	32,300 25

SIR,—With further reference to my previous letter in connection with the improved condition of the stores. The following comparisons will give an idea of the saving:—

Stellarton Stores (including Pictou)—

Stock on hand in July, 1914..	\$ 9,415 43			
" " Dec., 1914..	6,790 95			
<hr/>				
A saving in stock of..			\$ 2,634 48	
Notwithstanding this decreased stock, we increased the issues from \$4,939.21 in July to \$5,491.28 in December, which means that with a decreased stock, as shown, we increased the output without increasing the cost of operation. Increased output..				\$ 552 07

Truro Store—

Stock on hand in July, 1914..	\$11,250 94		
" " Dec., 1914..	6,948 46		
<hr/>			
A saving in stock of..			4,302 48
July issues..	\$ 4,701 46		
December issues..	5,621 49		
<hr/>			
Increase output (no increase in cost)..			\$ 920 03

Gibson Store—

Stock on hand, July, 1914..	\$ 8,838 97		
" " Dec., 1914..	6,694 22		
<hr/>			
A saving in stock of..			2,144 75
July issues..	\$1,310 70		
December issues..	1,647 87		
<hr/>			
Increased output..			337 17

Campbellton Store—

Stock on hand in July, 1914..	\$ 7,867 89		
" " Dec., 1914..	6,597 53		
<hr/>			
A saving in stock of..			1,270 36
July issues..	\$ 4,274 11		
December issues..	4,666 82		
<hr/>			
Output increase..			\$ 402 71

Sydney Store (including Mulgrave and Pt. Tupper)—

Stock on hand, July, 1914..	\$17,059 09		
" " Dec., 1914..	16,511 45		
<hr/>			
Stock saving..			547 64
July issues..	\$ 3,081 63		
December issues..	4,120 72		
<hr/>			
Increased output			\$1,102 09

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<i>St. John Store—</i>		
Stock increased by	\$ 516 42	
July issues	2,566 56	
December issues	3,060 59	
Increased output	\$ 494 03	
<i>Halifax Store—</i>		
Stock on hand in July	\$23,590 02	
" " December	21,411 37	
Saving in stock		\$ 2,178 65
July issues	\$ 5,878 71	
December issues	11,058 11	
Increased output	\$5,179 40	
<i>Rivière-du-Loup Store—</i>		
Stock on hand in July, 1914	\$34,718 65	
" " Dec., 1914	32,300 25	
Stock saving		2,418 40
Issues in July	\$14,761 60	
" December	18,508 43	
Output increase	\$3,746 83	
<i>Chaudière Junction Store—</i>		
July stock	\$ 6,969 64	
December stock	6,263 52	
Stock saving		706 12
July issues	\$ 3,739 21	
December issues	3,522 03	
Output decrease	\$ 217 18	
	<u>\$12,734 33</u>	<u>\$16,202 88</u>

It will be seen that we have made a saving of \$16,202.88 in stock, with an increased output of \$12,734.33, and this has been accomplished without increasing the cost of operation.

Efficiency is clearly shown by the fact that while we have been able to make a substantial reduction in stock, the increased issue shows more work through the store, and very much closer supervision. Had the increased output occurred under the old regime, it is fair to assume that a very much larger stock would have found its way to the different stores.

At Moncton roundhouse we are saving from \$8,000 to \$10,000 per year on oils and waste, and while I have not got figures from outside stores on individual items, we know that the storekeepers are closely watching their stock, and economy must necessarily be the result.

Yours truly,

W. F. TAYLOR,

General Storekeeper.

D

GENERAL FUEL AGENT.

The details of the \$50,000 are as follows:—

Saving in purchase price:—		
I.C. Ry. bituminous coal..	\$34,070 73	
P.E.I. Ry. bituminous coal..	1,100 00	
N.T. Ry. bituminous coal..	840 00	
	<hr/>	\$36,010 73
Anthracite coal..		141 22
Kindling wood..		739 68
Increased profit on coal sold other railways..		1,349 12
Saving in using run-of-mine coal instead of selected..		8,500 00
Saving in handling of coal..		3,760 00
		<hr/>
		\$50,500 75

Organization.—The Fuel Department was organized September 1, 1913; previous to this the fuel was partly under the superintendent of motive power, and partly under the general storekeeper, the purchasing and awarding of contracts being attended to by the general purchasing agent and by the Department of Railways and Canals. The line has been divided into two districts, each under the supervision of a district fuel inspector. This permits of closer supervision and more attention to details of supply, quality, issues, and handling. The forms have been revised and are so arranged that a closer check is kept on receipts, expenditures, and issues, and are so that information can now be got more quickly.

Grade.—More care has been taken to see that coal suitable to the required service has been purchased, and a saving therefore obtained.

Coal is altogether purchased by weight now, whereas formerly it was partly purchased by weight and partly by measurement.

Distribution.—The coal is received for distribution at points more to the advantage of the railway than formerly. More care is taken in shipping to the different coaling stations, and diversion of cars is greatly reduced. This effects considerable saving on account of switching, and also lessens the clerical work to a large extent.

Cost.—Coal was purchased at a slightly lower cost per ton and, owing to this and better distribution, grade of coal used, and more economical handling, the cost of coal has been reduced considerably and a saving of not less than \$50,000 made for the year.

E

INTERCOLONIAL AND PRINCE EDWARD ISLAND RAILWAYS
EMPLOYEES' RELIEF AND INSURANCE ASSOCIATION.

TWENTY-FIFTH ANNUAL REPORT.

To the Members of the Intercolonial and Prince Edward Island Railways Employees' Relief and Insurance Association.

GENTLEMEN,—The following audited statements, showing the operations of the association, for the fiscal year ended June 30, 1914, are herewith submitted for the information of the members, as required by section 119 of the constitution.

These statements are as follows:—

1. Statement of receipts and expenditures.
2. Statement of assets and liabilities.
3. Statement showing the total disability claims paid.
4. Statement showing the number of deaths, the cause of each death, the amount of insurance in each case, and to whom paid.
5. Statement showing the amount paid for sick and accident indemnity, and for surgical and medical attendance, in each district separately, and cost per member for the year.
6. Detailed statement of the expenses of management.

The total receipts for the year from all sources were.....	\$ 94,779 23
Add the credit balance on the 30th June, 1913..	39,714 58
	\$134,493 81
The total expenditures were	87,025 46
Leaving a credit balance of	\$47,468 35
Less estimated outstanding liabilities..	6,500 00
Net surplus, June 30, 1914	\$40,968 35

SICK AND ACCIDENT FUND.

The expenditures in this fund last year were \$35,314.18, and this year they are shown to be \$36,754.69, an increase of \$1,440.51. A credit balance of \$19,426.90 is shown in this fund.

TEMPORARY EMPLOYEES' ACCIDENT FUND.

This fund shows a surplus of \$20,672.

DEATH AND TOTAL DISABILITY FUND.

This statement shows that eighty-three death and total disability claims were assessed and paid during the year:—

Seventy-six death claims due to natural causes, aggregating ..	\$28,250 00
Seven death claims due to accidental injuries, aggregating.. . .	2,500 00
	\$30,750 00
Six total disability claims, aggregating	3,000 00
	\$33,750 00
The amount paid last year from this fund was..	40,000 00

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The attention of members is directed to the section of the constitution providing for the election, by each district, of its secretary, executive committee, and delegates to the annual meeting on the last Wednesday in September, and for the holding of the annual meeting in Moncton on the second Wednesday in October.

F. P. GUTELIUS,

President.

MONCTON, N.B., August 25, 1914.

AUDITOR'S REPORT.

I certify that I have thoroughly audited the accounts of the Intercolonial and Prince Edward Island Railways Employees' Relief and Insurance Association, for the year ended June 30, 1914, and have to report that the same have been carefully and correctly kept. The statements of revenue and expenditure, printed in this, the twenty-fifth annual report, show accurately the financial operations of the year, and the balance shown in the bank has been compared with the bank book and verified.

W. F. SEARS,

Auditor.

MONCTON, N.B., August 25, 1914.

Statement showing the amount credited to the Intercolonial and Prince Edward Island Railways Employees' Relief and Insurance Association, by the Intercolonial and Prince Edward Island Railways, during the year ended June 30, 1914:—

Amount of premiums collected from Intercolonial and Prince Edward Island Railways' Pay Lists.....	\$77,288 96
Premiums collected from Railways' and Provident Fund Vouchers.....	670 05
Annual Contribution from the Intercolonial and Prince Edward Island Railways.....	10,000 00
Intercolonial and Prince Edward Island Railways' Fines.....	392 95
Intercolonial Railway Cash Premiums.....	42 53
	\$88,394 49

S. L. SHANNON,

Comptroller and Treasurer Canadian Government Railways.

Statement showing the amount of deposits in, and the amount of withdrawals from the Bank of Montreal, during the year ended June 30, 1914:—

Dr.

June 30, 1913, to balance in bank.....	\$ 42,910 02
June 30, 1914, to deposits and interest during the year.....	95,471 22

138,381 24

Cr.

June 30, 1914, by cheques paid during the year.....	87,347 31
Balance in bank June 30, 1914.....	51,033 93
Note:—Amount of deposit shown above.....	\$ 95,471 22
Less this amount collected in 1912-13, but not deposited until 1913-14....	7,986 28
	\$ 87,484 94
Add this amount collected in 1913-14, but not deposited until 1914-15....	7,294 29
Total receipts, 1913-14.....	94,779 23

Certified correct,

W. F. SEARS,

Auditor.

W. C. PAVER,

Secretary.

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No. 1.—STATEMENT OF RECEIPTS AND EXPENDITURES.

RECEIPTS.

June 30, 1913, By	Balance.....			\$ 39,714 58	
June 30, 1914, "	Premiums from railways' pay lists....	\$ 77,288 96			
	" Premiums from railways vouchers.....	670 05			
	" Cash, auditor of disbursements	42 53	\$78,001 54		
	" Cash from members not on duty.....		172 81		
	" Railways' contribution.....		10,000 00		
	" Railway fines.....		392 95		
	" Premiums from S. & A. vouchers, refunds, etc.....		681 85		
	" Death levies from retired members.....		3,688 19		
	" Annual fees from retired members..		672 50		
	" Examination fees.....		14 00		
	" Interest on monthly balances.....		1,155 39	94,779 23	\$134,493 81

EXPENDITURES.

June 30, 1914, To	Sick and Accident indemnity		20,369 75		
	" Medical and surgical attendance.....		16,384 94		
	" Death and total disability claims...		33,750 00		
	" Examination fees.....		6 00		
	" Temporary employees' accident fund		9,213 34		
	" Operating expenses.....		7,301 43	87,025 46	
					\$47,468 35

Certified correct,

W. F. SEARS,
Auditor.

W. C. PAVER,
Secretary.

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Details.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.
SICK AND ACCIDENT FUND.										
<i>Receipts.</i>										
Credit balance from last year.....			17,517	61						
Premiums from paylists and vouchers and cash from members not on duty, etc.	31,744	57								
Proportion of railways' contribution.....	5,371	07								
Railway fines.....	392	95								
Interest on monthly balances.....	1,155	39	38,663	98	56,181	59				
<i>Expenditures.</i>										
Sick and Accident indemnity.....			20,369	75						
Medical and surgical attendance.....			16,384	94	36,754	69	19,426	90		
TEMPORARY EMPLOYEES' ACCIDENT FUND.										
<i>Receipts.</i>										
Credit balance from last year.....			18,467	49						
Premiums from pay lists and vouchers.....			13,417	85	31,885	34				
<i>Expenditures.</i>										
Accident indemnity.....			4,228	00						
Surgical attendance.....			2,735	34						
Death indemnity—										
Robert Bartlett.....	250	00								
Oscar Hingley.....	250	00								
I. W. Banks.....	250	00								
W. R. Cray.....	250	00								
Ralph Noyes.....	250	00								
Laurent Tanguay.....	250	00								
Charles Hughes.....	250	00								
Irvine McManus.....	250	00								
F. L. Jacobs.....	250	00	2,250	00						
Amount transferred for operating expenses.....			2,000	00	11,213	34				
							20,672	00		
DEATH AND TOTAL DISABILITY FUND.										
<i>Receipts.</i>										
Credit balance from last year.....			3,729	48						
Premiums from pay lists and retired members.....	37,381	97								
Examination fees.....	14	00	37,395	97	41,125	45				
<i>Expenditures.</i>										
Death claims.....			30,750	00						
Total disability claims.....			3,000	00						
Examination fees.....			6	00	33,756	00				
							7,369	45		
MANAGEMENT.										
<i>Receipts.</i>										
Proportion of railways' contribution.....			4,628	93						
Annual fees from retired employees.....			672	50	5,301	43				
<i>Expenditures.</i>										
Operating expenses.....			7,301	43						
Less amount transferred from the Temporary Employees' Accident fund to operating expenses, etc., for the year ended June 30, 1914.....			2,000	00	5,301	43				
Surplus.....							47,468	35		

Certified correct,

W. F. SEARS, Auditor.

W. C. PAVER, Secretary.

No. 2.—STATEMENT OF ASSETS AND LIABILITIES.

<i>Assets—</i>			
Surplus as per Statement No. 1.....			\$ 47,468 35
<i>Outstanding Liabilities (Estimated)—</i>			
<i>Sick and Accident Fund—</i>			
Sick and Accident indemnity.....	\$ 500 00		
Medical and surgical attendance, etc.....	3,000 00		
District doctors' salaries (two months).....	2,000 00		
		\$ 5,500 00	
<i>Temporary Employees' Accident Fund—</i>			
Accident indemnity.....	500 00		
Surgical attendance, etc.....	500 00	1,000 00	6,500 00
			<hr/>
			40,968 35

Certified correct,

W. F. SEARS,

Auditor.

W. C. PAVER,

Secretary.

INTERCOLONIAL AND PRINCE EDWARD ISLAND RAILWAYS
EMPLOYEES' PROVIDENT FUND.

EIGHTH ANNUAL REPORT.

MONCTON, N.B., May 31, 1915.

To all Officers and Employees, Contributors to the above Fund:

GENTLEMEN,—By instruction of the Provident Fund Board we beg to submit for your information the following report of the operations of the Provident Fund for the fiscal year ended March 31, 1915.

The personnel of the Provident Fund Board for that year was as follows: F. P. Gutelius, General Manager, Canadian Government Railways, Chairman, Moncton, N.B.; S. L. Shannon, Comptroller and Treasurer, Canadian Government Railways, Moncton, N.B.; H. H. Melanson, General Passenger and Ticket Agent, Canadian Government Railways, Moncton, N.B., appointed by the Minister; Willard P. Hutchinson, Train Despatcher, Intercolonial Railway, Moncton, N.B.; Bliss A. Bourgeois, Chief Clerk, Intercolonial Railway, Moncton, N.B., elected by the employees.

Four regular meetings of the board, as required by the regulations, were held during the year.

The following is a statement of the receipts and expenditures during the year ended March 31, 1915:—

Balance at the credit of the fund on the 31st March, 1914.....		\$ 389,221 76
The contributions made by employees during the year, being 1½ per cent of their monthly salary and wages were.....	\$ 105,631 91	
The contributions made by the railways were.....	100,000 00	
		<hr/>
		205,631 91
Amount received for refunds, etc.....		184 91
Interest accrued (at 3 per cent).....		10,515 85
		<hr/>
		\$ 605,554 43

The amount contributed by the employees is shown to exceed by \$5,631.91 the amount contributed by the railways. By reference to section No. 4 of the Provident Fund Act, it will be noted that the maximum sum the railways are authorized to contribute to the fund in any one year must not exceed \$100,000.

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The expenditures were:—

For retiring allowances.....	\$ 214,976 28
For contributions refunded in cases of deceased employees.....	2,911 35
For contributions refunded, which were deducted in error.....	878 87
For contributions refunded to discharged employees, etc.....	1,194 03
Medical examinations for probationers entering service, etc.....	2,026 00
Medical examinations for employees retiring from service.....	180 50
For election expenses.....	451 21
For salaries and travelling expenses, secretary's office.....	5,211 09
For board members—Time lost and travelling expenses.....	31 14
For stationery, printing, postage, etc.....	1,067 67
	\$228,728 14

Balance to the credit of the fund on the 31st March, 1915..... \$376,826 29

The following statement shows the amount which was contributed by the railways, and the amount which was contributed by the employees to the Provident Fund, in each fiscal year, since the fund has been in operation. It also shows the number of employees retired, the number of deaths among the same, and the amount paid for retiring allowances in each year. The average amount of the retiring allowances, paid in the month of March in each year, is also shown.

For Fiscal Year.	Amount contributed by Railways		No. of Employees placed on Fund.	No. of retired Employees Died.	Amount paid for Retiring Allowances.		Average monthly Allowance paid in March.		Balance at credit of fund.
	\$	cts.			\$	cts.	\$	cts.		$	cts.
1907-8.....	82,707	74	142	11	23,913	04	25	49	139,249 21
1908-9.....	75,306	41	88	17	64,067	63	25	63	225,898 31
1909-10.....	69,949	70	168	17	103,628	20	26	30	255,585 08
1910-11.....	71,296	42	51	23	121,014	34	26	56	273,480 01
1911-12.....	81,119	81	29	23	125,131	32	26	04	309,234 71
1912-13.....	85,365	23	63	36	133,539	69	26	78	346,028 57
1913-14.....	99,805	03	108	37	152,674	81	27	37	389,221 76
1914-15.....	100,000	00	185	42	214,976	28	28	99	376,826 29

It will be noted by the above statement of receipts and expenditures that the amount of the contributions received from the railways and from the employees during the year was \$205,631 91
 And the expenditures were 228,728 14
 Showing that during the year the expenditures exceeded the receipts 23,096 23

The gross surplus, including interest, to the credit of the fund on March 31, 1915, was \$376,826 29

The Act provides that two members of the Provident Fund Board shall be elected annually, and it was therefore necessary in January, 1915, to arrange for the election of these two members to serve during the year ending March 31, 1916.

Notice calling for the nomination of candidates was accordingly posted as required by the rule, and the election was held in February, 1915.

The two members elected were: Willard P. Hutchinson, Train Despatcher, Intercolonial Railway, Moncton, N.B.; Bliss A. Bourgeois, Chief Clerk, Intercolonial Railway, Moncton, N.B.

The personnel of the board as at present constituted is as follows: F. P. Gutelius, General Manager, Canadian Government Railways, Chairman, Moncton, N.B.; S. L. Shannon, Comptroller and Treasurer, Canadian Government Railways, Moncton, N.B.; H. H. Melanson, General Passenger and Ticket Agent, Canadian Government Railways, Moncton, N.B., appointed by the Minister; Willard P. Hutchinson, Train Despatcher, Intercolonial Railway, Moncton, N.B.; Bliss A. Bourgeois, Chief Clerk, Intercolonial Railway, Moncton, N. B., elected by the employees.

W. C. PAVER,

Secretary.

F. P. GUTELIUS,

Chairman.

ANNUAL REPORT OF CHIEF ENGINEER'S DEPARTMENT 1914-15.
INTERCOLONIAL RAILWAY.

(NOTE.—Mileage shown covers actual length of track.)

ROAD-BED AND TRACK.

Subdivision or Branch.	TABLE OF MILEAGES.			
	Main Line	Second Main Line	Passing Sidings	Other Sidings and Spurs.
	Miles.	Miles.	Miles.	Miles.
District No. 1—				
Mont Joli.....	83.44		8.35	21.00
Riviere-du-Loup.....	118.13		22.21	18.80
Lévis.....	22.67	0.60	1.75	6.93
Chaudière.....	115.79		11.10	16.55
Nicolet.....	16.40		0.60	0.90
Rivière Ouelle wharf.....	6.19		0.90	0.00
Rivière-du-Loup wharf.....				4.80
Rimouski.....				2.10
Ste. Rosalie junction to Montreal, (joint section).....	37.63			
Total.....	400.25	0.60	44.91	71.08
District No. 2—				
Moncton.....	185.57		17.89	48.37
Dalhousie.....	6.28			1.42
Campbellton.....	105.38		9.05	7.38
Fredericton.....	110.62		4.45	7.85
Loggieville.....	13.77		1.03	6.28
Total.....	421.62		32.42	71.30
District No. 3—				
Halifax.....	62.12	14.04	7.95	57.57
St. John.....	89.31	3.05	13.00	53.08
Truro.....	123.52	7.13	19.35	30.00
Dartmouth.....	14.94		0.25	1.60
Point du Chêne.....	11.98		1.00	3.50
Total.....	301.87	24.22	41.55	145.75
District No. 4—				
Sydney.....	101.92		4.5	34.53
Mulgrave.....	122.30	2.00	8.2	16.10
Stellarton.....	79.40		3.0	15.70
Trenton.....	8.24		0.3	4.70
Pugwash.....	4.54			2.00
Pictou.....	1.50		0.4	2.70
Sunny Brae.....	12.48		0.2	0.69
Total.....	330.48	2.00	16.6	76.42

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SUMMARY INTERCOLONIAL RAILWAY.

District No.	TABLE OF MILEAGES.			
	Main Line.	Second Main Line.	Passing Sidings.	Other Sidings and Spurs.
	Miles.	Miles.	Miles.	Miles.
1.....	400-25	0-60	44-91	71-08
2.....	421-62		32-42	71-30
3.....	301-87	24-22	41-55	145-75
4.....	330-48	2-00	16-60	76-42
Total for I.C.R.....	1,454-22	26-82	135-48	364-55

SUMMARY CANADIAN GOVERNMENT RAILWAYS.

Railway.	TABLE OF MILEAGES.			
	Main Line.	Second Main Line.	Passing Sidings.	Other Sidings and Spurs.
	Miles.	Miles.	Miles.	Miles.
Intercolonial.....	1,454 22	26-82	135-48	364-55
Prince Edward Island.....	275-20		31-20	
National Transcontinental.....	455-15		35-85	18-75
International.....	111-30		1-90	5-97
St. John and Quebec.....	118-82		4-08	3-45
New Brunswick and Prince Edward Island.....	35-79		0-93	3-56
Total.....	2,450-48	26-82	209-44	396-28

RAILS.

The main line has been relaid with new 85-pound rails on the several districts as follows:—

District No.	Miles of Track.
1.....	44-55
2.....	22-99
3.....	26-76
4.....	23-74
Total track miles of new 85 pound rail laid.....	118-04

With the good relay rail released in laying the above, the main track was relaid at various mileages, and all piped, excessively battered or otherwise defective rails removed from the track.

The mileage of the various weights of rail in the main tracks of through main line and branches is as follows:—

Weight of rail.	56-lb.	67-lb.	70-lb.	80-lb.	85-lb.
District No. 1—Miles.....		21.03	16.00	315.92	47.30
District No. 2—Miles.....	5.45	104.09		289.09	22.99
District No. 3—Miles.....	5.20	21.72		248.19	26.76
District No. 4—Miles.....	12.48	90.28		203.98	23.74
Totals.....	23.13	237.12	16.00	1,057.18	120.79

New 85-pound rails purchased and allotted in 1914 have been distributed for laying as follows:—

District No.	Track Miles.
1.....	23.79
2.....	26.00
3.....	10.00
4.....	11.00
Total.....	70.79

The laying of this new rail will be proceeded with as soon as the season is sufficiently advanced; 2,168 track miles of worn-out 67-pound rails, and 20,155 miles of 56-pound rails have been replaced with 80-pound branch line rail.

TIE RENEWALS.

Track ties have been renewed during the year as follows:—

District.	Main Line.	Average per Mile.	Sidings and Spurs.	Average per Mile.
	No.	No.	No.	No.
No. 1.....	126,705	311	25,582	220
No. 2.....	165,546	393	16,355	157
No. 3.....	155,515	477	24,642	131
No. 4.....	167,284	506	8,362	90
	615,050	415	74,941	150

A total of 247 sets of switch ties were renewed during the year.

BALLASTING.

Ballasting of road-bed has been completed over the following mileage:—

District No. 1.....	30.80 miles.
District No. 2.....	10.34 miles.
District No. 3.....	38.64 miles.
District No. 4.....	25.00 miles.
Total.....	104.78 miles.

DITCHING.

A total of 24.04 miles of ditching has been completed to provide better drainage for road-bed.

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TILE UNDERDRAINS IN WET CUTS.

Fredericton subdivision, 1,577 feet of underdrain pipe laid; Sydney subdivision, 1,000 feet of 8-inch underdrain pipe laid.

PROTECTION OF EMBANKMENTS AND CUTTINGS.

At mile 83.4, Mulgrave subdivision (Holloway grant) the cribwork has been reinforced with considerable quantity of heavy stone.

ROCK CUTTINGS.

At various points on the line, loose and dangerous rocks have been removed from the sides and slopes of cuttings.

NEW TRACKS AND CHANGES IN MAIN LINE.

Double Track Construction.

District No. 1—Lévis Subdivision.—Between St. Romuald and Chaudière, 0.60 mile of the 3.75 miles of second main line under construction has been put in operation. The contractors have completed the grading on the balance, and railway forces are now laying the track. This work will be entirely completed this year.

District No. 2—Loggieville Subdivision—Nelson to Derby Junction Diversion.—A new line has been constructed from a point on the Intercolonial Railway main line one-half mile east of Derby Junction station, to a point on the Loggieville subdivision at Nelson, a distance of 2.69 miles. By the construction of this diversion the old line from Nelson to Chatham Junction, a distance of 5.5 miles, has been abandoned, and the distance between Chatham and the Intercolonial Railway main line reduced by 2.81 miles.

The grading of this track was completed under contract by K. A. Morrison. The tracklaying and ballasting was completed by railway forces. The new line was opened for traffic on January 10, 1915. (See diagram.)

District No. 4—Sydney Subdivision—Leitche's Creek Diversion.—During the year, construction of the Leitche's Creek diversion was commenced, and this line put in operation January 10, 1915. The grading was carried out by the Union Construction Company, under contract, and the tracklaying and ballasting by railway forces. This line is 4.26 miles long, running from North Sydney to Leitche's Creek, and has been laid with 80-pound rails.

By the completion of this diversion, a loop was created with the old main line from Georges River to Leitche's Creek. The new line has been incorporated in the main line of the Sydney subdivision, and the old main line from Georges River to Leitche's Creek, and the branch from North Sydney to North Sydney Junction, has been abandoned. By this, a 1.2 grade between Georges River and Leitche's Creek has been eliminated, and the towns of Sydney Mines, North Sydney, Florence, and Little Bras d'Or have been placed on the main line instead of a branch as heretofore. This change lengthens the distance from Point Tupper to Sydney from 91.17 miles to 101.92 miles. The track has not yet been lifted to final grade. (See diagram.)

MEETING SIDINGS.

New meeting sidings, or extensions of meeting sidings, have been constructed at the following points:—

District No. 1—		Feet.
Trois Pistoles..	Extension..	800
St. Alexander..	"	1,173
Montmagny..	New..	1,590
St. Valier..	Extension..	640
Total..		<u>4,203</u>
District No. 2—		
Canaan..	Extension..	1,700
Harcourt..	"	2,700
Lakeland..	"	1,400
Beaver Brook..	"	1,960
Bartibogue..	"	1,860
Jacquet River..	"	1,480
Moffatts..	New..	2,000
Sayabec..	"	359
Total..		<u>13,459</u>
District No. 3—		
Sackville..	Extension..	100

SUMMARY OF MEETING SIDINGS CONSTRUCTED

District No. 1..	Feet.	
" No. 2..	4,203	
" No. 3..	13,459	
" No. 4..	100	
Total..	<u>NIL</u>	
Total..		<u>17,762</u>

BUSINESS SIDINGS, ETC.

Business sidings, loading tracks, and various track changes have been constructed as follows:—

District No. 1—		Feet.
Trois Pistoles..	Extension..	200
Montmagny..	Cross-over..	175
Drummondville..	Coal plant..	1,493
Total..		<u>1,868</u>
District No. 2—		
Berry's Mills..	Extension..	1,220
Campbellton..	New..	1,374
Total..		<u>2,594</u>
District No. 3—		
Siding to power-house, deep water..	New..	300
Richmond, track to turntable..	"	475
Richmond, three tracks, pier No. 7..	"	1,550
Truro loading siding..	New..	600
Thomson loading siding..	Extension..	200
Buctouche Junction..	New..	370
Sussex, military siding..	Extension..	600
Apohaqui, military siding..	"	120
St. John, military siding..	New..	921
Dartmouth, military siding..	Extension..	350
Total..		<u>5,486</u>
District No. 4—		
Orangedale..	Extension..	400
Letcher's Creek..	"	620
Mile 160.84..	"	300
Riversdale..	"	300
Ferrona Junction..	"	200
Tetemagouche..	"	613
Total..		<u>2,433</u>

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SUMMARY OF BUSINESS SIDINGS CONSTRUCTED.

District No.	Feet.
No. 1	1,868
No. 2	2,594
No. 3	5,486
No. 4	2,433
Total	12,381

PUGWASH SPUR.

A spur, 8,050 feet long, across Pugwash harbour to the plant of the Nova Scotia Clay Works, has been completed sufficiently to allow for traffic up to station 5216, and the balance of the line (834 feet) is held up awaiting execution of standard siding agreement by the Nova Scotia Clay Works Company. A 392-foot pile bridge, completed with the exception of D.G. 85-foot 6-inch swing span to concrete pier, this gap being temporarily filled with pile bents; 5,216 feet of the track ballasted.

PRIVATE SIDINGS.

Location.	Name of Person or Firm.	Feet.
District No. 1—		
Mont Joli	Can. Gulf Terminal Rly.	423
St. Romuald	H. Atkinson	1,800
Total		2,223
District No. 2—		
Bathurst	Bathurst Lumber Co. Ltd.	383
Fredericton S. D. M. 4-71	Renous Lumber Co.	350
Fredericton S. D. M. 48-16	Willard Wilson	272
Fredericton S. D. M. 87-50	A. W. Fraser	300
Fredericton	R. T. Baird	350
Total		1,655
District No. 3—		
Halifax S. D. M. 16-48	Stephen Bros	277
Lantz	Nova Scotia Clay Works	247
Shubenacadie	McDougall Bros	350
Amherst	Can. Car & Foundry Co.	175
Amherst	Malleable Iron Works	523
Amherst	Nova Scotia Carriage & Motor Co.	713
Moncton	Acadie Sugar Refinery Co.	160
St. John	Exhibition Association	310
St. John	St. John Iron Works	505
Dartmouth	Dartmouth Coal Supply Co.	208
Woodside	Acadie Sugar Refinery Co.	2,250
Total		5,718
District No. 4—		
Sydney S. D. M. 68	A. H. McSween	250
Sydney S. D. M. 84-06	Sydney Mines Grocery Co.	328
New Glasgow	Gammon & Wier	202
Mulgrave S. D. M. 10-50	N.S. Coal, Iron & Rly Co.	180
Mulgrave S. D. M.	Colonial Lumber Co.	200
Pugwash	Imperial Oil Company	230
Wallace	P. Lyall & Son	1,000
Sunny Brae	J. S. & P. A. McGregor	489
Total		2,879

SUMMARY OF PRIVATE SIDINGS CONSTRUCTED.

District No.	Feet.
District No. 1	2,223
District No. 2	1,655
District No. 3	5,718
District No. 4	2,879
Total	12,475

WATER SERVICE.

District No. 1.—Chaudière Junction water tank was destroyed by fire November 26, 1914. A new No. 1 inclosed 40,000-gallon tank is being erected to replace the one destroyed.

St. Andre: Station water supply installed.

District No. 2.—Matapedia: A new gravity water supply was installed consisting of 8-inch cast-iron pipe, 5,273 feet long, concrete dam 150 feet long, and standard 10-inch stand-pipe; also a fire hydrant placed near station and freight shed, equipped with necessary hose.

Routhierville (Assametquaghan): A new gravity water supply was installed, consisting of 10-inch cast-iron pipe, 770 feet long, concrete dam, and standard 10-inch stand-pipe.

Campbellton: 8-inch cast-iron pipe, 6,000 feet long, was laid to replace an existing 6-inch pipe which was not delivering sufficient supply for the terminal point requirements.

Harcourt: Moved stand-pipe to 18-foot standard clearance.

Val Brilliant: Put in temporary 15,000-gallon tank in place of old tank destroyed by fire.

Amqui: Extended 6-inch sewer 35 feet.

All tank spouts below the standard height have been raised to standard.

District No. 3.—Halifax: Installed water service on new pier No. 2.

Installed water and steam pipes, 1,200 feet long, in car-cleaning yard.

Stand-pipes moved to standard clearance at the following places: Willow Park and Windsor Junction, Truro, Springhill Junction, Amherst, Sackville, Moncton, Sussex, St. John.

Sussex: Water tank moved and new stand-pipe erected.

St. John: Water pipes at Gilbert Lane rearranged.

District No. 4.—Mulgrave: A complete fire-protection system has been installed for station, freight shed, transfer, and ice-houses, consisting of a high-pressure pump in power-house, with a connection to the sea and a line of 6-inch and 4-inch cast-iron pipes leading to four fire hydrants. The hydrants have been covered with small houses, and equipped with 900 feet of 2½-inch fire hose, and the proper nozzles and wrenches.

North Sydney: Water pipes laid to stock pen.

James River: Water pipes to station and pump installed.

General.—In addition to the above, all necessary repairs have been made to water stations and water service equipment.

BUILDINGS.

New buildings, platforms, alterations and additions to existing buildings were constructed as follows:—

District No. 1—Mont Joli Subdivision.—Three stations painted standard colours. Trois Pistoles: New umbrella roof erected. One platform renewed to standard.

Rivière-du-Loup Subdivision.—Seven cattle pens relocated and repaired. One platform renewed to standard.

Lévis Subdivision.—Hadlow: New unloading platform for quarantine sidings. Two platforms repaired.

Lévis: Temporary station (wood) 40 by 60 feet. Gas building (corrugated iron) 15 feet by 35 feet. Boiler room 30 feet by 35 feet (corrugated iron).

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Chaudière Subdivision.—St. Perpetue: New standard No. 5 combined passenger station 66 feet by 21 feet 6 inches erected.

St. Leonard Junction: Standard tool house.

Nicolet Subdivision.—Nicolet: Standard tool house.

District No. 2—Moncton Subdivision.—Canaan: New standard tool house.

Rogersville: New standard tool house.

Collets: Shelter, 10 feet by 16 feet, taken from abandoned line, Chatham Junction to Blackville.

Elm Tree: Shelter, 16 feet by 20 feet.

Campbellton: New veranda on rest house.

Bathurst: Freight shed extension, 60 feet.

Richards: Shelter, 10 feet by 16 feet, taken from abandoned line between Chatham Junction and Blackville.

Birch Ridge: New cinder platform.

Campbellton Subdivision.—Matapedia: Station platform extended 50 feet. Freight shed extended 40 feet.

Dawsons: Standard 30-foot platform.

Routhierville: Standard 220-foot platform. Standard 14 feet by 20 feet freight shed.

St. Moise: Standard 16 feet by 20 feet coal shed.

Val Brilliant: Standard cinder platform.

Podouc: Loading platform, 55 feet long, with ramp 55 feet long each end. Stock pens, standard two-car.

Princeville: Shelter taken from abandoned line, Chatham Junction to Blackville.

Fredericton Subdivision.—Millerton: Freight shed extended 40 feet.

Upper Blackville: Tool house taken from abandoned line, Chatham Junction to Blackville.

Boiestown: Tool house taken from abandoned line, Chatham Junction to Blackville.

District No. 3.—Halifax Subdivision.—Halifax: Temporary power-house new pier No. 2.

Raised grain elevator conveyors 20 feet, increasing the delivery capacity from 3,000 bushels per hour to 15,000 per hour. Installed new driving motor. Built new hard-coal bin.

Richmond: Replaced car repair building with second-hand building.

Birch Cove: New standard No. 2 shelter.

Kings: New standard No. 2 shelter.

Elmsdale: New tool house.

Alton: New tool house.

Truro Subdivision.—Truro: New tool house; new hard-coal bin; thirteen standard ventilating smoke jacks on round house; bunk-house; shelter for ash-pit men.

Londonderry: Installed lavatories with flush closets in station.

Amherst: Relocated engine house, and added shed for one car coal.

Sackville: Extended station platform 150 feet.

College Bridge: Moved old station 100 feet north, and converted it into dwelling. Built concrete platform.

St. John Subdivision.—Moncton: Erected two fire escapes on general offices. A new transfer platform 370 feet by 12 feet has been built near the freight shed, to take the place of the transfer shed, which was located in the "Y" and has been taken down. The location of the transfer shed involved an excessive amount of shunting, and additional staff, which has been reduced by the new location.

Sussex: Moved freight shed. Moved three buildings belonging to S. H. White and Company. Built new concrete station platform 10 feet by 600 feet, and wooden island platform 10 feet by 600 feet. New stock pen.

Kinghurst: New shelter.

St. John: New heating system in Island yard office.

General—District No. 3.—11 cattle pens were moved from alongside the main line to suitable locations on side tracks.

District No. 4.—Sydney Subdivision.—Point Tupper: Two hydrant houses 4 feet 6 inches by 4 feet 6 inches.

Cleveland: Shelter station moved to mile 10.3, and name changed to "Morrison's."

Mile 22.5: New loading platform, 150 feet long.

Orangedale: New loading platform, 120 feet long.

Iona: New cattle pen, 20 feet by 20 feet.

Christmas Island: Extended platform 50 feet, and made standard height.

Boisdale: Station platform, 267 feet long, made standard height.

North Sydney: Extended platform 50 feet.

Sydney: New stock pen, 45 feet by 48 feet. Replaced six smoke jacks with six standard asbestos smoke jacks.

Five stock pens have been relocated on this subdivision.

Mulgrave Subdivision.—Valley: New standard tool house.

West River: Catch basin at tank.

Glengarry: New standard tool house.

Lorne: New loading platform, 80 feet long.

Stellarton: Six smoke jacks on engine house replaced with six standard asbestos jacks.

West Merigomish: New standard tool house.

Piedmont: New catch basin at tank.

Avondale: New standard tool house.

Antigonish: New standard tool house.

Tracadie: Station platform, 260 feet long, lowered to standard.

Mulgrave: Four new hydrants, 4 feet 6 inches by 4 feet 6 inches.

Eight stock pens have been relocated on this subdivision.

Stellarton Subdivision.—Oxford Junction: New catch basin at tank.

Pugwash Junction: New standard tool house.

Mile 39.72: New cinder platform, 50 feet long.

Scotsburn: Platform lowered to standard.

Sylvester: New standard tool house.

Seven stock pens have been relocated on this subdivision.

(In addition to the above, necessary repairs were made to buildings and platforms, and twenty buildings painted.)

FENCING—NEW AND REPAIRS.

Some 12.16 miles of standard woven wire fence has been erected, and 400 rods of standard board fence erected as follows:—

District No. 1—

	Miles.
Rivière-du-Loup, new wire fence	2.63
Lévis, new wire fence	0.12
Chaudière, new wire fence	0.50
Total.	3.25

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<i>District No. 2—</i>	Miles.
Loggieville, new wire fence	0.11
<i>District No. 3—</i>	
Built 400 rods standard board fence around new shops at Moncton,	
<i>District No. 4—</i>	
Sydney Subdivision	8.8

MAIL CATCHERS.

A mail catcher was erected at Chenard, on the Rivière-du-Loup subdivision.

TERMINAL IMPROVEMENTS.

*District No. 1—*Mont Joli: Station grounds beautified by two garden plots and new fencing. Additional 6-foot by 16-foot return tubular boiler and feed pump installed in power plant. Erected ten 40-foot by 60-foot covered pens, and twenty 20-foot by 50-foot pens for horses. Steel work in engine house painted.

Rivière-du-Loup: Renewed seven smoke jacks in engine house with standard asbestos ventilating smoke jacks. Painted steel work in engine house and machine shop. Installed feed pump in power plant, and repaired ash pit.

Chaudière Junction: Relocated and converted old blacksmith shop into stores building, and improved old stores.

Lévis: Installed four new Pintsch gas holders.

*District No. 3—*Halifax: New concrete No. 2, 792 feet long, with two-story concrete shed, completed by contract.

Halifax Ocean Terminals: See supplementary report.

Richmond: Completed rearrangement of yard.

Truro: Paved esplanade and built 190 square yards concrete sidewalk along back of station. Built lawn on esplanade, 310 feet by 65 feet. Installed electric generator from St. John.

Moncton: Repaired engine house and extended six stalls for large Pacific type locomotive. Rearranged electric poles in yard. Replaced three-throw switch east end of yard with lap switch.

St. John: Paved Mill street with granite blocks, 642 square yards.

*District No. 4—*Point Tupper: Fire protection installed, including two hydrants, one fire plug, high pressure pump, two hydrant houses, and 800 feet of fire hose; 1,000 feet of 8-inch tile laid in yard; 1,000 feet of standard woven wire fence were erected.

Sydney: New stock pen, 45 feet by 48 feet, and six standard asbestos smoke jacks in engine house.

Mulgrave: Fire protection system installed, including four hydrants, high pressure pump, four hydrant houses, and 900 feet of fire hose.

Pirate Harbour: 1,200 feet of 1½-inch pipe in heating system removed.

Stellarton: Six standard asbestos smoke jacks in engine house, 3,500 feet of 1½-inch pipe in heating system removed.

Pictou: Coal house reduced to size of 20 feet by 50 feet, and tracks put 13-foot centres, 2,500 feet of 1½-inch pipe in heating system removed.

DAMAGE BY FLOOD.

Slight damage was done to the embankment at mile 24 2, Mont Joli subdivision, by heavy surf and high tides.

On the Truro subdivision, 1 mile west of Saekville, 200 feet of track washed out on October 21, 1914, on account of dike giving way.

At St. John, the covering wharf at Kennedy slip damaged by storm.

On the Fredericton subdivision, January 28, 1915, a heavy run of ice occurred at Cross Creek, Upper Cross Creek, and in Nashwaak river, covering the track at the east semaphore, Cross Creek, with ice 4 or 5 feet high for a distance of about one-quarter of a mile. At Upper Cross Creek the ice jammed below the railway bridge and backed water over the track for a distance of about 800 feet. At Covered Bridge the freshet removed two wooden bents supporting the wooden truss bridge over McKenzie's brook. The bridge has since been replaced with a standard D.P.G. span. At Nashwaak Bridge the temporary bents supporting the east span were taken out. This bridge has since been replaced by a steel bridge.

DAMAGE BY FIRE.

Location.	Date.	Damage.
DISTRICT No. 1—		
Mont Joli Subdivision—		
Isle Verte.....	August 5.....	100 posts and 400 boards.
Bic.....	" 7.....	30 cedar posts.
M. 30-35.....	" 1.....	30 rods of fence.
M. 31-25.....	" 9.....	30 "
St. Simon.....	" 6.....	200 feet snow fence and 25 rods lath fence.
M. 61-5.....	" 5.....	180 feet snow fence.
M. 74.....	" 6.....	35 cedar posts and 100 boards.
Rivière-du-Loup Subdivision—		
Mile 10.....	August 5.....	720 feet wire fence.
" 10-5.....	" 5.....	50 rods wire fence.
" 11-0.....	" 9.....	540 feet wire fence.
" 11-0.....	" 29.....	5 posts and one gate.
" 30.....	" 1.....	30 rods of wire fence.

Lévis: On November 24, at 11.30 a.m., fire, which originated in the boiler room, caused the total destruction of Lévis station, baggage and express rooms, Pintsch gas building, part of umbrella roof, and damaged old station building. A temporary station was immediately erected, and offices transferred to the old station building, after the latter had been repaired. Most of the files and office furniture were destroyed, as well as a lot of plans and records in the resident engineer's office.

Rivière-du-Loup Subdivision.—Rivière Ouelle Junction: Engine house one stall, destroyed April 9.

Chaudière Junction: Switchmen's shelter destroyed June 19. High tank, 50,000 gallons destroyed November 26.

Chaudière Subdivision.—St. Apollinaire: Freight shed and part of platform destroyed December 27.

District No. 2.—Val Brillant: Agent's dwelling, tank, coal shed, and a portion of the platform were destroyed July 17, 1914.

Derby Junction: Station, freight shed, coal shed, and platform were destroyed March 10, 1915.

Moncton: Scrap bins in rail yard partly destroyed, as well as some lumber which was on hand to complete the bins, August, 1914.

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District No. 3.—Halifax: Deep water office and freight shed damaged September 26, 1914.

Oxford Junction: Freight shed burned May 30, 1914.

Moncton: Freight shed and office damaged October 1, 1914.

St. John: Grain elevator and portion of freight shed burned, and train shed damaged.

SURVEYS.

Resurveys for standard track profile have been completed as follows:—

District No. 1.—All subdivisions on this district have been completed. Total, 362.62 miles. All originals of profiles and most of the field notes were destroyed in the Lévis fire.

District No. 2.—Moncton and Campbellton subdivisions completed. Surveys made for Fredericton, Loggieville, and Dalhousie subdivisions.

District No. 3.—Truro subdivision, mileage 46.42 to 123.77 completed.

District No. 4.—

Mulgrave.....	Mile 42 to Mile 121.3	= 19.3	mls.,
Trenton.....	" 0 "	8.24 = 8.24	"
Sunnybae.....	" 0 "	12.48 = 12.48	"
Stellarton.....	" 0 "	79.48 = 79.48	"
Pugwash.....	" 0 "	4.54 = 4.54	"
Pictou.....	" 0 "	1.60 = 1.60	"
Total.....		185.56	"

Standard station yard plans have been completed as follows:—

	Plan.
Mont Joli subdivision.....	4
Rivière-du-Loup subdivision.....	9
Lévis subdivision.....	2
Chaudière subdivision.....	5
Moncton subdivision.....	10
Campbellton subdivision.....	9
Halifax subdivision.....	13
Truro subdivision.....	4
St. John subdivision.....	3
Sydney subdivision.....	6
Mulgrave subdivision.....	4
Stellarton subdivision.....	2
Total.....	71

Fifty-four plans (buildings and general) have been completed, and issued.

Twenty-nine standard plans (bridges and culverts) have been completed and issued.

CONSTRUCTION SURVEYS.

Painsec Junction to Oxford Junction.—The surveys, started in October, 1913, for the purpose of making a complete right-of-way traverse, and to get preliminary information required to ascertain the cost of double tracking and reduction of grades to a 0.6 per cent ruling grade in both directions, between the above points, were completed May, 1914.

Painsec Junction to Cape Tormentine.—Reconnaissance for 0.6 per cent line between Painsec Junction and Cape Tormentine was started March 17, 1914, and completed April 4, 1914.

Painsec Junction to Sackville.—Reconnaissance for low grade line, 28 miles completed.

Preliminary survey and projected location, 29 miles, 0.5 per cent grade, completed, including track traverse New Brunswick and Prince Edward Island Railway, 4.5 miles.

St. Peters to Sydney.—Reconnaissance for 0.60 per cent line was made. Loch Lomond, Salmon River (interior) route, 57 miles, completed. Bras d'Or Lake route, 54 miles, completed. Bras d'Or Lake and East Bay route, preliminary and projected location, 54 miles, completed.

New Glasgow to Mulgrave.—Track record survey, 80 miles, completed.

New Glasgow to Mulgrave via present route. Reconnaissance for 0.60 per cent completed, 81 miles.

New Glasgow to Mulgrave via Sunnybrae and Guysborough. Reconnaissance for 0.6 per cent line, 101 miles, completed.

Preliminary and projected location from Ferrona Junction to Mulgrave for 0.6 per cent line, 106.8 miles, 95 per cent completed.

From New Glasgow to Ferrona, complete preliminary information, 6 miles, obtained, but projection not made.

New Glasgow to Mulgrave, via Sunnybrae and Guysborough, Country Harbour branch, old location revised and retraced for 7 miles.

New Glasgow to Mulgrave via Sunnybrae and Guysborough, Gardeu of Eden alternative route, preliminary and projected location, 24 miles, 95 per cent completed.

New Glasgow to Ferrona Junction.—Track record survey, 6 miles, completed.

Ferrona Junction to Sunnybrae.—Track record survey, 12.5 miles, completed.

New Glasgow to Pictou Landing.—Track record survey, 8.5 miles, completed.

Truro to New Glasgow.—Track record survey, 43 miles, chainage only, completed.

Halifax to Truro.—Location for 0.6 per cent grade on Truro hill, 2.2 miles, completed.

Preliminary and projected location for 9.8 miles of other grade revisions completed.

Windsor Junction to Truro.—Double track information for 48 miles, completed.

Oxford Junction to Stellarton, including Pictou and Pugwash, S. D.'s.—Track record surveys, 86 miles, profiles, station ground plans completed; general plan 50 per cent completed.

Bathurst Spur.—Line located to Bathurst Lumber Company's mills; 2 miles main spur, 2 miles sidings.

Orangedale to Cheticamp.—Reconnaissance completed, 60 miles.

Cape Breton Railway.—Inspection, 31 miles, completed.

Reconnaissance for 0.6 per cent grade reduction, 18 miles, completed.

Canada and Gulf Terminal Railway.—Inspection, 36 miles, completed.

Point Tupper to Sydney.—Projected location of 0.6 per cent grade revision, office work completed.

Truro to Baie Verte and Cookville via Union, Earlton and Pugwash.—Reconnaissance, 109 miles, 85 per cent completed.

Kemptown to Sunnybrae via Gordon Summit and Glengarry.—Reconnaissance, 35 miles, completed.

Scotsburn to New Glasgow.—Reconnaissance, 17 miles, completed.

BRIDGES AND CULVERTS.

Repairs and renewals to bridges and culverts have been made as follows:—

District No. 1.—Mont Joli Subdivision.—Two culverts have been extended with concrete pipe. One open culvert has been replaced with concrete pipe.

Mile 14-1: One 26-inch I-beam span 28 feet 6 inches long, renewed, and new concrete bridge seats and ballast walls.

Mile 18-9, Rimouski: Five D.P.G. spans 84 feet 6 inches long, renewed.

Mile 56-9: One D.P.G. span 43 feet 6 inches renewed, and new concrete bridge seat on west abutment, and masonry alterations on east abutment.

Mile 59-3: Two D.P.G. spans 104 feet 6 inches renewed. Masonry abutments altered.

Mile 83-3: Rivière-du-Loup new steel superstructure for double track bridge. One D.P.G. 85 feet; four D.P.G. 107 feet 10 inches; one D.P.G. 98 feet; and two D.P.G. 44 feet 9 inches. Two old masonry piers and east abutment extended in concrete. New concrete abutment and pier at west end.

Rivière-du-Loup Subdivision.—Mile 3-9: One D.P.G., 44 feet, and new concrete bridge seats and ballast walls.

Mile 21-7: One D.P.G., 44 feet, renewed, and bridge seats and ballast walls renewed.

Mile 24-3: One D.P.G., 44 feet renewed.

Mile 26-6, Kamouraska River: Two-span bridge, reduced to one new T.P.G., 60 feet span, and two new concrete abutments built.

Mile 28-3: One D.P.G., 44 feet, renewed, and new concrete bridge seats and ballast walls.

Mile 35-5: One D.P.G., 44 feet renewed, and new concrete bridge seats and ballast walls.

Mile 35-6, River Ouelle: Two D.P.G., 43 feet 6 inches; six D.P.G., 42 feet, renewed. New concrete bridge seats and ballast walls.

Mile 39-5, Mill Creek: One 26-inch I-beam span, 26 feet. New concrete bridge seats and ballast walls.

Mile 41-3, St. Anne River: One D.P.G., 42 feet 6 inches; one D.P.G., 42 feet, renewed. New concrete bridge seats and ballast walls.

Mile 47-3, Le Bras River: One 26-inch I-beam span, 26 feet, renewed.

Mile 49-8, Ferree River: Two D.P.G., 42 feet 6 inches, renewed.

Mile 57-7, St. Jean Port Joli: One T.P.G., 40 feet, renewed. New concrete abutments.

Mile 59-5: One D.P.G., 43 feet 6 inches; one D.P.G., 42 feet 6 inches. New concrete bridge seats and ballast walls.

Mile 63-1, La Torture River, East: One D.P.G., 49 feet, renewed. New concrete bridge seats and ballast walls.

Mile 63-6, La Torture River West: One D.P.G., 42 feet 6 inches, renewed. New concrete bridge seats and ballast walls.

Mile 77-5, Bras St. Nicholas, Montmagny: Old six-span bridge replaced to five T.P.G., 77 feet. Four concrete piers and west abutments by Contractors R. S. and J. H. Henderson. East abutment not completed. New steel superstructure erected.

Mile 77-8, Rivière du Sud, Montmagny: Renewed entire substructure in concrete, consisting of eight piers and two abutments. Contractors R. S. and J. H. Henderson. Also renewed two spans of steel superstructure. Two T.P.G., 63 feet.

Mile 78-4: Extended 4 feet by 5 feet rail top culvert with 4 feet by 4 feet rail top culvert.

Mile 97-6, Boyer river: One D.P.G., 52 feet 6 inches renewed, new concrete abutments and pier seats.

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Levis Subdivision.—Mile 17.96: Abutments extended in concrete for double track. Two 15-inch I-beam spans 13 feet $\frac{1}{2}$ -inch, two 15-inch I-beam spans 13 feet $4\frac{1}{2}$ inches in the course of erection.

Mile 18.15, Church road: One T.P.G., 25 feet, in course of erection.

Mile 19.5: Extended abutments in concrete for double track, one 20-inch I-beam, 16 feet 3 inches; one 20-inch I-beam, 15 feet 6 inches, put in.

Mile 19.7: Extended east abutment in concrete for double track, and new concrete abutment west built by contractor. New steel superstructure. One 30-inch I-beam span, 32 feet 8 inches.

Mile 20.07: Abutments extended in concrete for double track. New steel superstructure. One 24-inch I-beam span, 16 feet 1 inch.

Mile 20.2: Abutments extended in concrete for double track. New steel superstructure. One D.P.G., 17 feet 5 inches.

Mile 20.31: Abutments extended in concrete for double track. New steel superstructure. Two 24-inch I-beam spans, 20 feet.

Mile 20.8: National Transcontinental Railway overcrossing replaced old one-span bridge by three-span bridge for double track. Two new centre piers and old abutments replaced by concrete. New steel superstructure being erected. Four D.P.G. spans, 44 feet 5 inches; two D.P.G. spans, 54 feet. Eight culverts were extended in concrete for double track.

Chaudière Subdivision.—Mile 2.2: One 30-inch I-beam span, 19 feet, renewed, and masonry altered.

Mile 12.9: One 30-inch I-beam span, 19 feet, renewed, and masonry altered.

Mile 12.9: One 30-inch I-beam span, renewed, and masonry altered.

Mile 13.2: One 30-inch I-beam span, 19 feet, renewed, and masonry altered.

Mile 23.6: One 30-inch I-beam span, 18 feet 6 inches, renewed, and masonry altered.

Mile 24.5: One 30-inch I-beam span, 19 feet, renewed, and masonry altered.

Mile 30.7: One D.P.G. span, 73 feet, renewed, and masonry altered.

Mile 31.8: One D.P.G. span, 32 feet, renewed, and masonry altered.

Mile 43.1: One D.P.G. span, 48 feet 6 inches, renewed, and masonry altered.

Mile 57.4: One D.P.G. span, 101 feet 4 inches, renewed, and masonry altered. One D.P.G. span, 103 feet $1\frac{1}{2}$ inches, renewed, and masonry altered. One D.P.G. span, 99 feet 1 inch, renewed, and masonry altered. One D.P.G. span, 106 feet 8 inches, renewed, and masonry altered.

Mile 82.4: One D.P.G. span, 60 feet, renewed, and masonry altered.

Mile 26.7, River Henry: Old through truss bridge replaced by new T.P.G., 102 feet 8 inches long.

Mile 92.3, Black River: One T.P.G., 60 feet renewed. New concrete abutments.

Mile 112.8, Shibouette River: One D.P.G., 27 feet 6 inches renewed. New concrete seats and walls.

Five open culverts closed, and concrete pipe put in.

District No. 2.—Moncton Subdivision: Twenty old floor beam culverts have been replaced—wooden stringers of greater strength.

Two open culverts have been closed, and concrete pipe put in.

Mile 13.2, South Cocagne: New 20-inch I-beam span, 26 feet 8 inches span, put in and masonry altered.

Mile 29.7, North Coal Branch: Three spans D.P.G., 42 feet 6 inches, span put in, and masonry altered.

Mile 38.5, Richibucto River: Three spans D.P.G., 53 feet, span put in and masonry altered.

Mile 46.8, Kouchibouguacis River: One D.P.G. 85 feet span. New concrete abutments.

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Mile 61.2, Barnaby River, third crossing: One D.P.G. 85 feet span, one new concrete abutment.

Mile 65.1, Barnaby River, second crossing: One D.P.G. 85 feet span, one new concrete abutment.

Mile 94.8, Bartibog Bridge: One new D.P.G. 84 feet 6 inches span, masonry altered.

Mile 114.0, Red Pine River: Three spans, 42 feet 6 inches, renewed. Masonry altered.

Mile 118.1, Nepisiguit River: Six spans, two D.P.G. 105 feet; four D.P.G., 104 feet 6 inches, renewed. Masonry altered.

Mile 125.5, Tête-à-gauche: Five spans, two D.P.G. 105 feet; three D.P.G. 104 feet 6 inches renewed. Masonry altered.

Mile 129, Beresford: One span D.P.G., 85 feet renewed. Masonry altered.

Mile 136, Elm Tree: One span D.P.G., 85 feet renewed. Masonry altered.

Mile 146.3, Belledune Bridge: Two spans D.P.G., 65 feet, renewed. Masonry altered.

Mile 157.9, Dickies: One span D.P.G., 43 feet 6 inches, renewed. Masonry altered.

Mile 159, Benjamin River: One span D.P.G., 54 feet 6 inches, and two spans D.P.G., 53 feet 6 inches renewed. Masonry altered.

Campbellton Subdivision.—Eight culverts strengthened with wooden stringers. Nine open culverts closed, and concrete pipe put in.

Mile 5.2, Moffat's Bridge: Five spans filled in and three spans renewed with three D.P.G., 64 feet. Masonry altered.

Mile 43.4, Otter Brook: One span 26-inch I-beams, 26 feet 8 inches, renewed and masonry altered.

Mile 58.5, Indian Brook: One span, 42 feet 3 inches D.P.G., one span 43 feet D.P.G., and one span 43 feet 6 inches D.P.G., renewed, and masonry altered.

Mile 76.4, Sayabec: One 30-inch I-beam, 32 feet 8 inches, new concrete abutment.

Mile 78.5, Black River: One span 26-inch I-beam, 26 feet, new concrete abutments.

Mile 102.2, Metis River: Two D.P.G. spans, 105 feet, and two D.P.G. spans, 104 feet 6 inches; masonry altered.

Fredericton Subdivision.—Mile 49.2, Nelson Hollow: New steel superstructure, one D.P.G., 52 feet 3 inches, put in. Two new concrete abutments and a short diversion constructed.

Mile 86.9, Covered Bridge: New steel superstructure put in, and line diverted. One T.P.G., 62 feet.

Mile 105.3, Nashwaak Bridge: West abutment, one pier and diversion completed, and steel superstructure put in place. One D.P.G., 68 feet; one D.P.G. (skew), 82 feet 4 inches; two D.T. skew, 105 feet 2½ inches; one D.T. skew, 100 feet 3 inches.

Loggieville Subdivision.—Mile 1.5, Ivory Road: Steel overhead highway bridge, 72 feet long.

District No. 3—Halifax Subdivision.—Mile 0, Richmond Yard: Overhead foot bridge 234 feet long, on concrete substructure.

Mile 9.1, Dartmouth Road: Two 26-inch I-beams, 18 feet long. Masonry altered.

Mile 18.2, Beaver River: Two 24-inch I-beams, 21 feet 4 inches long. Masonry altered.

Mile 19.6, Rowden River: Three D.P.G. spans, 28 feet long. Masonry altered.

Mile 20.5, Wellington Canal: One D.P.G. span, 34 feet 6 inches, and one D.P.G. span, 54 feet long. Masonry altered.

Mile 29.4, Carsons: One 26-inch I-beam, 17 feet 6 inches long. Masonry altered.

Mile 38.2, McDiarmids: One 26-inch I-beam, 17 feet long. Masonry altered.

Mile 57.9, Lydia Brook, No. 6: One 26-inch I-beam, 18 feet long. Masonry altered.

Mile 58.4, Lydia Brook, No. 4: One 26-inch I-beam, 18 feet long. Masonry altered.

Truro Subdivision.—Mile 8.2, Stewarts: One D.P.G., 43 feet long.

Mile 14.5, Folleigh, viaduct: Two D.P.G., 53 feet 7 inches; five D.P.G., 60 feet; six D.P.G., 40 feet; and twenty-four new concrete pedestals.

Mile 23.2, Bennets: Two 20-inch I-beams, 18 feet 6 inches long. Masonry alterations.

Mile 47.1, River Philip: Three D.P.G. spans, 105 feet long. Masonry alterations.

Mile 62.9, Little Forks: One D.P.G. span, 104 feet 6 inches long. Masonry alterations.

Mile 64.69: New 18-inch C.I.P. culvert.

Mile 80.1, Missiquash: One T. P., 105 feet long. Masonry alterations.

Mile 96.3, Palmer's Pond: One D.P., 82 feet long. Masonry alterations.

Mile 97.0, Dorchester Subway: One 24-inch I-beam 22 feet 6 inches long. Masonry alterations.

Mile 111.2, Calhouns: One D.P.G. span 63 feet long. Masonry alterations.

Eight culverts were renewed with concrete pipe.

Nine culverts were renewed with cast-iron pipe.

St. John Subdivision.—Mile 23.9, Holmes Brook: One 20-inch I-beam, 18 feet long. Masonry alterations.

Mile 51.28, Sprouls Brook: One 30-inch I-beam, 32 feet long. Masonry alterations.

Mile 68.95, Matheson's Cove: One 26-inch I-beam, 27 feet long. Masonry alterations.

Moucton Yard: New double 6 feet by 6-inch concrete rail top culvert to replace wooden culvert.

Mile 28.41, Doody's Brook: New 10 feet rail top culvert to replace old steel beams.

Seven culverts were renewed with C.I.P.

Moucton: Contract has been let for the construction of a subway at Main street. Work was started December, 1914, and is about 10 per cent done; will be completed during the summer.

District No. 4.—Sydney Subdivision.—Mile 87.38: T.P.G. span, 47 feet 6½ inches long on concrete abutments over Regent street, North Sydney.

Mile 87.92: Overhead highway bridge on steel beams. Two 10-inch I-beams, 21 feet 8 inches; one 10-inch I-beam, 23 feet. Concrete pedestals and abutments, Fairmount avenue, North Sydney.

Mile 90.93: Overhead wood farm crossing on wood bents.

North Sydney: Creosoted pile trestle, 425 feet long, driven along south side of wharf freight shed to carry track. New deck put on wharf.

Mulgrave Subdivision.—Mile 56.1, French River: Span replaced with T.P.G., 87 feet long. Masonry replaced with concrete.

Mile 65.9, Barney's River West: Steel spans replaced by two spans D.P.G., 65 feet, and three spans D.P.G., 35 feet. Masonry replaced by concrete.

Mile 66.1, Barney's River East: H.D.P.G. replaced with 70 feet T.P.G. Masonry replaced by concrete.

Mile 81.1, Yankee Grant: T.P.G. in skew replaced with T.P.G., 74 feet long.

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Mile 82-19, Murphy's: D.P.G. span replaced T.P.G. span, 64 feet long.

Mile 84-4, West River: Wooden trestle replaced with concrete abutments and piers and twenty-nine 30-inch I-beams spans, 20 feet 4 inches long, and one T.P.G. span, 88 feet.

Mile 120-3, Mulgrave Road: D.P.G. span replaced with 30-inch I-beam span, 20 feet 6 inches.

Stellarton Subdivision.—Mile 63-85: M.W.S.S. replaced with heavy wooden stringers.

Mile 66-9, Haliburton's Creek: Three hundred feet of pile trestle filled and old deck removed.

Mile 67-7, Pictou Harbour: Twenty new piles, 62 stringers, 50 caps, and 302 ties were renewed on this bridge.

Mile 3-0, Oxford Subway: Grade crossing replaced by subway. Concrete abutments with reinforced concrete slab span, 20 feet clear opening. Main line raised 4 feet.

A general inspection of all bridges was made during the year, and all necessary repairs and painting done.

SCALES.

Quebec: Three new scales erected in freight shed.

Lévis: One new scale erected in temporary baggage room.

TIE PLATES.

Standard shoulder tie plates were put in as follows:—

District No. 1	20,000
" " 2	35,000
" " 3	25,000
" " 4	50,545
Total	150,545

SIGNALS.

A contract for the installation of automatic block signals was let to the Union Switch and Signal Company, as follows:—

Halifax to Windsor Junction	14	miles double track.
Painsec Junction to Moncton	7	" " "
Hampton to St. John	22	" (3 miles double track)
Total	43	"

Work was commenced April 15, 1914, and completed August 31, 1914.

STAFF SYSTEM.

The staff system has been installed as follows:—

Gibson to Fredericton	1 mile of track
Horlaka Junction to Lévis	4.6 miles of track.

TELEPHONE DESPATCHING.

Contracts for the installation of the telephone despatching system were let as follows:—

Halifax to Moncton, 186 miles, to the Northern Electric Company, Limited. Work was commenced April 1, 1914, and completed May 7, 1914.

Moncton to St. John, 89 miles, to the Hall Switch and Signal Co. Work commenced January 8, 1914, and was completed February 20, 1914.

ELECTRIC CROSSING BELLS.

Electric crossing bells have been installed as follows: Duclous siding, Chatham, and Bennet's crossing.

TELEGRAPH LINE.

Telegraph line from Ste. Rosalie Junction to Moncton, on the Great North Western Company's poles, has been completed with the necessary instruments.

ELECTRIC LIGHTING.

Halifax.—Completed installation of motor generators set, switch board, wiring, etc., for charging car lighting storage batteries.

Motor installed to operate grain conveyor. Primary line to feed new pier No. 2 installed, transformers, switches, meters.

Installed local telephone system in grain elevator and conveyor.

Installed Watthour meter in switchboard at new pier No. 2, to register current for lighting Immigration Department.

Installed motor for circular saw in carpenter shop.

Truro.—Installed generator and engine in Truro power-house for lighting railway premises.

Sussex.—Installed cast-iron lighting posts and clusters for lighting station platform.

Moncton.—Vaults in general office basement wired, and necessary electric lights installed.

Bathurst.—Changed electric light wires from transformers to station and freight house, and put them in conduits underground.

Campbellton.—Stores and office building rewired for lighting, wires put in conduit. Electric light wires from roundhouse to coal shed in car shop and in generator room all put in conduit.

Moncton.—A private branch telephone exchange system was installed and put into operation January 15, 1915.

The switchboard, power board, motor generator set, and storage batteries are located in the general offices building. There are 108 telephones on this system, and these serve the different offices of the general offices building, station, mechanical offices, shops, freight shed, roundhouse, etc. Trunk lines have been provided between the railway exchange and the New Brunswick Telephone Company's exchange, enabling connections for long distance service.

St. John.—A private branch telephone exchange system was installed and put into operation December 1, 1914.

The switchboard is located in the railway station. There are twenty-five telephones on this system, and these serve the freight and passenger offices, freight shed, station offices, roundhouse, etc. Trunk lines have been provided between the railway exchange and the New Brunswick Telephone Company's exchange, enabling connections for long distance services.

General.—Electric wiring in all railway buildings inspected, and all necessary repairs and changes made.

C. B. BROWN,

MONCTON, N.B.

Chief Engineer.

SESSIONAL PAPER No. 20

PRINCE EDWARD ISLAND RAILWAY.

ROAD-BED AND TRACK.

Subdivision and Branch.	TABLE OF MILEAGE.	
	Main Line.	Passing Sidings, other Sidings, and Spurs.
	Miles.	Miles.
Charlottetown.....	116.1	16.0
Souris.....	54.7	4.8
Georgetown.....	23.4	2.9
Cape Traverse.....	11.8	1.0
Murray Harbour.....	47.8	4.8
Elmira.....	9.9	0.9
Montague.....	6.2	0.4
Vernon.....	4.3	0.4
Total Prince Edward Island Railway..	275.2	31.2

RAILS.

No rails were renewed during the year. The mileage of the various weights of rails in the main line is as follows:—

	Miles.
Track miles of 50-lb. rails.....	3.6
“ “ 52-lb. “.....	94.1
“ “ 56-lb. “.....	41.7
“ “ 58-lb. “.....	134.2
“ “ 67-lb. “.....	1.6

TIE RENEWALS.

Ties have been renewed during the year as follows:—

Subdivision.	Main Line.	Average per mile.	Sidings.	Average per mile.
Charlottetown.....	28,918	249	900	56
Souris.....	9,698	177	273	56
Georgetown.....	4,768	195	200	69
Cape Traverse.....	900	76	100	100
Murray Harbour.....	6,272	131	100	21
Elmira.....	36	4		
Montague.....	981	158		
Vernon.....	1,220	284		
Total.....	52,793	191	1,573	52

Fifteen sets switch ties were renewed.

BALLASTING.

There were 8.8 miles of track ballasted with sand.

There were 2.4 miles of track ballasted with cinders.

DITCHING.

A total of 1·7 miles of ditching has been done.

PRIVATE SIDING.

A private siding, 560 feet long, was put in at Summerside for Joseph Read & Company.

BUILDINGS.

New buildings, platforms, etc., or alterations or additions to existing buildings, were constructed during the year, as follows:—

Charlottetown Subdivision.—Mile 91·5, Duvar: Standard No. 1, shelter.

Mile 88·3, O'Leary's: New kitchen to agent's dwelling, 15 feet by 20 feet.

Mile 56·9, St. Nicholas: New station platform.

Mile 48·2, Summerside: freight office was extended 12 feet by 20 feet, and six storm windows put on, and extensive repairs made to station, inside and outside.

Mile 34·4, Freetown: Station was raised and new stone foundation put under it, and a new flue built and two new windows and doors put in.

Mile 31, Emerald: Station raised 16 inches and a new stone foundation put under it. New sills and joists put in where necessary. New floors were laid in waiting room, office, and freight shed. Waiting room and office were lined with beaver board and painted. New telegraph table put in. Two new doors and windows put in agent's dwelling. Two new flues were built. A new station platform was made in front of the freight shed. Two new doors were put in freight shed.

Mile 13·4, Colville: A new station platform was built.

Mile 9·9, Milton: A new flue was built in station.

Charlottetown: Track scale house was moved back from track. Freight house on wharf was raised and repaired.

Souris Subdivision.—Souris: A partition was put up in general waiting room to provide a ladies' waiting room. A new station platform was built. New hardwood floors were put in waiting room, office, and agent's kitchen.

Mile 52·4, New Zealand: Standard No. 1 shelter.

Mile 50, Beaver River: A new counter built in office, and hardwood floor put in. Waiting room and office sheathed and painted.

Mile 40·6, Five Houses: Standard No. 1 shelter.

Mile 29·9, Lot 40: A new station platform.

Mile 23·7, St. Andrews: Standard No. 1 shelter.

Montague: A new station platform was built.

Murray Harbour Subdivision.—Mount Herbert: A new station platform was built.

Iris: A new station platform was built.

General.—All necessary repairs and painting required for the proper maintenance of buildings was done.

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FENCING.

New wire fences and snow fences have been erected as follows:—

Subdivision.	Woven Wire.	Snow Fence.	New Gates.
	Miles.	Miles.	
Charlottetown	9.8	2.1	50
Cape Traverse	0.5		5
Georgetown	3.1	0.4	15
Souris	1.6	0.6	20
Murray Harbour		0.2	15
Total	15.0	3.3	105

All repairs required for the proper maintenance of fences have been made.

BRIDGES AND CULVERTS.

Charlottetown Subdivision.—Mile 28.5, Breadalbane Bridge: Two new bents put in.

Mile 119.2: Concrete pipe culvert put in 24 inches by 60 feet long.

Mile 100.5: Concrete pipe culvert put in 24 inches by 40 feet long.

Mile 46.1: Concrete pipe culvert put in 18 inches by 32 feet long.

Mile 49.0: Timber culvert 2 feet by 4 feet by 25 feet long rebuilt.

Mile 61.2: Timber culvert 2 feet by 4 feet by 20 feet long rebuilt.

Souris Subdivision.—Mile 31.3, Morell: New abutment built.

Georgetown: A new concrete pipe culvert, 24 inches by 24 feet long.

All repairs required for the proper maintenance of bridges and culverts were made.

C. B. BROWN,
Chief Engineer

NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY.

This road was taken over August 31, 1914, as the Cape Tormentine subdivision of the Interecolonial railway, and forms the connecting link between the main line of the Interecolonial and the new car ferry to be operated between Cape Tormentine, New Brunswick, and Carleton Point, Prince Edward Island.

The length of main line from Sackville to Cape Tormentine is 35.79 miles.
 Passing sidings, 0.93 mile. Other sidings and spurs, 3.56 miles.

RAILS.

From mile 0.82 to 4.05 was relaid with 56-pound rails, a distance of 3.23 miles.

TIE RENEWALS.

There were 13,871 main line ties renewed.

MEETING SIDINGS.

A new meeting siding was put in at Melrose, 841 feet long.

PRIVATE SIDINGS.

Mile 16: A siding 700 feet long, put in for O'Brien and Doheny.

WATER SERVICE.

Mile 16: Built housing around tank.

Cape Tormentine: Laid new pipe from gravity supply to tank.

BUILDINGS.

Sackville: Built new tool house.

Upper Sackville: Built new standard No. 1 shelter.

Cape Tormentine: Moved and repaired engine house.

TURNTABLE.

Replaced wooden turntable 65 feet long with 75 feet P.G. table from St. John.

SURVEYS.

Chainage has been made and subdivision mileage established, and mile-posts erected between Sackville and Cape Tormentine.

General.—Repairs necessary for proper maintenance have been made.

C. B. BROWN,

Chief Engineer.

INTERNATIONAL RAILWAY.

This road was taken over as the International subdivision of the Intercolonial railway on August 1, 1914.

It forms a short connection between northwest New Brunswick, at Campbellton, and the upper St. John valley, at St. Leonards, where it connects with the Canadian Pacific railway; also by means of the Van Buren Bridge Company's tracks, with the Bangor and Aroostook railway in the state of Maine, and with the National Trans-continental railway.

MILEAGE.

Campbellton to St. Leonards—

Main line	111.30 miles.
Passing Sidings	1902 feet.
Other Sidings	5969 feet.

TIE RENEWALS.

A total of 3744 track ties were renewed during the year.

INTERSWITCHING TRACKS.

A frog and switch were put in at mile 109.6 connecting with the Van Buren Bridge Company's tracks.

WATER SERVICE.

A syphon was put up at Black River for watering engines.

FENCING.

Built 400 feet of snow fence.

TURNTABLE.

Two layers of timber were put under concrete centre of St. Leonards turntable. Turntable at Campbellton taken up and shipped to Gagetown.

SURVEYS.

Plans and profiles were made for new bridges at the following places: Mile 27.5 Grey Brook No. 4, Mile 27.6 Grey Brook No. 5, Mile 75.3 Jardine's Brook, Mile 91.5 Big Forks.

General.—Necessary repairs required for the proper maintenance of bridges and buildings were made.

C. B. BROWN,

Chief Engineer.

NATIONAL TRANSCONTINENTAL RAILWAY.

ROAD-BED AND TRACK.

Subdivision.	TABLE OF MILEAGE.			
	Main Line.	Second Main Line.	Passing Siding.	Other Sidings and Spurs.
	Miles.	Miles.	Miles.	Miles.
Moncton to Napodogan...	117.50		8.50	8.61
Napodogan to Edmundston	113.25		7.96	3.29
Edmundston to Monk...	124.60		10.34	2.02
Monk to Chaudière.....	99.80		8.96	4.83
Total for National Transcontinental Railway	455.15		35.85	18.75

RAILS.

Track all laid with 80-pound steel. None renewed during the year.

TIE RENEWALS.

Ties have been renewed during the year as follows:—

Moncton to Napodogan.....	9,694	main line.
Napodogan to Edmundston.....	13,143	" "
Edmundston to Monk.....	231	" "
Monk to Chaudière.....	Nil.	

Total..... 23,060

PRIVATE SIDINGS.

The following private sidings were constructed during the year:—

Location.	Name of Firm or Person.	Length.
		Feet.
Moncton to Napodogan, Mile 75.2.....	Sayre and Holley.....	600
Edmundston to Monk, Mile 36.....	Donald Fraser and Sons.....	2,000
" " " " 45.7.....	Glendyne State Co.....	570
	Blue River Lumber Co..	1,700
		4,870

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WATER SERVICE.

The gravity water supply at Napodogan proved inadequate, and it was therefore necessary to put in a new supply. A standard well, 18 feet deep, was dug near the engine house and connected with a steam pump in the engine room. A 6-inch pipe was laid from the pump to the tank, thus connecting the water main in the yard with the new system. There is now 11 feet of water in the well, and an abundant supply for all future requirements.

All repairs required for the proper maintenance of the water service were made.

FENCING.

The following wooden snow fences were erected:—

Moncton to Napodogan..	2,400 lineal feet.
Edmundston to Monk..	2,400 " "
Monk to Lévis..	31,200 " "
Total,	36,000

NEW LINE TAKEN OVER.

During the year the main line of the National Transcontinental Railway was taken over, and put in operation between Escourt and Diamond Junction, a distance of 168.9 miles.

C. B. BROWN,
Chief Engineer.

ST. JOHN AND QUEBEC RAILWAY.

This road was taken over from Fredericton to Centreville on January 1, 1915, and from Fredericton to Gagetown on March 2, 1915, and is being operated by the Canadian Government Railways.

Mileage.	Main Line.	Passing Sidings	Other Sidings.
	Miles.	Miles.	Miles.
Fredericton to Centreville.....	88.69	4.078	3.452
" " Gagetown.....	30.13	.....	.....
	118.82	4.078	3.452

General.—Repairs necessary for the proper maintenance of bridges, buildings and road-bed have been made.

C. B. BROWN,
Chief Engineer.

HALIFAX OCEAN TERMINALS.

PROGRESS REPORT FOR THE YEAR ENDED MARCH 31, 1915.

HALIFAX, N.S., March 31, 1915.

The works now in progress in connection with the Halifax Ocean Terminals were originally divided into three contracts. Two of these contracts—Nos. 1 and 2—covering the grading of the Halifax Ocean Terminals railway and the construction of the breakwater were let as one contract to the Cook Construction Company, Limited, and Wheaton Bros., and Contract No. 3 for the first unit of the docks was let to Messrs. Foley Bros., Welch, Stewart & Fauquier.

HALIFAX OCEAN TERMINALS RAILWAY.

Contracts Nos. 1 and 2 (let as one contract).

Contractors, The Cook Construction Co., Ltd., and Wheaton Bros.

Works included: Contract No. 1, grading of railway from Rockingham to Jubilee House, about 3½ miles, and including the formation of a freight terminal yard in Bedford basin and a diversion of the Intercolonial railway at Fairview. Contract No. 2, grading of railway from Jubilee House to Halifax harbour, including filling along the west shore of Halifax harbour from proposed bulkhead quays and piers, and the construction of a rubble mound breakwater.

Date of acceptance of offer, July, 1913.

Work begun, July 31, 1913.

Date specified for completion of works, July 1, 1915.

Estimated amount of contract:—

Contract No. 1	\$ 407,995 00
Contract No. 2	1,035,160 00
	<hr/>
	\$1,443,155 00

Percentage of work done March 31, 1914, 8 per cent (based on estimated cost of \$1,443,155).

Percentage of work done March 31, 1915, 68 per cent.

Percentage of work done during year 1914-1915, 60 per cent.

Clearing and Fencing.

Practically all of the right-of-way for the railway has been cleared and fenced.

Grading.

Jubilee House to Fairview.—The filling for the widening of the embankment along the west shore of Bedford basin on the east side of the main line of the Intercolonial Railway to carry the two new lead tracks to the new terminal yard from station 230-00 to station 149-00 (I.C.Ry. chainage) has practically been completed up to subgrade with the exception of a short length over a slight sink hole at the north end of Rockingham station, where final settlement has not yet taken place.

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The sea-slope of this embankment has partly been random ripped with heavy rock to protect it from the action of the waves in Bedford basin.

About 60 per cent of the filling for the new freight terminal yard in Bedford basin between Rockingham and Fairview has been done, for the most part in the northern section of the yard.

A temporary junction with the existing main line of the I. C. Ry. about 160 yards east of the old Three-mile House is used by the contractors' construction trains.

Station 37+50 to station 76+50. Stanfords Pond to Mumford Road.—The gully out of the cutting has been taken out to the full width down to subgrade. This cutting at subgrade has been made 35 feet wide to provide for the proper drainage of the heavy flow of water found.

The spilled material from the steam shovels along the tops of the slopes has still to be removed, and the slopes have still to be flattened and trimmed.

The shale and slate rock encountered in this cutting were of a very variable nature and degree of hardness. The strata were much distorted, and in some places were almost vertical and generally very crumpled and faulty.

The drilling and blasting of this distorted and faulty rock presented considerable difficulties, and the progress made was much slower than had been anticipated by the contractors. As a rule, springing of the drilled holes was impracticable, and 6-inch diameter holes had to be drilled with drills of the well-sinking type. In nearly all of the drilled holes water rose to the surface of the rock.

Station 76+50 to station 124+50—Mumford Road to Quinpool Road.—The cuttings and embankments are nearly completed to subgrade with the exception of the opening at the temporary wooden trestle over Chebucto road, station 101+60 to station 102+50.

Station 124+50 to station 145+50. Quinpool Road to Jubilee Road.—The surface materials overlying the solid rock to a depth of about 7 feet have been removed, and the surface of the rock exposed for drilling, which has been done with electric well-drills up to station 138+00, near Jubilee House.

The blasting of the rock in this section has been done up to station 130+00 near Prince Arthur street.

The old building known as the "Annex" to Jubilee House was sold by auction and removed from the right-of-way to a site on Quinpool road.

Jubilee House is being used by the contractors as a construction camp for their men.

All of the materials north of Jubilee House which have not been required for the railway embankments and filling of station grounds have been hauled to the new terminal yard being formed in Bedford basin.

A temporary wooden trestle bridge for vehicular traffic has been constructed over the railway cutting at Bayers road.

A slight diversion of this road was made northward so as to keep the temporary bridge clear of the permanent bridge which will later be constructed on the lines of the present roadway.

At Mumford road, a temporary grade crossing has been maintained over the railway.

Chebucto road is crossed by the contractors' construction tracks on a temporary timber trestle, giving ample clearance above the roadway.

Quinpool road and the Halifax Electric Tramway Company's tramway line have been diverted along the east side of the railway right of way to pass under a temporary timber bridge in the railway embankment at station 101+50, and through the lot of land purchased from Judge Wallace to rejoin the old roadway along the Northwest Arm.

A temporary road has also been constructed on the west side of the railway and inside of the right-of-way, to connect Quinpool road and Prince Arthur street.

Station 145+00 to station 182+50. Jubilee Road to Oakland Road.—No grading has yet been done. A stable and coach house building which stood on the railway right-of-way where it passes through the property formerly owned by Sir Sandford Fleming, K.C.M.G., has by arrangement been moved by the owners westward and clear of the railway right-of-way.

Station 182+50 to station 217+00. Oakland Road to "Maplewood" Driveway.—This section has for the most part been drilled to the full width with "Cyclone" electric drills, and blasted to subgrade, but the loosened rock and other materials have not yet been excavated.

"Oaklands House" (Station 191+00), formerly the property of Mr. Roderick McDonald, and sold by the Government at auction to Mr. F. B. McCurdy, M.P., was, while in course of being removed bodily from the railway right-of-way, burned down on Tuesday, the 29th December, 1914. Most of the ruins and debris have now been removed.

A temporary road has been constructed inside the railway fence along the east side of the right-of-way from "Winwick" avenue, station 201+00 to station 205+00, to give access to the cottages or bungalows in the Marlborough Woods subdivision west of the railway.

Station 217+00 to station 241+00. Maplewood driveway to Young Avenue.—On this section of the railway, good progress has been made in the deep and wide cutting, which has now been taken out to an average depth of 40 feet and width of about 95 feet.

The drilling of the rock over about one-half of this cutting is now down to the full depth required.

A temporary bridge for vehicular and pedestrian traffic has been erected over the cutting at Bower road, station 224+50. This bridge consists of two-timber "Howe" trusses with 93-foot span, and carries a 12-foot roadway with a sidewalk 4 feet wide on the west side, and on the east side a box containing water and gas supply pipes, with ample frost protection.

A temporary foot bridge of the "suspension" type, with steel wire ropes and timber towers, trusses and floor system with a span of 150 feet and foot-way 5 feet in width has been constructed for pedestrian traffic at station 238+10 to the west and clear of the site of the permanent bridge to be constructed to carry Young avenue over the railway cutting. Temporary stairways for foot passengers, and later a timber trestle bridge for vehicles were provided at this crossing previous to the erection of the suspension bridge.

Temporary roads have been constructed along the south side of the railway cutting and outside of the railway fence between Bower road and Tower road, and also on the line of Clarence street (proposed) between Bower road and Young avenue.

East of Young avenue the heavy excavations for the terminal yards have been continued steadily, and good progress has been made from the main line tracks at Young avenue northeastward and eastward to the harbour and north of the Bauld property.

A temporary road or diversion of Pleasant street from the old distillery to Owen street has been maintained throughout the progress of the excavations, as has also been the Halifax Electric Tramway Company's branch line to Point Pleasant park.

The filling of the reclaimed areas in the harbour for the terminals east of Pleasant street has been carried northward to the lumber yard pier and southward to the north boundary line of Point Pleasant park. This filling is now being extended outward into the harbour north of basin No. 1 so as to leave for the present a distance of about 250 feet, from the top of the slope of the filling to the cope lines of the proposed quay walls.

The houses, wharves and structures which stood on the site of the railway and terminal works have been removed or taken down from time to time as was required by the progress of the works. The houses have been sold by auction, and taken down or

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removed bodily by the respective purchasers. In the case of the old steam laundry on Pleasant avenue, the laundry building and adjoining house have been handed over to the contractors for use as camp buildings for their men, and for subsequent removal by the contractors.

PERMANENT DRAINAGE.

The following concrete culverts have been built:—

Station 27+70.—5 feet by 5 feet by 24.5 feet, channel for stream diversion under H. & S. W. railway.

Station 28+50.—3 feet by 8 feet by 46.7 feet, box culvert under main line.

Station 75+75.—2½ feet by 3½ feet by 30.5 feet, box culvert under main line.

Station 76+40.—4 feet by 125.6 feet, arch culvert under Mumford road diversion.

Station 84+10.—2 feet by 2 feet 9 inches by 38.5 feet, box culvert under main line.

Station 91+00.—2 feet by 2 feet 9 inches by 38.5 feet, box culvert under main line.

Station 107+64.3.—4 feet by 82 feet, arch culvert under main line.

Station 115+44.—4 feet by 5 feet by 43.3 feet, box culvert under main line.

3 feet by 5 feet by 72.5 feet, box culvert under Quinpool road to Northwest Arm.
2 feet by 5 feet by 130 feet, flume connecting above two culverts for main drainage outlet to Northwest Arm.

The brooks which formerly entered Stanford's pond on the east and west side of the railway have been diverted along channels parallel to the railway on the east and west sides and excavated to depths 4 feet below subgrade of the railway cutting. The water from the brook on the west side has been carried under the railway by a concrete culvert at station 28+50 and, after joining the stream diversion on the east side, passes through a concrete drainage channel under the H. & S. W. railway into the old brook channel leading through the Carritte Paterson Manufacturing Company's property and under the I. C. R. into Bedford basin.

Catch water ditches along the east side of the railway right of way have been put in from station 82+00 to station 93+00, and the water from them has been carried under the railway through the concrete culvert at station 84+10 and station 91+00 to the brook on the west side of the railway, the bed of which was lowered from station 85+00 to station 93+00 of the railway chainage to secure efficient drainage.

The surface drainage water and a small brook north of Chebucto road have been carried under the railway and proposed station grounds by a 4-foot arch culvert at station 98+91.

An arch culvert at station 107+64 has been constructed to pass the drainage water from the steep side hill east of the railway and south of Chebucto road under the railway embankment to the Northwest Arm.

A 5-foot by 4-foot concrete culvert under the railway at station 115+44, with a connecting concrete-lined drainage channel or flume to Quinpool road and a culvert under the latter to the Northwest Arm, have been provided to carry off the heavy flow of drainage water from the railway cuttings east and south of this culvert, and of surface water brought down by the existing ditches paralleling Quinpool road east of the railway.

The railway cutting north of Quinpool road will be widened and deepened to provide satisfactory drainage ditches and outlets.

Timber Culverts.

Timber box culverts to pass the water from the west through the filling from the widening and terminal yard in Bedford basin are being constructed as follows:—

Station	198+00	(I.C.Ry.),	2 feet by 3 feet.
"	210+00	"	2 feet by 2 feet.
"	216+50	"	2 feet by 3 feet.
"	9+50	(H.O.T.Ry.),	4 feet by 3 feet.
"	13+00	"	2 feet by 3 feet.

These temporary culverts are to be replaced with culverts of permanent construction after the filling has thoroughly settled and consolidated.

House Drainage and Sewers.

The existing house drains and cesspools were cut off by the railway works at "Pinehurst" (station 133), the property of Mr. Robert C. O'Mullen, and at the "Bower" (station 224) the property of Mr. W. B. A. Ritchie. New concrete cesspools and drainage connections have been provided at these two properties clear of the railway right of way, and built in accordance with the detailed plans and requirements of the city board of health.

The 20-inch by 30-inch egg-shaped concrete sewer in Young avenue, south of the railway, has been cut off and diverted by a temporary wooden box sewer into a temporary wooden settling tank. The effluent from the settling tank is led off into the harbour by an open ditch.

The 36-inch diameter concrete sewer in Plover street has also been cut off and will be similarly dealt with, but a temporary settling tank has not yet been constructed.

The 96-inch diameter main outfall sewer which discharged at the old Esplanade now discharges into the harbour through a ditch or depression formed in the filling.

A piled timber trestle has been constructed over the length of this sewer outlet to carry the contractors' temporary construction tracks, for filling the harbour areas to be reclaimed to the north and east of the Esplanade.

Temporary wooden box drains have been provided where required through the new filling to carry into the harbour the drainage from the houses on Pleasant street formerly owned by Mr. H. R. Silver and Mr. S. M. Brookfield.

Along the western shore of Bedford basin the drains from Mount St. Vincent Academy and other buildings have been extended through the filling for the new terminal yard with temporary wooden box drains which are to be replaced with pipes or permanent work after the filling is thoroughly settled and consolidated.

Water Supply.

The railway has been carried over the main water supply pipes from the chain of lakes to the city of Halifax by concrete relieving arches or culverts constructed over the mains at station 92+00, where there is a 24-inch diameter cast-iron pipe, and at station 104+00 where there are two cast-iron pipes 24-inch diameter and 15-inch diameter respectively. These arches provide perfect protection to the mains, and give easy access for inspection, repairs, renewals, or alterations to the pipes, without affecting the railway or its operation.

Two shallow wells for supplying water to the houses owned by Dr. J. Gordon Bennett, one on each side of the right of way on the north side of Munford road were affected by the railway works, and they have been deepened and reconstructed.

The branch water supply pipes from the city water main to Mr. H. S. Tremain's houses on Quinpool road were lowered for frost protection where they pass under the railway catch-water ditches and were laid inside 8-inch diameter cast-iron protecting pipes where they pass under the railway embankment at station 109+49.

A temporary pipe line across the railway cutting is being maintained south of Quinpool road for the water supply of "Armdale" from the city mains.

A new 6-inch diameter cast-iron pipe line has been laid along Bower road from Tower road with temporary wrought-iron section over the temporary traffic bridge, and is connected with the old city mains in Bower road and Franklin street, Miller street, and Tower road south of the railway.

A temporary 6-inch diameter wrought-iron pipe line was laid along the line of Miller street and connects the existing cast-iron mains in Tower road with those in Young avenue so that all of the district south of the railway is supplied with water both for domestic purposes and for fire protection.

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A branch pipe line from the new main in Bower road has been laid to the "Bower" and to the "Oaks," in the former case to replace an existing connection with the city main, and in the latter to replace the water supply formerly obtained from wells which had dried up.

A temporary 4-inch diameter wrought-iron pipe line diversion from about 100 yards south of the old distillery to the "Bauld" property was laid through the terminal yard east of Pleasant street and connected at both ends with the old main in Pleasant street.

The old 6-inch diameter cast-iron pipe line in Plover and Owen street have been cut off and stopped clear of the terminal yard excavations.

Gas Supply.

The 4-inch diameter gas main in Bower road, after being carried for some considerable time in a temporary surface pipe line has been diverted over the temporary traffic bridge at Bower road and connected up with the old main in Bower road south of the railway cutting.

Pole Lines, Wires and Cables for Telegraph, Telephone and Electric Power Transmission.

The poles, wires, and cables of the W. U. Telegraph Company; Canadian Pacific Railway Company Telegraphs; Intercolonial Railway Signal System; Maritime Telegraph and Telephone Company; Halifax Electric Tramway Company's electric lighting and power lines; military cables, etc., have been taken down and removed, diverted, and reconstructed and altered where required by the new works or for safety or in order to be clear of the contractors' plant and operations. Great care has been taken in all cases to maintain these services as far as possible without interruption.

Breakwater.

In June, 1914, the contractors began work on the rubble mound breakwater from "Prince of Wales Cove" to the "Reid" Rock buoy.

This breakwater consists of a rock-fill or embankment formed of rock excavated with steam shovels from the railway cuttings west of Young avenue, and has been dumped from 16 cubic yards standard gauge air side dump cars.

A temporary timber trestle about 300 feet in length was first used for dumping from the shore end, and beyond that the dumping has been done from a steel span 40 feet long supported at its inner end on the end of the rock embankment and at the outer end on a timber scow 34 feet wide by 90 feet long by 8 feet deep, subdivided by bulkheads and provided with steam hoisting engine and centrifugal pump for moving the scow and span and for adjusting the scow by water ballasting to suit all stages of the tide. This scow also carries tail track for three of the 16 cubic yards standard gauge dump cars.

The core of the breakwater is now extended 1,300 feet from the shore, and the greatest depth of water yet found is 50 feet below low water of ordinary spring tides.

The riprapping of both slopes of the core to form the sides of the breakwater with large blocks of rock weighing 5 to 8 tons each has been advanced immediately behind the core filling. A steam locomotive crane is being used for loading and unloading and placing the larger blocks of rock.

This simple method of constructing the breakwater has proved very efficient and, in spite of the usual weather conditions since the commencement of the work, no serious damage has been done to the breakwater or contractors' plant, and there has been very little time lost on account of storms.

Appended are the following: Statement of men employed; list of contractors' plant on works; statement of estimated quantities of work done.

JAMES MCGREGOR,

Superintending Engineer.

6 GEORGE V. A. 1916

NUMBER of Men Employed (Exclusive of Office Staff, Superintendents, and General Foremen) by the Cook Construction Company Limited, and Wheaton Brothers. Average per day per month for year April 1, 1914, to March 31, 1915.

	Contract I.	Contract II.	Total.
1914.			
April..	107	108	215
May..	151	158	309
June..	195	228	423
July	199	314	513
August..	193	281	474
September..	220	344	564
October....	169	392	561
November..	148	375	523
December..	149	334	483
1915.			
January..	145	270	415
February..	151	294	425
March....	127	328	455

Construction work has been carried on continuously by day and night shifts all the year round.

CONTRACTS Nos. I and II. The Cook Construction Company, Limited, and Wheaton Brothers, contractors. Statement of Plant on Works, March 31, 1915.

- 2 100C "Bucyrus" steam shovels, with 3 cubic yards dippers; 2 extra booms for same; 2 extra dippers for same; 1 extra dipper arm for same; 1 short jack arm; 2 extra hoisting chains.
- 1 70C "Bucyrus" steam shovel, with 2½ cubic yards dipper; 1 extra boom for same; 1 extra dipper for same; 1 extra dipper arm for same; 1 extra hoisting chain for same.
- 2 model 60 "Marion" steam shovels, with 2½ cubic yards dippers; 2 extra dippers for same; 1 extra hoisting chain for same.
- 4 standard gauge 6-wheel 65-ton locomotives, with tenders, 2 "Davenport," 2 "Baldwin."
- 28 standard gauge 16 cubic yards side air dump cars.
- 2 I. C. Ry. flat cars, 60,000-pounds capacity.
- 1 "Jordan" spreader No. 3.
- 7 three-foot gauge 4-wheel 15-ton locomotives, "Davenport."
- 1 "McMyler Interstate" locomotive steam crane, 25-ton capacity, 60-foot steel boom, one-1½ cubic yards Orange Peel bucket, one 1½ cubic yards Clam Shell bucket.
- 82 4 cubic yard 3-foot gauge side dump cars, Western Wheeled Scraper Co.
- 8 1½ cubic yard dump cars.
- 1 scow 34 feet by 90 feet, fitted with 40-foot steel span, centrifugal pump, and hoisting engine, used at breakwater.
- 1 "Smith" concrete mixer, wagon type, steam, portable, half cubic yard capacity.
- 1 steam pile driver, 45-foot leads, hammer 2,000 lbs., double drum direct connected engine.
- 4 traction electric "Cyclone" drills, size of bit, 5½".
- 4 non-traction electric "Cyclone" drills, size of bit, 5½".
- 4 steam "Cyclone" drills, size of bit, 5½".
- 1 small steam "Cyclone" drill, size of bit, 3".
- 2 non-traction electric "Clipper" drills, size of bit, 5½".
- 1 "Ingersol Rand" wagon drill, traction, size of bit, 3½".
- 7 5-C "Temple" electric Ingersol rand drills, size of bit, 3".
- 8 No. 44 Ingersol rand steam piston drills, size of bit, 2½".
- 2 No. 43½ Ingersol rand steam piston drills, size of bit, 2½".
- 3 "Sullivan" steam piston drills, size of bit, 2½".
- 2 "Burrell" steam piston drills, size of bit, 2½".
- 1 "Napanea" steam piston drill, size of bit, 2½".
- 4 "Hary" jackhammer drills.
- 4 "Rand" jackhammer drills.
- 2 stationary water tanks, 10 feet by 12 feet.
- 2 large car water tanks, 4 feet by 8 feet by 24 feet.
- 1 small car water tank, 4 feet by 6 feet by 12 feet.
- 2 portable wagon tanks, one steel, one wood.

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- 4 steam pumps.
- 8 miles temporary track, standard gauge.
- 2 miles temporary track, narrow gauge.
- 17 standard switches.
- 7 narrow gauge switches.
- 7/8 mile 20-pound rail.
- 1 1/2 miles 2-inch pipe line.
- 1 mile 1 1/2-inch pipe line.
- 2 standard gauge push cars.
- 2 3-foot gauge push cars.
- 2 standard gauge hand cars.
- 1 "Overland" 1913 model automobile.
- 2 horizontal 20-horsepower "Robb Brady" boilers, 120 pounds per square inch working pressure.
- 1 horizontal 10-horsepower "Matheson," boiler being repaired.
- 1 upright 8-horsepower boiler.
- 2 Ingersol Rand compressors, 180 cubic feet capacity, 100 pounds per square inch.

MACHINE SHOP EQUIPMENT.

- 1 "Lodge & Shirley" 20-inch stepcone lathe.
- 1 "Oster" pipe machine, capacity, 1/2" to 2 1/2" bolt dies, 1/2" to 6" pipe dies.
- 1 "Barnes" drill press, 34".
- 1 "Massey" electric air hammer.
- 1 24 inches "Ohio" shaper.
- 1 20-horsepower motor.
- 1 20-horsepower motor, 500 rev. squirrel-cage type.
- 10 blacksmith forges.
- 10 anvils and outfits.
- 5 2-horse teams.
- 1 driving horse.
- 7 wagons.
- 4 sets sleighs.
- 6 dump carts.
- 3 camps and equipment for 250 men at each.
- 2 stables for twelve horses.

QUANTITIES.—Contract Nos. I and II.—The Cook Construction Company, Limited, and
Wheaton Brothers.

Item.	Description.	Unit.	Total Estimated at letting of Contract.	Total Work done Year 1914-15	Total Work done to Date.
1	Clearing.....	Acre	53	21-47	75-02
2	Grubbing.....	10,000 s.f.	8	22-29	35-89
3	Cutting down dangerous trees.....	Each	30	33	33
4	Solid rock excavation, 3 mile free haul.....	Cu. yd.	1,120,000	711,905	814,329
5	Loose rock excavation " ".....	"	75,000	4,119	21,741
6	Hard-pan excavation " ".....	"	40,000	48,153	74,493
7	Earth excavation " ".....	"	70,000	4,645	14,209
8	Wet excavation for foundations, solid rock.....	"	1,300	22	22
9	Wet excavation for foundations, all materials other than solid rock.....	"	1,000	51-5	51-5
10	Overhaul all materials per cu. yd. per mile over the 3-mile free haul (rate 1c.).....	"	50,000		
11	Piling in structure.....	Lin. ft.	4,000	2,119	2,119
12	Piling cut-off.....	"	2,000	134	134
13	Pile driving.....	"	2,000		
14	Sheet piling.....	M ft. b.m.	11		
15	Paving for culverts (not laid in cement).....	Cu. yd.	300	67	67
16	Hand-laid rip-rap.....	"	300	460-7	500-7
17	Removing stones and large blocks of rock from reserve piles, and depositing same on slopes of breakwater and sea-slopes of yards; limit of haul, 3 miles.....	"	100,000	57,330	57,330
18	Temporary timber bridges for railway, highway, street and private road crossings, and other timber work and structures.....	M ft. b.m.	550	186-636	188-766
19	Planking for highway and private road crossings	"	35		
	Vitrified pipe culverts—				
20	12-inch diameter.....	Lin. ft.	200		
21	15 ".....	"	200		
22	18 ".....	"	200		
	Vitrified pipe drains or sewers, laid and jointed with rope yarn and 1 to 1 cement mortar—				
23	4 inch diameter.....	"	2,500		
24	6 ".....	"	2,500	772	772
25	9 ".....	"	2,500		
26	12 ".....	"	2,500	145	145
	Reinforced concrete pipe—				
27	24-inch diameter.....	"	600	30	30
28	27 ".....	"	200		
29	30 ".....	"	700		
30	33 ".....	"	1,600		
31	36 ".....	"	200		
	Cast iron pipe culverts—				
32	16-inch diameter.....	Lin. ft.	200	38	38
33	18 ".....	"	200		
34	20 ".....	"	200		
35	24 ".....	"	200		
	Agricultural under tile drains—				
36	4-inch diameter.....	"	1,500		
37	6 ".....	"	1,500		
38	Concrete 1 : 2½ : 5, including forms.....	Cu. yd.	1,500	862-3	882-3
39	Taking down, laying aside and afterwards rebuilding dry stone fence walls.....	"	900	3-6	3-6
40	Fencing, seven wire.....	Lin. yd.	20,000	12,785	12,785
41	Gates, with posts, complete.....	Each	30		
42	Iron, in drift bolts.....	Lb.	7,000	3,956	3,956
43	Iron, in screw bolts.....	"	7,000	8,063	8,063
44	Iron, forged or cut spikes.....	"	15,000	1,699	1,713
45	Cast-iron washers and separators.....	"	3,000	540	540
46	Steel for reinforcement embedded in concrete.....	"	45,000	69,093	72,799
47	Paving top of breakwater with large blocks of rock, as specified.....	Sq. yd.	5,000		
	Solid rock excavation, section 89.....	Cu. yd.		2,499	2,589
	Loose rock excavation, section 89.....	"		1,495	1,695
	Hard-pan excavation, section 89.....	"		3,488	3,708
	Earth excavation, section 89.....	"		244	332

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DOCKS (FIRST UNIT).

Contract No. 3.

Contractors, Messrs. Foley Bros., Welch, Stewart & Fauquier.

Works included: Dredging and filling, quay walls, substructure for transit sheds and buildings, sewer and other works.

Date of acceptance of offer, November, 1913.

Work begun, March, 1914.

Dates specified for completion of works: All work north of cope line of north quay of pier "A" May 1, 1916; all of works, May 1, 1917.

Estimated amount of contract, \$5,250,000.

Percentage of work done March 31, 1915 (based on estimated cost of \$5,250,000), 3.86 per cent.

Practically no work had been done on this contract prior to March 31, 1914, although the contractors had begun to order some of the special new plant required in February, 1914, and to establish construction camps and machine shops, etc., early in March, 1914.

DREDGING.

The softer materials overlying the rock in the areas to be dredged in basins Nos. 1 and 2 have been removed by dipper dredge and deposited in the areas to be filled behind the bulkhead quays. Only a very small quantity of the dredged material was found unfit for use in the filling, and was taken to sea and wasted.

Dredging along the line of part of the bulkhead passenger landing quay and in the deep trench for the rubble mound foundations for the centre part of the quay wall was begun on 11th July, 1914, and continued until the 14th October, 1914, when the excavator was removed to basin No. 1, leaving the landing quay trench only partially dredged, and none of it completed to full depth and width. This deep dredging was done by a large steam revolving crane mounted on the wooden scow *Eleanor* and operating by a heavy Orange Peel bucket of 5½ cubic yards capacity.

Dredging of the site for the north return wall and for the basin at the north end of the bulkhead passenger landing quay was begun on the 24th March, 1914, by the dipper dredge *King Edward*, and is now practically completed.

SUBMARINE ROCK DRILLING, BLASTING, AND DREDGING.

The rock to be removed from the basins consists of slate or ironstone and hard shale in irregular inclined and crumpled strata, very broken and seamy, and interspersed with mud and clay. Experience gained in similar materials on the railway works indicated that the well-sinking type of rock drills with 6-inch cable or churn drills was the most suitable, and a new drill boat 91 feet by 31 feet by 8 feet, fitted with seven "Keystone" steam drilling machines, was built, and began drilling at the north end of the passenger landing quay on July 14, 1915. It began drilling in basin No. 1 on the 6th August, 1914.

This submarine drilling in basin No. 1 has been carried on continuously by night and day shifts throughout the winter, from 5,000 to 7,000 cubic yards of rock being drilled and blasted per month. The blast holes are drilled about 8 feet apart, and out in the basin clear of the quay walls from 4 to 6 feet below final dredged depth. Low-freezing 75 per cent dynamite is used, and is fired by electric current. Cast piping is used in all the holes to prevent the sides from collapsing and jamming the drills, and is withdrawn as the holes are being loaded with the explosives. The plant and system of blasting are working satisfactorily and a second drill boat, 115 feet by 37 feet by 8 feet, to carry nine drilling machines, was ordered late in March, 1915, and is now being built.

In November, 1914, a "Lobnitz" rock breaker belonging to the Public Works Department of Canada was tried for a few weeks along the line of the north quay of basin No. 1, but the results were unsatisfactory on account of the nature of the rock, and its use was discontinued.

The blasted rock in basin No. 1 has been partly dredged by the steam crane and large Orange Peel bucket mounted on the scow *Eleanor*, but most of it will later be removed by dipper dredge.

This dredged rock, which had been intended to be used in the rubble mound foundations of sections of the quay walls, was found unsuitable for that purpose and was therefore deposited in the harbour areas to be filled.

FILLING PIER "A."

About 23,000 cubic yards of sand from Drake's passage was deposited along the centre of pier "A" by the suction dredge *Prince Itô*.

BLOCK MOULDING YARD.

After much consideration it was decided that the yard for the making and seasoning of the large cellular reinforced concrete blocks for the quay walls should be located on the areas partly graded and to be graded for the railway terminal yards and quays east of Young avenue and north of Owen street.

Blacksmith and machine shops, woodworking and carpenter shops, warehouse, camp, etc., were installed at the north end of the yard in the old distillery and other buildings on the west side of Pleasant street. A central steam generating electric power and lighting plant of about 300 horse-power was installed in new buildings close to the Royal Nova Scotia Yacht Squadron building, and adjoining the power house a central concrete mixing plant with overhead gravel and sand bins, elevators, screens, crushers, etc., was erected and connected up with the old Squadron building, which is now used for cement sheds, etc. A temporary timber wharf, about 300 feet long, was constructed northward from the Yacht Squadron wharf and provided with two steam derricks and a tunnel in the rear fitted with roof spouts and belt conveyor for unloading sand and gravel from scows into the storage piles and conveying them from there to the concrete mixing plant.

A machine shed for bending and fitting the reinforcing steel with adjoining storage racks and sheds for steel bars was erected on the water front and fitted with the necessary machines and appliances, south of the power house, and of a new temporary timber pier 500 feet by 40 feet constructed by the contractors along the centre of proposed pier "B."

Seventeen timber moulding platforms were laid down on the area east of Pleasant street and north of Owen street adjoining the mixing plant and power-house, and by November 14, 1914, when concreting had to be stopped on account of frost, seventeen of the reinforced concrete cellular blocks had been made. Specially designed and constructed steel forms for this work were used. The sand and gravel used were brought by scows from an island in Mahone bay, near Chester, N.S. The cement was obtained from Belleville, Ont., and the steel from Sydney and New Glasgow, N.S.

QUAY WALLS.

Very little work has yet been done in connection with the construction of the quay walls themselves, but some of the heavier items of new and special plant required have been built and delivered, while other items are now in course of construction.

A large new diving bell with a steel-working chamber, 38 feet by 26 feet by 7 feet, provided with separate man and materials, shafts, and locks, and capable of sinking and refloating itself at any required position for preparing and laying foundations in

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depths of water up to 55 feet, has been constructed and is now on the works along with an attendant scow 100 feet by 32 feet by 8 feet, fitted with high and low pressure air compressors, force pump for water jet, electric light generating set, concrete mixer, and bins and steam derrick, etc.

A large travelling steam crane mounted on five trucks and capable of handling a 75-ton load at 70 feet radius has been delivered and erected on the works, with special lifting apparatus for handling the 63-ton cellular reinforced concrete blocks which are to be set in the quay walls with this crane.

A very heavy steam locomotive crane to travel on standard gauge tracks is nearly completed in the maker's shops. It will be used for lifting and transporting the concrete blocks in the moulding and storage yards.

GRANITE QUARRY.

Granite quarries are being opened by the contractors on the lands acquired for that purpose by the Dominion Government at Purcells cove at the mouth of the Northwest Arm.

Granite rubble for the mound foundations of the quay walls will be obtained from the quarry at the shore level, and granite for the cut-stone coping and facing of the walls above low-water level will be obtained from the high level quarry on the top of the cliff.

Appended are the following: Statement of men employed; List of contractors' plant on works; Statement of estimated quantities of work done.

NUMBER of Men Employed (exclusive of Office Staff, Superintendents, and General Foremen) by Messrs. Foley Bros., Welch, Stewart & Fauquier, for Year April 1, 1914, to March 31, 1915.—Contract No. III.

April..	12
May..	31
June..	84
July..	91
August..	145
September..	152
October..	132
November..	124
December..	95
1915.	
January..	100
February..	83
March..	118

Construction work has been carried on continuously by day and night shifts all the year round.

STATEMENT of Plant on Works March 31, 1915.—Contract No. III—Docks (First Unit) Messrs. Foley Bros., Welch, Stewart & Fauquier, Contractors.

- Scow No. 1—Derrick Scow.*—1 wooden scow, 20 feet by 90 feet by 8 feet; 1 ten-ton derrick; 1 bull wheel for swinging; 1 "Beatty" 3-drum 8-inch by 12-inch cylinder hoisting engine; 1 "Mead-Morrison" derrick swinging engine.
- Scow No. 2—Drill Scow.*—1 wooden scow with housing 31 feet by 91 feet by 8 feet; 4 spud shoes; 2 wooden water tanks; 7 No. 3 "Keystone" drilling machines for 5½-inch bit; 2 40-horsepower locomotive-type boilers; 4 "Beatty" 8½ inches by 10 inches cylinder 20 inches by 20 inches drums, soid engines; 2 "Mead-Morrison" No. 125 9 inches by 10 inches cylinder winch engines; 1 No. 7 "Vim" engine; 1 No. 415 "Cochrane" feed water heater; 1 "Blake-Knowles" 8 inches by 8 inches by 12 inches simplex pump; 1 4½ k. w. generator set and accessories; 2 No. 183580A carbon arc lamps.
- Scow No. 3—Excavator No. 2.*—1 steel frame 180 feet by 40 feet by 12 feet 8 inches scow; 1 "Marion" model 281 excavator; angle iron for reinforcing timber spuds; 1 set spuds, spud guides and attachments for No. 3 scow; 1 set spud castings; 1 "Hayward" special 5 cubic yards Orange Peel bucket.
- Scow No. 4—Excavator No. 1.*—1 scow *Eleanor*, wood, 137 feet by 37 feet by 12 feet; 1 wooden water tank; 1 "Marion" model 261 excavator; 1 "Hayward" class No. "E" 5 inches cubic yards clam shell bucket; 2 "Mead-Morrison" 9 inches by 10 inches cylinder No. 125 winch engines; 1 "Blake-Knowles" 10 inches by 6 inches by 2 inches duplex pump; 1 3¼ k.w. generator set and accessories; 1 black slate switchboard; 2 No. 183580A carbon arc lamps; 1 extra 38-foot boom and trucks for handling 62 tons at 44-foot radius; 1 "Hayward" special 3 sided 3½ cubic yards O.P. bucket.
- Scows Nos. 5 and 6.*—Wooden scow *Dombrico*, double, each section 100 feet by 40 feet by 10 feet.
- Scow No. 7—Coal and Water Tender.*—1 hull old government dredge *Geo. McKensie*; 1 "Blake-Knowles" 8 feet by 8 feet by 12 inches simplex pump.
- Scow No. 8 and Diving Bell.*—1 steel frame scow 100 feet by 32 feet by 8 feet; 2 steel water tanks; 1 20-ton derrick (derrick No. 2); 2 No. 13 "Ames" locomotive-type boilers; 1 "Beatty" 3-drum hoist without boiler; 1 "Mead-Morrison" derrick swinging engine; 1 No. 7 "Vim" engine; 1 10 inches by 10 inches by 12 inches "Rand" straight line air compressor; 1 36 inches by 8 feet "Rand" air receiver; 1 12 inches by 16 inches by 12 inches "Rand" compressor; 1 42 inches by 10 feet "Rand" air receiver; 1 "Blake-Knowles" 10 inches by 6 inches by 12 inches duplex pump; 1 "Bowden" boiler feed pump; 1 diving bell; 2 air-lock doors for man shaft; 1 air-lock for diving bell, material shaft; 1 "Morris" submerged centrifugal pump; 1 25-horsepower adjustable speed motor set.
- Scow No. 9.*—1 wooden scow, 29 feet by 16 feet by 2 feet 8 inches.
- Scow No. 10.*—1 wooden scow, 36 feet by 18 feet by 3 feet 4 inches.
- Scow No. 11.*—1 wooden scow, 26 feet by 76 feet by 7 feet.
- Power-House.*—2 "Ames" No. 16 locomotive-type boilers; 2 "Ames" 14 inches by 14 inches engines; 2 "Bowden" boiler feed pumps; exhaust piping; two 100-k.w. generator sets and accessories; 8 switches; 1 "Cochrane" No. 425 feed water heater.
- Mixing Plant.*—Cement shed and mixing house, with 3 No. 62 "Ransome" concrete mixers each half cubic yard capacity; sand bin, 140 cubic yards capacity; gravel bin, 200 cubic yards capacity; bucket elevator, screens, crusher, etc.; gravel and sand belt conveyor, 24 inches wide, in tunnel 250 feet long under sand and gravel pile; 1 "Parker" reversible friction hoist; one 25-h.p. motor set (crusher); one 30-h.p. motor set (top); one 7½-h.p. motor set (tunnel big belt); one 3½-h.p. motor set (tunnel small belt).
- Bending Shed.*—one 2½-h.p. motor set; 6 "Fisher" bar benders; 1 bar punch; bar bending castings (Hillis & Sons).
- Spouting Tower.*—Structure wood and iron; 1 electric hoist.
- Forms.*—1 trial wooden form for S-1 shells; 24 sets steel forms for S-1 shells, with extension sets for other shells.
- Yard.*—3 small flat cars; 1 "Industrial" 20-ton locomotive crane; 1 "Industrial" 150-ton locomotive crane; 2 gasoline locomotives; 1 standard gauge 20-ton locomotive; 1 push car; 2 track jacks; 1 portable rail saw; 7 switch sets for 80-pound rail; 18 No. 189825A carbon arc lamps; 6 switch sets for 80-pound rail; 1 diamond for 80-pound rail; two 35-h.p. motors; 1 derrick car; 4 frogs for 80-pound rail.

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- Derricks Nos. 3, 4 and 5.*—3 derrick outfits; extra fittings; 1 derrick No. 3 (sand); 1 "Beatty" 3-drum hoist, without boiler; 1 "Mead-Morrison" No. 131 swinging engine; 1 derrick No. 4; 1 derrick No. 5 (traveller); 1 "Beatty" 3-drum hoist, with boiler; 1 "Mead-Morrison" No. 131 swinging engine.
- Pile Driver.*—1 "Marsh Henthorn" 2-drum hoist; 1 pile driver.
- Machine Shop.*—1 radial drill; 1 "Yankee" grinder; 1 air drill; 1 power grindstone; 1 power jack-saw; 1 "Davis" keyseating machine; 1 power hammer; 1 "Lodge & Shipley" 16-inch lathe; 1 "Bertram" 20 inches by 24 inches by 6 feet lathe (cap); 2 10-h.p. motor sets (staff); 1 "Pease" 24 inches by 24 inches by 6 inches planer; 1 "Buzz" planer (carpenter shop); 1 punch and shear; 1 pipe-cutting and threading machine; shafting; 1 power rip and cut-off saw (car shop); 1 oxy acetylene cutting and welding outfit; 1 10-h.p. motor set (car shop); 1 25-h.p. motor, set (car shop); 1 7½-h.p. motor set (car shop); 1 "National" motor-driver air compressor.
- Buckets.*—1 1½ cubic yards "Hayward" clam shell bucket; 2 self-righting coal buckets, 27 cubic feet; 1 cubic yard "Hayward" clam shell bucket; 1 cubic yard "Hayward" clam shell bucket.
- Diving Equipment.*—2 "Morse" diving outfits.
- Small Plant.*—2 "Reading" 1-ton chain blocks; 2 electric shop drills; 2 carbon lights; 2 warehouse trucks; tarpaulins; 4 hand trucks; 2 wagon trucks; 6 "Prentiss" vices; 4 "Buffalo" forges; 1 chainblock; 3 H.S. jacks.
- Boats.*—4 16-foot row-boats; 2 18-foot row-boats; 1 26-foot motor-boat, complete; 1 double dory.
- Fleet Sundries.*—Anchors; 2 ship's bells; 4 iron buoys; checks and towing bits; 2 davits; towing hawsers.
- Quarry Plant.*—2,400 feet 40-pound rail; 2 switch sets for 40-pound rail; 1 "Canadian Rand" drill; three 36-inch gauge flat cars; 500 pounds fish plates; stone dressing outfit; 2 "Reliance" 13 inches by 24 inches jaw crushers; 1 "Reliance" elevator; 4 "Kotten" portable crane surfacers, with accessories; 1 8 by 12 double cylinder, 3-drum hoist; 1 No. 131 "Mead-Morrison" swinging engine; 1 150-h.p. boiler and stack (second hand); 8 pieces hard pine 14 inches by 14 inches by 60 feet by 65 feet; 2 "Sullivan" plug drills.
- Other Plant not yet in use.*—1 No. 10 "Ames" H. P. locomotive-type boiler; 1 No. 3 "Keystone" drilling machine; 4 No. 3 "Keystone" drilling machines; 4 No. 3 "Keystone" drilling machines; 1 "Mead-Morrison" No. 131 derrick S. engine; 4 "Mead-Morrison" No. 125 winch engines; 4 "Beatty" 8¼ inches by 10 inches cylinder 20 inches by 20 inches drum spud engines; 4 steel spuds (discontinued const.); 4 "Beatty" 9 inches by 12 inches cylinder 20 inches by 24 inches drum spud engines; 1 "Beatty" 3-drum hoist, with boiler; one 25-k.w. generator set; one 3¼-k.w. generator set; one 10-h.p. motor set; 1 black slate switchboard; 1 duplex pump 4¼ inches by 2¼ inches by 4 inches.
- Dredging Plant (The W. J. Poupore Co., Ltd., sub-contractors).*—1 dipper dredge *King Edward*; 1 clam shell dredge *Prince Louis*; 3 hopper dump scows; 4 steam tugs, *Army*, *Samson*, *Prince Ray*, *Hero*.

QUANTITIES.—Contract No. III.—Messrs. Foley Bros., Welch, Stewart & Fauquier,
Contractors.

Item.	Description	Unit.	Total Estimated at Letting of Contract	Total Work done Year 1914-15, and to date.
8	Excavating under water and dredging in basins I and II and for quay walls of pier "A," west quays of basins I and II and north quay of basin No. 1 to depths varying from 30 feet to 45 feet below L.W.O.S.T., class I.	Cu. yd.	210,000	25,450
9	Excavating under water and dredging in basins Nos. 1 and II and for quay walls of pier "A," west quays of basins Nos. I and II and north quay of Basin No. 1 to depths varying from 30 feet to 45 feet below L.W.O.S.T., class II.	"	130,000	63,400
10	Excavating under water and dredging for and east of bulk-head passenger landing quay wall and north return end of same to depth of 45 feet below L.W.O.S.T., class I.	"	25,000	30
11	Excavating under water and dredging for and east of bulk-head passenger landing quay wall and north return end of same to depth of 45 feet below L.W.O.S.T., class II.	"	45,000	17,700
13	Excavating under water and dredging for quay wall foundations to depths exceeding 45 feet below L.W.O.S.T., class II.	"	80,000	16,185
17	Filling quay spaces and reclaimed areas with borrowed materials.	"	1,750,000	23,000
33	Concrete "Class C" in cellular reinforced concrete shells and in slabs for quay walls, below L.W.O.S.T.	"	85,000	283
67	Twisted reinforcing steel bar $\frac{3}{4}$ -inch square, and under.	Lb.	15,800,000	89,000

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INTERCOLONIAL RAILWAY—PRINCE EDWARD ISLAND RAILWAY.

OFFICE OF THE MECHANICAL ACCOUNTANT,

MONCTON, N.B., June 25, 1915.

SIR,—I beg to submit the following information for the annual report covering the Intercolonial and Prince Edward Island railways for the fiscal year ended March 31, 1915.

A.—Statement showing the number of locomotives and the different classes of other rolling stock on the line of the Intercolonial Railway.

B.—Statement showing the mileage made, and the coal, oil, grease, and waste consumed by locomotives on the Intercolonial Railway.

C.—Statement showing the number of locomotives and the different classes of other rolling stock on the line of the Prince Edward Island Railway.

D.—Statement showing the mileage made, and the coal, oil, grease, and waste consumed by locomotives on the line of the Prince Edward Island Railway.

E.—Summary of the principal work done in the shops at Moncton, Halifax, and Rivière-du-Loup for the Intercolonial Railway.

F.—Summary of the principal work done in the shops at Charlottetown for the Prince Edward Island Railway.

The following rolling stock was purchased for the Intercolonial Railway on Capital Account: Twenty-one locomotives (10 passenger, 6 freight, 5 switching); 540 box cars, steel underframe, 80,000 capacity; 4 pit cars, 150,000 capacity; 1 steam wrecking crane, 100-ton capacity; 1 wing ballast spreader.

Nineteen express refrigerator cars were built in the shops at Moncton on Capital Account.

Sixty-one underframe box cars, 60,000 capacity, were purchased on Equipment Renewals Account, Revenue.

The following rolling stock was converted in the shops at Moncton: One postal and express to full postal; 3 postal and smoking to postal and express; 4 combined colonist and baggage to commissary cars; 2 box cars to flangers; 9 box cars to stock; 1 box car to survey and inspection; 1 flat car to ballast trimmer.

The branch lines, New Brunswick and Prince Edward Island, the International, the St. John and Quebec, and the National Transcontinental east of Quebec, were operated during the year, and the following serviceable rolling stock was taken over with the two first-named lines:—

New Brunswick and Prince Edward Island Railway: one locomotive, 3 passenger cars, 2 snow ploughs.

International Railway: three locomotives, 6 passenger cars, 1 official car, 40 flat cars, 1 van, 1 auxiliary, 1 snow plough, 1 flanger.

Intercolonial Railway rolling stock was used on the branch lines during the year, as follows:—

New Brunswick and Prince Edward Island Railway: two locomotives, 2 passenger cars, 34 freight cars.

International Railway: one locomotive, 5 passenger cars, 34 freight cars.

National Transcontinental Railway: eleven locomotives, 8 passenger cars, 242 freight cars.

St. John and Quebec Railway: three locomotives, 4 passenger cars, 28 freight cars.

I have the honour to be, sir,

Your obedient servant,

G. R. JOUGHINS,

J. J. WALKER,

Superintendent of Rolling Stock.

Mechanical Accountant.

INTERCOLONIAL RAILWAY OF CANADA.

A—STATEMENT showing the number of Locomotives and the various classes of other Rolling Stock on the line on the 31st March, 1914, and the 31st March, 1915.

	PASSENGER CARS.											FREIGHT CARS.														
	Locomotives.	Sleeping Cars.	Parlour Cars.	Dining Cars.	Colonist Cars.	1st class passenger cars.	2nd class passenger cars.	Postal cars.	Baggage cars.	Box Baggage cars.	Air Brake Instruction Car.	Steam Motor car.	Total Passenger cars.	Box cars.	Refrigerator cars.	Platform cars.	Pulpwood cars.	Oil Tank cars.	Hopper cars.	Gondola cars.	20-ton Coal cars.	Hart Otis Steel Dump cars.	Stock cars.	Hart Convertible Dump cars.	Pit cars.	Vans.	Total Freight cars.
On hand serviceable and repairing, March 31st, 1914.	388	48	8	16	59	159	88	36	71	26	1	1	513	8076	178	3062	48	565	4	309	276	176	300	3	136	13785
To be replaced at March 31st, 1914.						1	1						11		1	45	4	75	1	67				3		196
Total equipment at March 31st, 1914	388	48	8	16	59	159	90	36	71	26	1	1	524	8076	179	3107	52	640	5	376	276	176	300	4	139	13981
Purchased during the year on Capital Account.	21												540		19											544
Built in the shops at Moncton on Capital Account.																										19
Converted in the shops at Moncton: 9 box to stock, 1 box to survey and inspection, 7 flats to derrick cars, 1 flat to ballast trimmer, 1 flat to pintsch gas car, 4 colonist and baggage to commissary cars, 1 box to flanger.					4	4										9						9				11
Transferred from Engineering Department.																										
Total equipment at March 31st, 1915	409	48	8	20	55	159	99	36	71	26	1	1	524	9205	198	3068	52	640	5	376	276	185	300	4	139	14533
To be replaced at March 31st, 1914, as above.						11	1						11		1	45	4	75	1	67					3	196
Condemned and destroyed during the year.						1	3	1					5	199	6	320	1	42				10			1	669
Total condemned and destroyed to March 31st, 1915.						1	4	1					16	199	7	365	4	117	1	157		10			4	865
Purchased on Renewals Account to replace.														61												61
Converted in the shops at Moncton from condemned box car to replace.																										
Total to be replaced at March 31st, 1915.	469	48	8	20	55	158	85	35	71	26	1	1	508	9067	191	2733	48	523	4	219	276	175	300	4	135	13729
Add serviceable and repairing.	409	48	8	20	55	159	99	36	71	26	1	1	524	9205	198	3068	52	640	5	376	276	185	300	4	139	14533
Total equipment at March 31st, 1915, as above.	818	96	16	40	110	317	134	72	142	52	2	2	1032	18210	396	6136	100	1260	9	655	552	360	300	8	274	28262

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Intercolonial Railway rolling stock was used on the following lines

New Brunswick and Prince Edward Island Ry.....	2	1	1	1	2	10	24	34
International Ry.....	1	2	1	5	24	10	34	34
National Transcontinental Ry.....	11	2	1	8	200	42	242	242
St. John & Quebec Ry.....	3	2	2	4	20	8	28	28

INTERCOLONIAL RAILWAY OF CANADA—*Continued.*
 A.—STATEMENT showing the number of Locomotives and the various classes of other Rolling Stock on the line on the 31st March, 1914, and the 31st March, 1915.—*Continued.*

	WORK CARS.														Total Work cars.													
	Auxiliary cars.	Stores Supply car.	Pintsch Gas car.	Snow Ploughs—Common.	Snow Ploughs—Wing.	Snow Ploughs—Steam Rotary.	Snow Ploughs—Double Track.	Snow Ploughs—Double End.	Flangers.	Steam Cranes.	Ballast Spreader—Rogers.	Ballast Trimmer.	Centre Ballast Ploughs.	Side Ballast Ploughs.		Ballast Ploughs—Unloaders.	Ballast Spreaders—Wing.	Concrete Mixers.	Sand Blast Machine	Well Boring car.	Ditchers.	Steam Derricks.	Hand Derricks.	Steam shovels.	Portable rail sawing and boring machine.	Pile Drivers.	Survey and Inspection cars.	
On hand serviceable and repairing, March 31st, 1914.....	23	1	1	50	22	2	2	1	41	18	2	2	1	1	1	1	1	1	1	1	1	1	1	3	1	1	15	186
To be replaced at March 31st, 1914.....				1																								1
Total equipment, March 31st, 1914.....	23	1	1	51	22	2	2	1	41	18	2	2	1	1	1	1	1	1	1	1	1	1	1	3	1	1	15	187
Purchased during the year on Capital Account.....																												2
Built in the shops at Moncton on Capital Account.....																												
Converted in the shops at Moncton: 9 box to stock, 1 box to survey and inspection, 7 flats to derrick cars, 1 flat to ballast trimmer, 1 flat to pintsch gas car, 4 colonist and baggage to commissary cars, 1 box to flanger.....				1			1					1	5	2	2												1	11
Transferred from Engineering Department.....																											1	18
Total equipment at March 31st, 1915.....	23	1	2	51	22	2	2	1	42	19	2	2	1	5	2	1	4	1	1	1	1	1	1	3	1	2	16	218
To be replaced at March 31st, 1914, as above.....				1																								1
Condemned and destroyed during the year.....				2																								3
Total condemned and destroyed to March 31st, 1915.....				3																								4
Purchased on Renewals Account to replace.....																												
Converted in the shops at Moncton from condemned box car to replace.....																												1
Total to be replaced at March 31st, 1915.....				3																								3
Add serviceable and repairing.....	23	1	2	48	22	2	2	1	42	19	2	2	1	5	2	1	4	1	1	1	1	1	1	3	1	2	16	215
Total equipment at March 31st, 1915, as above.....	23	1	2	51	22	2	2	1	42	19	2	2	1	5	2	1	4	1	1	1	1	1	1	3	1	2	16	218

INTERCOLONIAL RAILWAY OF CANADA.

B.—STATEMENT of mileage, coal, oil, grease and waste consumed by Locomotives for the year ended March 31, 1915.

Months.	Loco- motive mileage.	Consumption.					Average consumption per 100 miles.				
		Coal.	Valve oil.	Engine oil.	Wool waste	Grease.	Coal.	Valve oil.	Engine oil.	Wool waste	Grease.
1914		Tons.	Pints.	Pints.	Lb.	Lb.	Lb.	Pints.	Pints.	Lb.	Lb.
April.....	813,712	48,232	12,234	20,400	1,057	4,590	13,277	1-50	2-50	0-13	0-56
May.....	786,860	43,789	11,849	23,185	918	4,497	12,466	1-50	2-95	0-12	0-57
June.....	818,504	44,543	12,770	24,719	924	4,673	12,191	1-56	3-02	0-11	0-57
July.....	877,808	46,156	13,369	24,718	918	4,617	11,779	1-52	2-81	0-10	0-53
August.....	845,143	45,329	12,716	26,108	906	4,409	12,014	1-50	3-08	0-10	0-52
September....	816,889	45,103	12,774	26,284	915	4,567	12,368	1-56	3-21	0-11	0-56
October.....	792,263	44,209	11,847	21,531	834	4,600	12,499	1-50	2-71	0-10	0-58
November.....	779,892	45,891	12,290	22,868	865	3,684	13,181	1-58	2-93	0-11	0-47
December.....	816,907	52,064	12,886	23,520	918	4,378	14,276	1-57	2-88	0-11	0-53
1915											
January.....	687,778	47,646	10,616	20,856	803	4,546	15,518	1-54	3-03	0-12	0-66
February.....	653,981	47,130	10,074	21,434	729	5,482	16,143	1-54	3-27	0-11	0-84
March.....	723,303	46,658	11,148	24,528	830	5,700	14,449	1-54	3-39	0-11	0-79
Total.....	9,413,040	556,752	144,573	280,151	10,617	55,743	13,248	1-53	2-97	0-11	0-59

J. J. WALKER.

Mechanical Accountant.

PRINCE EDWARD ISLAND RAILWAY.

C.—STATEMENT showing the number of Locomotives and the various classes of other Rolling Stock on the line, on March 31, 1914, and March 31, 1915.

	PASSENGER CARS.						FREIGHT CARS.						WORK CARS.								
	Locomotives.	1st class passenger cars.	2nd class passenger cars.	Combination 2nd class and Baggage cars.	Postal cars.	Combination Postal and baggage cars.	Baggage.	Total passenger cars.	Box cars.	Refrigerator cars.	Stock cars.	Oil tank cars.	Hart Convertible cars.	Coal cars.	Platform cars.	Vans.	Total Freight cars.	Snow Ploughs.	Flangers.	Steam Shovels.	Total Work cars.
On hand, serviceable and repairing at March 31, 1914.....	22	19	9	5	4	3	6	46	308	3	28	1	15	11	150	3	519	10	8	1	19
To be replaced at March 31, 1914	9	4	4	2	1	1	2	13	5	...	...	...	...	1	4	1	11	1	...	...	1
Total equipment at March 31, 1914.....	31	23	13	7	4	4	8	59	313	3	28	1	15	12	154	4	530	11	8	1	20
To be replaced at March 31, 1914, as above.....	9	4	4	2	...	1	2	13	5	...	...	...	...	1	4	1	11	1	...	...	1
Condemned during the year 1915. Nil.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total condemned at March 31, 1915.....	9	4	4	2	...	1	2	13	5	...	...	...	...	1	4	1	11	1	...	...	1
Rebuilt during the year. Nil.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
To be replaced at March 31, 1915.....	9	4	4	2	...	1	2	13	5	...	...	...	...	1	4	1	11	1	...	...	1
Add serviceable and repairing.....	22	19	9	5	4	3	6	46	308	3	28	1	15	11	150	3	519	10	8	1	19
Total equipment at March 31, 1915.....	31	23	13	7	4	4	8	59	313	3	28	1	15	12	154	4	530	11	8	1	20

J. J. WALKER,
Mechanical Accountant.

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PRINCE EDWARD ISLAND RAILWAY.

D.—STATEMENT of mileage and coal, oil and wool waste consumed by Locomotives for the year ended March 31, 1915.

Month.	Locomotive mileage.	Consumption.				Average consumption per 100 miles.			
		Coal.	Valve oil.	Engine oil.	Waste (cotton)	Coal.	Valve oil.	Engine oil.	Waste (cotton)
		Tons.	Pints.	Pints.	Lb.	Lb.	Pints.	Pints.	Lb.
1914									
April.....	32,393	1,097	448	1,096	482	7,587	1-38	3-38	1-48
May.....	38,837	1,062	560	1,200	281	6,121	1-44	3-08	1-49
June.....	42,602	1,162	500	1,084	78	6,101	1-17	2-54	1-38
July.....	49,604	1,337	712	1,024	74	6,03	1-43	3-27	1-49
August.....	48,219	1,478	684	1,348	67	6,861	1-42	3-21	1-40
September.....	48,442	1,340	728	1,492	76	6,191	1-50	3-08	1-57
October.....	45,164	1,302	596	1,368	74	6,451	1-31	3-07	1-66
November.....	41,958	1,287	564	1,232	68	6,871	1-34	2-93	1-64
December.....	41,111	1,290	620	1,208	77	7,021	1-50	2-93	1-88
1915									
January.....	35,462	989	556	1,088	640	6,24	1-57	3-06	1-80
February.....	33,078	1,163	546	1,016	558	7,871	1-65	3-07	1-68
March.....	38,138	1,127	660	1,090	760	6,611	1-73	2-87	1-99
Total.....	495,008	14,634	7,174	15,072	8,096	6,621	1-45	3-04	1-61

J. J. WALKER.

Mechanical Accountant.

SESSIONAL PAPER No. 20

E.—The following work was done in the locomotive shops at Moncton during the year:—

Erecting Shop.

49 locomotives were rebuilt.
69 locomotives received general repairs.
42 locomotives received heavy repairs.
46 locomotives received light repairs.
1 locomotive received specific repairs.

16 patterns for steel castings were repaired.
13 patterns for malleable castings were made.
36 patterns for malleable castings were repaired.
18 patterns for iron castings were altered.
5 patterns for steel castings were altered.
8 patterns for brass castings were altered.
8 patterns for malleable castings were altered.
6 miscellaneous patterns were made.
4 patterns were made for mould boards for drying cores.

Blacksmith Shop.

2,800,770 pounds iron forgings, including 1,236,398 pounds bolts were made.
925,589 pounds steel forgings were made.
251,295 pounds nuts were made.

Pattern Shop.

98 patterns for brass castings were made.
25 patterns for brass castings were repaired.
199 patterns for iron castings were made.
51 patterns for iron forgings were repaired.
50 patterns for steel castings were made.

Brass Foundry.

The following was the output for the year:
506,694 pounds brass bearings.
83,244 pounds brass castings.
22,810 pounds babbitt metal.
67,050 pounds antimonial lead.
4,800 pounds metallic packing.

The following was the output for the year:—

Machine Shop—(Brass Turning).

395 air gauges were repaired.
363 air hammers were repaired.
32 drills were repaired.
286 air pumps were repaired.
170 lubricators were repaired.
40 beading tools were repaired.
498 beading tools were made.
74 brake cams were made.
165 brake cam nuts were made.
134 brake cam screws were made.
101 bell ringers were made.
52 bottle jacks were repaired.
128 blow-off cocks were made.
191 cylinder cocks were made.
20 dies were made.
250 engine brasses were made.
50 fire hose couplings were made.
160 flag staff casings were made.
80 gauge glass cocks were made.
297 hydraulic jacks were repaired.
257 heater regulators were repaired.

559 injectors were repaired.
14 injector check valves were repaired.
651 oil cups were made.
287 oil pumps governors were repaired.
129 reamers were made.
42 steam chest release valves were made.
56 steam chest release nipples were made.
118 small tender cocks were made.
375 steam gauges were repaired.
1,364 shop orders were completed.
28 tender cocks were made.
6 taps were made.
69 try cocks were made.
342 tube cutters were made.
132 wheel defect gauges were made.
25 car heater gauges were repaired.
5 gland bushes were made.
145 W. A. B. piston rings were made.
500 grease plugs were made.
2 starting valves were made.
69 McCluskey rings were made.
12 headlight armatures were repaired.

In addition to the above a large amount of work was done for outside shops on shop orders, and also for the car department, and the pump governors, heater regulators, air brake cylinders and boiler mountings of all engines and tenders passing through the shops were overhauled and repaired.

Machine Shop—(Motion).

1 new link was made.
269 links were repaired with blocks and pins.
144 old link hangers were repaired.
7 eccentric rods were made.
434 eccentric rods were repaired and pins fitted.
226 equalizing bars were repaired.
129 reversing shafts were turned up and fitted.
185 reversing shaft boxes were made.
171 reversing shaft boxes were repaired.
149 reversing levers were overhauled.

75 reversing lever pawls were repaired.
43 reversing lever pawls were made.
140 reversing reach rods were repaired and fitted.
16 new valves were made.
214 valves were faced and yokes fitted.
99 valve rod keys were fitted.
45 new valve stems were put on yokes.
56 valve heads were faced.
67 valve division rings were made.
525 valve packings were machined and fitted.
82 valve guide boxes were bushed.
143 throttle rods were repaired.
24 throttle rods were made and applied.

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Machine Shop—(Motion)—Con.

112	throttle rod glands were bushed.	1,360	driving wedges were made.
128	throttle levers were fitted.	188	guide blocks were made.
387	new big end brasses were machined and fitted.	307	pop valves were repaired.
62	old big end brasses were machined and fitted.	19	steam chests were made.
265	new small end brasses were machined and fitted.	5	locomotive frames were made.
146	new main rod liners were made and fitted.	200	steam chest covers were made.
140	big end keys were made.	55	cylinders were bushed, bored and fitted.
800	new rod bolts were made.	10	foot plates were made.
139	new side nuts were made.	17	centre pin guides were made.
994	side rod brasses were bushed.	76	engine truck boxes were made.
248	knuckle joint pins were made.	703	wedges were replanned.
321	new knuckle joint bushes were made.	319	steel wheels were rebored.
244	crossheads were turned and fitted.	54	tender axles were fitted and applied.
201	crosshead pins were made.	14	driving axles were fitted and applied.
87	new piston rods were milled and fitted.	11	trailer axles were fitted and applied.
115	new rocker boxes were bushed and fitted.	189	car axles were fitted and applied.
7	rocker boxes were made.	50	smoke box doors and rings were made.
3	rocker arms were made.	27	crank pins were made.
79	old rocker boxes were bushed and fitted.	65,705	stay bolts were threaded.
100	rocker box bushes were relined.	20,950	stay bolts were turned and threaded.
406	hob plates were applied.	908,000	bolts were threaded.
308	new driving box brasses were machined and fitted.	22,639	engine studs were turned.
170	old driving box brasses were lined.	330,700	nuts were tapped.
13	new driving boxes were made.	847	car tires were bored and fitted.
169	new automatic grease cellars were machined and applied.	27	tires were shimmed.
752	driving wheel boxes were bored and fitted to axles.	32	fire box doors were made.
35	new spring boards were machined.	394	tender tires were bored and fitted.
88	eccentric straps were made.	172	engine tires were bored and fitted.
22	eccentric keys were made.	20	retaining rings were made.
176	old eccentric straps were rebored.	52	brackets were made.
56	new eccentric pulleys were made.	63	grease boxes were made.
113	old eccentric pulleys were bored and fitted.	125	housings were made.
268	side plates were applied.	51	valve cages were made.
4	eccentric rod brasses were made.	32	valves were made.
19	trunion bushes were made.	89	steel nuts for piston rods were made.
200	feather keys for eccentric were made.	80	fulcrums were made.
21	cap plates were made.	4	rollers were made.
6	throttle brackets were made.	663	pairs tender tires were turned.
10	main rods were made.	2	whistles were made.

Machine Shop.

462	pairs driving tires were turned.	144	whistles were repaired.
286	pairs engine truck tires were turned.	15	engine truck axles were fitted and applied.
12	pairs trailer truck tires were turned.	2	snow plow axles were fitted and applied.
1,118	car tires were turned.	1	motion plate was made.
378	driving tires were applied.	25	cross-ties were made.
758	pairs car tires were applied.	1	centre bearing was made.
331	pairs tender tires were applied.	4	pony truck sleeves were made.
146	pairs engine truck tires were applied.	48	driving brake adjusting screws were made.
208	driving hubs were turned.	108	brake head pins were made.
631	journals were turned up.	16	exhaust nozzles were made.
20	cast iron smoke stack bases were machined.	18	tips were made.
281	crossheads were replanned.	1,200	driving boxes were replanned.
147	cylinder heads were made.	502	driving boxes were made.
138	piston rods were turned.	588	driving boxes were recessed.
85	new piston rods were made.	120	eccentric straps were repaired.
169	piston heads were made.	3	valves were faced.
34	cylinders and half saddles were made.	74	cylinder casings were made.
13	engine truck centre castings were made.	2	tires and 4 wheels were fitted to crane.
18	driving wheel centres were machined.	34	diamond flange knives were made.
83	guide bars were made.	6	driving brake fulcrums were made.
		1	pulverizer for Bettington boiler was made.
		18	oil tank covers were made.
		1	valve for oil tank was made.
		1	shaft for fan in boiler room was made.
		47	trolley wheels and axles were fitted.
		11	swinging bolsters were made.
		11	rotating tables were made.
		2	pier members for Nashwaak bridge were made.
		4	goose necks were made.
		1	spectacle plate was made.
		20	crosshead shoes were made.

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Machine Shop—Con.

- 2 engine truck bolsters were made.
 1 new truck frame was made.
 32 bolster hangers were made.
 26 bolster hanger pins were made.
 1 spring pocket saddle was made.
 8 wing castings were made.
 12 big end straps were made.
 9 friction blocks were made.
 22 snow plough rocker shafts were made.
 3 air cylinders for snow ploughs were made.
 10 rockers for snow ploughs were made.
 9 pistons and standards for snow ploughs were made.
 36 cutters for snow ploughs were made.
 47 draw bar knuckles were made.
 10 false valve seats were made.
 9 tie bars were made.
 7 motion plate knees were made.
 2 top castings were made.
 6 boiler pads were made.
 1 crown sheet was made.
 20 car axles were machined.
 9 valves were machined.
 1 bull-ring was made.
 4 oil cellars were made.
 3 bevel gears were made.
 4 chuck jaws were made.
 18 mud port flanges were made.
 7 expansion brackets were made.
 2 centre pins were made.
 4 throttle pipes were made.
 2 gate valve covers were made.
 6 dry pipes were machined.
 1 link guide was made.
 2 bracket arms were made.
 12 dies were made.
 13 safety valves were made.
 16 truck bolster hangers were made.
 8 truck bolster hanger pins were made.
 8 truck bolster bushes were made.
 4 ratchets were made.
 6 adjusting rods were made.
 19 shaper bars were made.
 105 guide bars were made.
 2 frame brackets were made.
 69 pedestals were made.
 351 switch plates were made.
 84 check plates were made.
 34 brake hanger pins were made.
 2 end frame castings were made.
 50 guard rails were machined.
 12 foundation rings were machined.
 14 main rods were made.
 11 side rods were made.
 109 trolley wheel centres were made.
 32 bolster hangers were made.
 48 cast iron wheels were fitted.
 4 guide yokes were made.
 9 side rods were planed.
 1 chuck was made.
 15 friction wedges were made.
 6,803 chilled wheels were bored.
 63 steel wheels were bored.
 5,991 chilled wheels were pressed on axles.
 11,864 chilled wheels were pressed off axles.
 100 pairs steel wheels were pressed on axles.
 120 driving boxes were planed.
 10 sets split switches were machined.
 6 grate bearers were made.
 4 platform bases were made.
 4 platform base covers were made.
 9 stand pipes were made.
 39 draw castings were machined.
 1 dome cover was made.
 12 air cylinder covers were made.
 15 cutters were made.
 1 apron was made.
 8 seat props were made.
 5 side rods were machined.
 8 bolster hangers were made.
 15 brass bushes were made.
 8 dome cover pins were made.
 4 riveting dollies were made.
 68 equalizers were machined.
 7 starting rods were made.
 14 throttle valves were made.
 4 pulleys were made.
 13 column heads were made.
 8 fulcrums were made.
 1 beam for No. 3 wrecking crane was made.
 1 electric light motor at Truro was repaired.
 1 piston for hoist was made.
 1 shaft for No. 3 steam shovel was made.
 1 friction clutch was repaired.
 4 new truck wheels for coaling crane were fitted.
 1 new axle for coaling crane was fitted.
 4 jack screws for ss. Scotia were repaired.
 1 air compressor for Moncton roundhouse was repaired.
 1 lift beam for crane was made.
 4 pulleys for coaling crane No. 12 were fitted.
 The air compressor at Campbellton was repaired.
 The water service pump for Chatham was repaired.
 1 main driving shaft and gear for crane No. 4 was repaired.
 1 driving shaft and piston were made.

Track, or Frog Shop.

- 314 frogs were made.
 180 frogs were repaired.
 325 spring frogs were repaired.
 314 split points were made.
 246 split points were repaired.
 4 rampo switch stands were made.
 243 rampo switch stands were repaired.
 23 three throw switch stands were made.
 108 three throw switch stands were repaired.
 201 switch rods were made.
 416 switch rods were repaired.
 6 guard stands were made.
 3 guard stands were repaired.
 22 hinge rods were made.
 1 hoist rail was repaired.
 946 track chisels were made.
 991 track chisels were repaired.
 373 drills were made.
 345 drills were repaired.
 221 claw bars were made.
 217 claw bars were repaired.
 190 lining bars were made.
 60 lining bars were repaired.
 72 picks were made.
 97 picks were laid.
 640 picks were repaired.
 7 ratchets were made.
 23 ratchets were repaired.
 324 track wrenches were made.
 95 track wrenches were repaired.
 269 stripping hammers were made.
 67 stripping hammers were repaired.

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Track or Frog Shop—Con.

89	track jacks were repaired.	23	track gauges were repaired.
123	tamping bars were made.	7	drilling knees were made.
60	rail tongs were made.	2	drilling knees were repaired.
6	rail tongs were repaired.	11	ratchet frames were made.
16	axes were repaired.	6	ratchet frames were repaired.
4	steel bars were made.	20	angle fish plates were made.
68	tie rods were made.	6	tank hoops were made.
20	tie rods were repaired.	1,254	jog plates were made.
33	connecting rods were made.	3	jog plates were repaired.
2	snow plows were ironed.	16	rails were butted.
8	yokes were made.	34	hand cars were repaired.
8	rails were cut.	2	hand cars were built.
594	rail braces were made.	25	bar fish plates were made.
210	bar plates were made.	1,811	switch head castings were made.
132	slide plates were made.	13,003	pounds bolts were made and supplied.
95	hoops were made.	46	car stops were made.
4	sets concrete mould fasteners were made.	1	car stop was repaired.
2	iron grates were made.	620	guard rails were made.
24	split switches were made.	47	clip bolts were made.
5	ballast plows were repaired.	153	rail cutters were made.
274	gate hinges were made.	293	rail cutters were repaired.
12	steel punches were made.	35	ground stands were made.
6	diamond frogs were made.	5	ground stands were repaired.
1	rail saw was repaired.	341	pounds eye bolts were repaired.
6	plungers for rivetting hammers were made.	6	sets irons for hand cars were made.
1	steam crane was repaired.	21	pairs lorry wheels and axles were fitted.
36	plow links were made.	20	sledges were repaired.
36	link pins for plows were made.	45	sledges were made.
1	derailer was made.	76	head rods were made.
	Roller frame for roundhouse at Moncton was made.	16	head rods were repaired.
9	rail benders were repaired.		Ballast spreaders, centre ballast ploughs, ditchers, pile drivers, side ploughs and equipment were overhauled, and repairs made where necessary, and extensive repairs were made to machines in this shop.
8	track gauges were made.		

Ballast spreaders, centre ballast ploughs, ditchers, pile drivers, side ploughs and equipment were overhauled, and repairs made where necessary, and extensive repairs were made to machines in this shop.

Tender Shop.

140	tender tanks were lifted from frames.	11	wheel barrows were made.
250	valves were repaired.	41	wheel barrows were repaired.
200	valves spindles were repaired.	5	tender frames were made.
117	running boards were made.	119	tender frames were repaired.
110	running boards were repaired.	3	tender frames were lengthened.
74	front beams were made.	11	tender tanks were lengthened.
39	back beams were removed.	12	quadrants were made.
127	side curtains were made.	56	valve spindles were made.
27	cab doors were made.	12	cab doors were made.
224	sashes were made.	137	cab floors were made.
65	covering boards were made.	151	covering boards in cabs were made.
295	cab seats were made.	32	spring casings were made.
142	headlight bases were made.	126	sets of seats were made.
103	cabs were repaired.	46	spiral springs were made.
25	cabs were made.	31	babbit boxes were made.
510	cushions were made.	23	wrench handles were made.
565	hammer handles were made.	47	headlight boards were made.
2,874	sledge handles were made.	19	back casings were made.
250	mallets were made.	19	buffer castings were made.
16	semaphore bottoms were made.	6	front castings were made.
34	switch lamps bottoms were made.	2,050	pump laggings were made.
51	tool boxes were made.	15	cupboards were made.
48	tool boxes were repaired.	28	pick handles were made.
43	outfit boxes were made.	13	centre castings were made.
60	outfit boxes were repaired.	80	fuse racks were made.
62	boilers were hooped.	150	journal box collars were made.
41	flasks were made.	26	horses were made.
8	trucks were made.	5	bulletin boards were made.
262	trucks were repaired.	10	step ladders were made.
12	ladders were made.	3	step ladders were repaired.
22	ladders were repaired.	1	tender was built.
		1	crane house was built.
		4	benders were made.

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Tender Shop—Con.

- 23 pilots were made.
- 10 hand trucks were repaired.
- 1 scrap box was repaired.
- 8 foot boards were made.
- 32 friction blocks were made.

Boiler Shop.

- 42,158 stay bolts were applied.
- 41,000 tubes were repaired and applied.
- 16,500 copper ferrules were made.
- 6,050 tubes were removed.
- 6,050 tubes were replaced.
- 5,056 tubes were pieced.
- 3,000 stay bolts were made.
- 1,064 wheels were rivetted.
- 260 plates were cut.
- 832 new tubes were applied.
- 350 scrappers were made.
- 300 patch bolts were put in.
- 33 new door sheets were made and applied.
- 38 new side sheets were made and applied.
- 33 new tube sheets were made and applied.
- 82 fire boxes were patched.
- 107 boilers were tested.
- 106 tender frames were repaired.
- 32 locomotive smoke stacks were made.
- 77 ash pans were repaired.
- 136 tender tanks were repaired.
- 35 new ash pans were made.
- 30 oil tanks were repaired.
- 95 bolsters were repaired.
- 34 trucks were repaired.
- 2 new trucks were made.
- 64 long stacks were made.
- 89 petticoats were made.
- 2 tender frames were built.
- 63 spring boards were made.
- 78 front ends were applied.
- 6 pedestals were made.
- 41 boilers were tubed.
- 14 furnace hoods were made.
- 10 forges were repaired.
- 20 oil pans were made.
- 20 petticoats were repaired.
- 75 coal buckets were made.
- 20 shop trucks were repaired.
- 75 ash pan slides were made.
- 10 drop stacks were made.
- 20 foot plates were made.
- 20 brake beams were made.
- 18 coal doors were made.
- 20 coal chutes were made.
- 4 mud rings were welded.
- 1 ash pit box was made.
- 35,000 tubes were rolled and beaded.

Tin and Copper Shop.

- 3,200 sets metallic packing were made.
- 8,377 air hose were fitted with couplings.
- 2,129 signal hose were fitted with couplings.
- 2,377 steam hose were fitted with couplings.
- 277 engine pipes were overhauled and repaired.

- 26 headlights for snow ploughs were made.
- 254 economy heaters were repaired.
- 56 drip pans were made.
- 8 galvanized pipes were made.
- 459 grease plates were made.
- 164 copper strainers were made.
- 174 pump luggings were made.
- 22 wax boxes were made.
- 26 tender strainers were made.
- 138 headlight casings were repaired.
- 15 funnels were made.
- 8 forges were repaired.
- 2 tallow pipes were made.
- 192 lagging bands were made.
- 5 copper rings were made.
- 2 dippers were made.
- 3 iron buckets were made.
- 4 lamps were made.
- 24 paint pots were made.
- 16 flanges were made.
- 2 gas heaters were made.
- 2,200 copper clips were made.
- 4 bearings were babbitted.
- 3 fire hose nozzles were repaired.
- 3 tank pipes were repaired.
- 800 copper washers were repaired.
- 20 card holders were repaired.
- 36 cab lamps were made.
- 91 headlight shields were made.
- 1 muffler was made.
- 1 fire pot was made.
- 1 iron tool was made.
- 10 tin covers were made.
- 20 W. A. B. tenders were made.
- 2 ice tanks were made.
- 1 sand blast was made.
- 3 tin scoops were made.
- 24 indicator balls were made.
- 72 gas valves were repaired.
- 15 pump strainers were repaired.
- 148 curtain tins were repaired.
- 22 guard elbows were made.
- 1,000 copper gaskets were made.
- 2 copper shades were made.
- 55 car blind tins were made.
- 300 oil cups were made.
- 4,500 sets of valve stem packing were made.
- 5 copper covers were made.
- 5 snow ploughs were ironed.
- 19 tender beams were repaired.
- 2 locomotive cabs were repaired.
- 3 water service boilers were repaired.
- 18 brake beams were repaired.
- 6 tender trucks were repaired.
- 11 foundation rings were renewed.
- Gas holders were repaired and new covers put on.
- Feed water heaters were repaired.
- 1 oil furnace was built.
- 3 new tenders were piped.
- 60 coal hopper doors were made.
- 100 water tank spouts were repaired.
- Steam Shovel No. 4 was repaired.
- Coaling Crane No. 11 was repaired.
- 100 centre plates were made.
- 1 tender for pile driver was repaired.
- 4 coal chutes were made.
- 12 scraper blades were made.
- 330 double thick copper ferrules were made.

Repairs and alterations and renewals were made to copper pipes on steam pumps and lubricators, copper joints on steam chests, domes and cylinder covers, driving and truck boxes, Westinghouse air brake pipes, and the laggins on 207 locomotives passing through the shops.

Tenders were equipped with train line pipes for signal and steam lines, and all water pipes were overhauled and repaired where necessary on 140 tenders.

Repairs were made to the elevator in the general offices building at Moncton, and to the heating and plumbing at the following stations: Norton, Nauwigewauk, Apohaqui, passenger and freight stations, Moncton, Chatham Junction, Amberst, Sackville, Newcastle, Campbellton, Springhill Junction, Hampton, Sussex; also in the general offices building at Moncton; the official residences at Moncton, the government cottages at Moncton, offices at the new shops, Moncton, rest house, yard office, restaurant, freight car shop, cattle shed, erecting shop, and test room at Moncton.

Stoves, pipes, and furnaces were overhauled and repaired at all stations on the line where' required.

Electrical Department.

- | | |
|--|--|
| 2,100 extension cords and lamps were repaired. | 1 starter for Vacuum cleaner for Halifax was repaired. |
| 420 extension cords were made. | 1 self regulating meter for Halifax was re-wound. |
| 1,200 incandescent lamps were renewed. | New three power lines were run in the frog shop, and new lights and fixtures installed. |
| 52 locomotive cabs were piped and wired. | New lines were run in the boiler room, and new lamps and fixtures installed. |
| 164 headlight armatures were repaired. | New lines were run in the old frog shop, and five clusters were repaired. |
| 75 headlight lamps were repaired. | The foreman shunter's office was wired and fitted with new lights. |
| 61 armatures were rewound. | Official car No. 28 had batteries repaired and lights renewed; also electric bells installed; and generator and regulators all repaired. |
| 156 cab lamps were renewed and repaired. | Official car "Dufferin" was rewired complete, and small repairs were also made, and batteries cleaned. |
| 64 field coils were repaired and tested. | Car "Hochelega" had all wires removed and renewed, and fixtures were overhauled and painted. |
| 34 desk lamps and fixtures were repaired. | Repairs to wiring were made in cars "Niagara," "Connaught," "Acadia," "Bras d'Or," "Shelburne," No. 139, "Nipissing," and "Boularderie." |
| The fixtures in 6 cranes were given a thorough overhauling. | The following electrical work was done in the shops at Moncton:— |
| 233 starters were repaired. | In the car shop, 13 new Benjamin clusters were installed, 18 new extension cords were installed, 12 arc lamps with pulleys and cables were installed, 48 drop lamps were installed, new switch box transformers were installed for arc lamps, pipes for extension; lamps on centre columns were installed. |
| 83 new individual lamps for machines were installed. | The tin shop was piped and wired, and 8 drop lights installed; pipe cutting machine was repaired, armature set on, new starter was piped and wired. |
| 22 electric drills were repaired. | New power line put up to the planing mill, with pipe for same. |
| 3 electric drills were repaired. | New office in the freight car shop was repaired, piped and wired. |
| 8 new motors were installed. | Filling room was piped and wired for motor and lights; 18 Cooper Hewitt lights were repaired, and new tubes and shifters painted. |
| 10 clusters were made and installed. | Six new portable lamps installed for machines in planing mill, 22 motors and starters and circuit breakers were repaired, lamps were renewed and cleaned once a month. |
| 75 motors received new bushings. | Old office in the freight car shop was piped and wired for drop lights. |
| 2 electric hoists were repaired. | |
| 80 circuit breakers were repaired. | |
| 100 switches fixtures were repaired. | |
| 161 electric fixtures on locomotives were tested. | |
| 12 starters and frames were removed and re-installed. | |
| 16 pipes and conduits to motors were renewed. | |
| 3 pipe lines and a new wire line run in the power-house. | |
| 10 switches in power-house were removed and repaired. | |
| All the lighting circuits and 2 exciters in the power-house were repaired. | |
| Ignition system was overhauled and re-paired. | |
| 41 Cooper Hewitt lamps were repaired. | |
| 6 nitrogen lamps were installed in blacksmith shop, of 750 watts. | |
| 8 300-watt lamps were installed in the boiler shop, and a cluster. | |
| 18 four-light clusters were repaired and renewed. | |
| 16 benches were repiped. | |
| 9 armatures for D. C. motors were rewound. | |
| 7 armatures for A. C. motors were rewound. | |
| 14 batteries were newly insulated. | |
| 12 commutator mica rings were made. | |
| 4 magnet breakers were rewound. | |
| 1 generator was repaired for Campbellton. | |

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Electrical Department—Con.

Cabinet shop lights were renewed, and circuits repaired and lamps cleaned monthly, motors and starters and circuit breakers were repaired.

The new office in the first-class repair shop was piped and wired for drop lights, buffer motor was removed and new pipe line for motor and starter installed.

The following special work was done:—

Furnace pipe was repaired in blacksmith shop. Water line was installed in the new car shop extension.

Hydraulic valves in the gas house were repaired.

Oil tanks were installed in the brass foundry. Oil tanks were installed in the blacksmith shop.

Air line was installed in the frog shop.

A new tube welding machine was installed in the boiler shop.

A new tube sawing machine was installed in the boiler shop.

Old machines were removed from the old frog shop and installed in the new shop.

The gas engines were changed to use natural instead of artificial gas, necessitating the changing of all the valves, etc.

Three radiators were installed in the offices, with all piping and valves complete.

A gasolene tank was made for Stellarton.

In the upholstering shop, the motor and switch were repaired, and lights renewed and cleaned.

In the paint shop the lights and circuit were repaired; lamp, sockets, and guards renewed, and lamps cleaned monthly.

New lighting lines were run in basement of the stores building, and new lamps installed.

New bell wires and bells were installed in the stores' offices.

In addition to the above, running repairs were made to all machines in the shops, to the gas engines, air compressor, water pumps, boilers, cranes, and to water, air, and steam lines in all the shops.

A roof was built for the Bettington boiler, and the stokers repaired.

A new steam line was installed in the frog shop, and an air hoist in the machine shop. A locomotive cleaner was manufactured.

Running boards were put on crane in the boiler shop.

Three gasolene tanks were made.

Machines were repaired in the blacksmith shop, and a small steam hammer installed.

Steam pipes were overhauled in all the shops. Air lines were overhauled and repaired in all the shops.

Three boilers were repaired for heating purposes at pier No. 2, Halifax.

The following machines were purchased for the locomotive shop at Moncton, and installed:—

1 Hart superheater flue welding machine, capacity 2" to 6½" tubes completed with welding mandrels for 2" and 2½" tubes for locomotives, and 4½" and 4¾" superheater tubes; arranged for motor drive, but exclusive of motor.

1 combination hot saw and tube expander for 1½" to 3" tubes, arranged with magazine for holding safe ends, and with expanding feature.

1 single cylinder pneumatic superheater flue swedging machine for 1½" to 6½" tubes, and with dies for 2" and 2½" locomotive tubes, and 5" and 5½" superheater tubes.

Two-5-horsepower alternating current 220 volts, 3 phase, 60 cycle induction motors, 1,200 r. p. m. These motors are for driving a Hartz superheater flue welding machine and Ryerson riveting hammer.

The following machinery was purchased for power plants at the following places, and installed:—

Moncton—

1 No. 3 Morse-Dexter valve reseating machine outfit for ½-inch to 3-inch valves.

Campbellton—

1 400-horsepower open-type feed water heater.

1 No. 3 Morse-Dexter valve reseating machine outfit for ½-inch to 3-inch valves.

1 6 inches by 10 inches by 12 inches vacuum pump.

Truro—

1 400-horsepower open-type feed water heater.

1 7½ inches by 5 inches by 10 inches duplex boiler feed pump.

1 6 inches by 4 inches by 6 inches duplex boiler feed pump.

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1 13 inches and 20 inches, 19 inches and 12 inches by 14 inches air compressor.

1 6 inches by 10 inches by 12 inches vacuum pump.

Stellarton—

1 400-horsepower open-type feed water heater.

1 No. 3 Morse-Dexter valve reseating machine outfit for ½-inch to 3 inches valves.

1 6 inches by 10 inches by 12 inches vacuum pump.

Mont Joli—

1 200-horsepower open-type feed water heater.

1 72 inches by 16 feet return tubular boiler and stack.

St. John—

- 1 6 inches by 4 inches by 6 inches duplex boiler feed pump.
- 1 200-horsepower open-type feed water heater.

Point Tupper—

- 1 6 inches by 4 inches by 6 inches duplex boiler feed pump.
- 1 5½ inches by 8 inches by 7 inches vacuum pump.
- 1 200-horsepower open-type feed water heater.

Mulgrave—

- 1 6 inches by 4 inches by 6 inches duplex boiler feed pump.
- 1 200-horsepower open-type feed water heater.

Chaudière Junction—

- 1 7½ inches by 5 inches by 10 inches duplex boiler feed pump.
- 1 200-horsepower open-type feed water heater.

Sydney—

- 1 7½ inches by 5 inches by 10 inches duplex boiler feed pump.
- 1 11 inches and 18 inches, 16 inches and 10 inches by 12 inches air compressor.
- 1 200-horsepower open-type feed water heater.

Rivière-du-Loup—

- 1 10 inches by 6 inches by 12 inches duplex boiler feed pump.
- 1 No. 3 Morse-Dexter valve reseating machine outfit for ½-inch to 3-inch valves.
- 1 6 inches by 10 inches by 1 inch vacuum pump.

Halifax Elevator—

- 1 locomotive-type stationary boiler with 1,250 square feet heating surface, 16 feet long, width across fire box, 6 feet.

The following work was done in the car shops at Moncton during the year:—

- 19 express refrigerator cars were built.
- 2 box cars were converted into flangers.
- 9 box cars were converted into stock cars.
- 1 box car was converted into survey and inspection car.
- 1 flat car was converted into a ballast trimmer.
- 9,646 freight and 264 passenger cars were turned out of the shops at Moncton repaired during the year.

The following special work was done:—

- 1,118 freight, 48 passenger cars and 1 flanger were equipped with United States safety appliances during the year, in compliance with requirements of the Interstate Commerce Commission.
- 269 F-36 triple valves were removed from freight cars and K-1 applied.
- 347 freight cars were equipped with acme levers.
- The Bohn syphon system was installed in 5 dining cars, "Oromocto," "Arthabasca," "Madawaska," and "Tobique."
- Sofas were remodelled in the smoking room of 8 sleeping cars, "Nashwaak," "Chedabucto," "Tantramar," "Shenody," "Cascapedia," "Painsec," "Quebec," and "Petitcodiac."
- Bracket lamps in dining cars were changed from upright to turn down lamps in 8 cars, "Frontenac," "Madawaska," "Malagash," "Oromocto," "Tobique," "Arthabasca," "Shogomoc," and "Whyocomagh."
- Folding wash basins were changed to one continuous nickeline end wash basin in sleeping car "Antigonish."
- Marble wash basins and dry hoppers were changed to nickeline wash basins and flush closets in five parlor cars, "Lorne," "Stanley," "Acadia," "Lansdowne," and "Evangeline."
- 61 passenger cars were equipped with fire extinguishers.
- 26 passenger cars had the flat flame gas lamps changed to mantle lamps.
- 1 postal and express, No. 627, was changed to full postal.
- Part of the work of converting four old sleeping cars, "Amherst," "Dalhousie," "Kennebecasis," and "Montmorenci" into colonist cars was done.
- The smoking rooms in 3 first-class cars were removed, Nos. 93, 94, and 95.
- 3 postal and smoking cars were changed to postal and express, Nos. 622, 623, and 624.
- Drop points were applied to 14 snow ploughs.
- 4 combined colonist and baggage cars were changed to commissary cars.

The following rolling stock received general repairs:—

- 2,675 freight.
- 59 ploughs and flangers.
- 15 first-class.
- 5 colonist.
- 5 mail.
- 6 sleeping.
- 1 store supply car.
- 3 vans.
- 3 auxiliary.
- 5 second-class.
- 11 baggage.
- 2 official.
- 11 combination.

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The following cars received ordinary repairs:—

101 vans.	75 first-class.
21 second-class.	13 colonist.
52 baggage.	12 mail.
2 official.	6 parlour.
21 sleeping.	6 dining.
22 combination.	3 commissary.
1 auxiliary.	4,317 freight.

The following rolling stock received minor repairs:—

76,871 freight.	5 pile drivers.
88 first-class.	37 second-class.
46 colonist.	33 baggage.
19 mail.	30 official.
4 parlour.	4 dining.
35 sleeping.	16 combination.
2 auxiliary.	

Paint shop.—The following cars were burnt off, primed, filled, rubbed, coated, lettered and varnished:—

7 sleeping.	1 official.
9 first-class.	5 second-class.
4 baggage.	4 colonist.
1 mail.	

The following cars were cleaned, cut in, and varnished:—

67 first-class.	20 baggage.
20 second-class.	15 mail.
12 colonist.	4 official.
5 dining.	14 sleeping.
6 parlour.	1 auxiliary.

The following rolling stock was painted, lettered and varnished:—

18 first-class.	25 second-class.
15 baggage.	52 vans.
6 colonist.	5 mail.
3 auxiliary.	1 dining.
6 sleeping.	15 flats.
42 ploughs.	13 steam shovels, cranes and derricks.
5 chanty cars.	
1,119 freight.	7,023 freight cars were re-lettered and touched up.
263 engines, tenders were painted, lettered and varnished.	

The following was also done:—

54 tool boxes were painted.	60 car ladders were painted.
62 switch signal and tail lamps were painted.	Parlour, dining, and sleeping cars were cleaned 11,934 times.
9 desks were painted.	First, second, and colonist cars were cleaned 55,177 times.
1,350 steam, air, and signal hose couplings were painted.	Baggage, mail, meat, and milk cars were cleaned 23,636 times.
5 large cases were painted.	Passenger, parlour, dining, and sleeping cars were disinfected 929 times.
19 outfit boxes were painted.	A number of articles were painted and lettered, such as smoke stacks, stepping boxes, ladders, baggage trucks, freight trucks, sashes, gangways, coal boxes, settees, head lights, ashpens, frames, stools, and various other smaller articles.
22 ladders were painted.	
15 chairs were painted.	
4 large cabinets were painted.	
51 notice boards were painted.	
29 trucks were painted.	
19 window screens were painted.	
13 tables were painted.	

Cabinet shop.—The following articles were manufactured:—

12 first-class car seats.	13 step ladders.
17 brush handles.	22 inlaid pockets.
1 battery truck.	3 blue print frames.
7 large boxes.	24 window screens.
107 storm sashes.	14 head boards.
17 pigeon holes.	2 gothic windows.
7 water tank fronts.	2 telephone poles.
8 pulleys.	6 large counters and fittings.
26 desks.	9 candle holders.
8 desk racks.	9 large cabinets.
6 large drawing tables.	10 small cabinets.
2 large cupboards.	740 feet moulding.
13 large cupboard doors.	97 large inlaid pockets.
3 blackboards.	41 small inlaid pockets.
2 travelling ladders.	38 window caps.
15 paper boxes.	78 window stops.
8 screen doors.	36 car doors.
6 lounges.	25 kitchen closets.
2 chairs.	3 large wardrobes.
19 nest drawers.	31 tables.
10 card cases.	3 large assorting tables.
6 ring boards	285 picture and mirror frames.
26 engineers' tool boxes.	1 large battery cupboard.
10 tool chests.	58 seat bottoms.
11 large partitions.	27 seat ends.
33 hopper top and brackets.	143 seat backs.
73 stools.	3 refrigerators for dining cars.
12 desk lights.	14 shelves.
16 stepping boxes.	2 sinks.
87 vestibule doors and panels.	1 large filing cabinet.
74 car sashes.	1 loose leaf filing cabinet.
22 cab sashes.	61 reversible tables.
321 bulletin boards.	16 tank covers.
21 table tops.	32 car steps.
4 trap doors.	450 shop orders were filled.

In addition to the above a large number of articles were manufactured, such as towel rollers, train bulletin boards, knife boxes and holders, watchmen's clock keys, and many other smaller articles.

The following articles were repaired:—

13 desks.	9 sets hand boards.
1 cabinet.	6 sets screens.
59 chairs.	12 stepping boxes.
3 sleds.	7 drawers.
45 office doors.	107 car sashes.
7 tables.	4 sofas.
4 paper racks.	2 card cases.
6 sleeping berths.	37 seat bottoms.
19 seat backs.	4 paper boxes.
40 sets hopper tops.	8 pigeon holes.
2 gates.	30 panels large.
18 drawing tables.	8 tee squares.
12 card racks.	15 car vestibules were rebuilt.
20 ladders.	9 paper cases.
40 colonist car tables.	5 cabinet doors.
40 art glasses.	107 car doors.
20 window stop frames.	12 first-class car seats.

Freight car repair shop.—(In addition to the ordinary repairs):—

316 new roofs were applied to freight cars.	357 freight cars were painted.
347 cars were equipped with acme levers:	74 snow ploughs were fitted with automatic couplers.
6 new freight trucks were built.	

Upholstering shop.—Heavy repairs which consisted of renewing upholstery, carpets, mattresses, blinds and general cleaning, were made to the following cars:—

5 dining.	13 sleeping.
4 official.	12 first-class.
7 second-class.	10 colonist.
2 mail and smoking.	

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Medium repairs which consisted of washing seats and backs, floors and interior, and cleaning the mattresses, seats and backs and carpets and the renewing of blinds in the following cars:—

2 dining.	5 sleeping.
2 official.	17 first-class.
3 colonist.	3 mail and smoking.

Light repairs which consisted of repairing and patching the seats and backs, mattresses, carpets and wicker chairs in the following cars:—

9 sleeping.	6 dining.
60 first-class.	8 colonist.
3 mail and smoking.	

The following material was manufactured on shop orders:—

10 mattresses and pillows.	847 cab seats and backs.
60 vestibule curtains.	84 water hose.
20 vestibule dust curtains.	1,692 engine curtains.
4 sets of crane curtains.	13 stretchers.

A number of smaller articles were also manufactured consisting of tool bags, window blinds, flags, blacksmith's aprons, mail bags, and repairs were made to a number of articles consisting of chairs, lounges, stools, car seats, tool bags, stretchers, vestibule curtains, window lifts, step ladders, portiers, mattresses, and various smaller articles.

The following material was manufactured in the wood-working mill:—

77 truck bolsters.	39 hand cars.
2,109 buffers.	31 end doors.
3,023 draft timbers.	32 tool boxes.
50 truck sides.	1 extension ladder.
586 box car doors.	12 push car frames.
273 foot boards.	69 push cars complete.
5,063 car ladders.	51 spring boards.
45 long ladders.	22 brake beams.
412 end beams.	4 ballast templates.
96 head stocks.	44 sleds.
24 cattle pens.	14 hand car wheels.
2,411 rough boxes.	21 refrigerator car doors.
1,350 saddles.	464 stacks.
667 shop orders were completed and delivered to the Stores Department.	3,192,294 feet of lumber.

The following articles were repaired in the planing mill:—

165 baggage trucks.	64 hand cars.
21 sleds.	21 wheelbarrows.

The following were purchased for the car department, and installed:—

Pintsch gas equipment for charging passenger cars—	3 lengths of 50 feet each of $\frac{1}{2}$ -inch pneumatic tool hose, with couplings, for steel car repair work.
4 265 cubic feet gas tanks for Lévis.	1 portable forge No. 625-B, figure 2028, for steel car repair work.
300 F8 $1\frac{1}{2}$ -inch extra heavy pipe, 15 extra heavy tees $1\frac{1}{2}$ inches by $1\frac{1}{2}$ inches by $\frac{3}{4}$ inch, and 15 filling valves for Moncton yard.	2 D. A. 00 code 3200 Van Dorn electric drills for 200 volts, 1 phase, 60 cycle alternating current; to run 1,650 r. p. m., weight 9 pounds, with combination spade and breast plate handle and 00 chuck and 10 feet of electric conductor with fused Edison socket, for steel car repair work.
For Car Shops, Moncton—	
1 No. 60 Boyer long stroke riveting hammer, weight 23 pounds, for steel car repair work.	

Rivière-du-Loup shops.—The following work was done during the year:—

39 locomotives received general repairs.	34,491 bolts were forged.
1 locomotive received heavy repairs.	87,005 bolts were screwed.
22 locomotives received specific repairs.	10,033 studs were screwed.
4 fire boxes were mauld.	800 pounds nuts were tapped.
4 tube sheets were made.	55 engines and tenders were painted.
4 side sheets were made.	65,499 pounds brass castings were made.
24 fire boxes were patched.	1,800 sets metallic piston rod packing were made.
83 boilers were tested.	1,950 sets metallic valve stem packing were made.
31 engine truck wheels were retired.	34,121 pounds forgings were made.
40 tender truck wheels were retired.	503 driving springs were repaired.
161 driving tires were turned off.	79 engine truck springs were repaired.
72 pairs engine truck tires were turned off.	208 tender truck springs were repaired.
227 pairs tender truck tires were turned off.	A large number of freight cars received light repairs during the year, and a lot of work was done for other departments of the railway.
15 pairs car tires were turned off.	
3 new cylinders were applied.	
28 pilots were made.	

Halifax shops.—The following work was done during the year:—

6 locomotives received medium repairs.	13,500 studs were screwed.
37 locomotives received specific repairs.	13 engines and tenders were painted.
626 new tubes were applied.	122 sets metallic piston rod packing were made.
10 fire boxes were patched.	49 sets metallic valve stem packing were made.
19 boilers were tested.	A large number of freight cars received light repairs during the year, and a lot of work was done for connecting railways and for other department of this railway.
12 engine truck wheels were retired.	
31 driving tires were turned off.	
27 engine truck tires were turned off.	
60 tender truck tires were turned off.	
4 pilots were made.	
900 bolts were forged.	
3,450 bolts were screwed.	

PRINCE EDWARD ISLAND RAILWAY.

The following is a summary of the principal work performed at the shops of the Prince Edward Island Railway at Charlottetown:—

Locomotive shop.—Fourteen locomotives received general repairs; fifty-five locomotives received specific repairs; six locomotives received light repairs; eleven locomotives received side and main rod brasses; all the motion and running gear was thoroughly examined; boilers were examined internally, externally and were painted; staybolts in boilers were thoroughly examined, and five hundred and sixteen new staybolts put in; eight locomotives received new pistons and twelve piston rods; six tender tanks and six tender frames were largely rebuilt; five fireboxes were patched; six crossheads were made and fourteen were tinned and planed; three engine frames were rewelled.

The following new parts were supplied: Sixteen driving boxes, twenty truck boxes, six whistles, thirteen pops, twenty pop valves, twenty slide valves, twenty-four valve stems, three hundred and twenty-five sets metallic packing, twenty cylinder cocks, four blow-off cocks, forty punches, six smoke stacks, one hundred and fifty-five truck straps, six truck bolsters, forty brass valve spindles, twenty check valves, twenty-four taps, ten valve yokes, eight crank pins, four bell ringers, twenty injector spindles, six throttle glands and valves, six steam pipes, twenty engine springs, and one driving axle.

Thirty injectors were repaired, seventy-two oil cups, twenty piston rod oil cups, twenty-six air pump cylinders, twelve slush boxes, twenty-four slide blocks, sixty brake levers, twenty-five brake jaws, four hundred and fifty brake pins, and two hundred and fifty brake bolts were bored and fitted out. Twenty-four sets driving wheels, thirty sets truck wheels, one hundred and twenty sets steel wheels, and ninety new axles were turned off.

One hundred and ten sets wheels were pressed on axles, five hundred and twenty-six new tubes were welded and put in boiler, seventy thousand pounds of iron and four thousand one hundred and fifty pounds of steel were forged, five thousand pounds of nuts were tapped, and a lot of running repairs made.

One hoisting engine was fitted out and repaired, one steam shovel was repaired.

The following repairs were made to a locomotive boiler: New firebox, tubes, front plate outside shell, door ring and casing.

Brass foundry.—Output, 13,975 pounds of brass casting.

Copper shop.—Repaired the lagging on twenty-nine locomotive boilers.

Repaired fifty-nine headlights, forty copper pipes, twelve tank spouts, twenty-four train spouts, sixty engine lamps, eighteen station lamps, thirty-three car lamps, fourteen iron pipes, two hundred and eighty-five oil cans, oil tanks for the stores department, blast pipe in the blacksmith shop and eight excluders for reversing lever, sixty neck rings, forty truck boxes, thirty-two brasses and twenty-four driving boxes were babitted.

Twenty-eight crossheads and forty rod brasses were tin lined.

Forty-eight copper wire joints, seven tank spouts, ten copper pipes, twenty-five iron pipes, forty-four truck funnels, sixteen smoke stacks, four oil pumps, three

aluminum card cases for stationary boiler, one tin pan for Summerside freight office, four tin pans for power-house, sixty pounds solder, twenty water glass shields, twenty-four tin signs for freight department, pipe and elbow for Alberton station, and fourteen nozzles were made.

Nine ice chests were zinc lined, forty copper pipes were annealed and examined, six engine pilots were legged, sixty water cans for cars were repaired, overflow pipes on all engines were changed twice.

Car shop.—The following received repairs: Sixty-eight first class cars, forty-eight second class cars, twenty-six express and baggage cars, ten postal and smoking cars, two hundred and sixty-eight box cars, one hundred and fourteen platform cars, three vans, eight snow ploughs, five flangers, three refrigerators and seventeen freight trucks.

Three pairs of passenger car trucks, ten push cars, three new freight trucks, four new baggage trucks, four cattle loaders, four new office sitting desks, nine pairs sashes and frames, forty-one loading platforms, thirteen doors and frames, one sheep loader, six cash drawers, six Nunn signal ladders, five ice boxes and six coal boxes for coal shed were built. Seventy-five freight car truck bolsters, fifty-three brake beams, thirty-seven end sills, thirty-two spring boards, eighteen body bolsters, eighty-seven pairs of freight car trucks, one hundred and five freight car oil boxes, eighty oil boxes for passenger cars, six coal boxes and eleven hand cars were rebuilt, ten box cars received new sheathing, new roofs were put on thirty-five box cars, and new boxes on five coal cars.

Paint shop.—Twelve locomotives were painted and varnished, eleven first class cars were varnished, eight second class, four postal and smoking and three express and baggage were cleaned and varnished, three postal and baggage were cleaned, and forty-four box and stock cars, twenty platform and twenty coal cars, three flangers and five snow ploughs were painted.

Fourteen hand cars, fifty-one switch targets, three cattle loaders, three loading platforms, six track levels, twenty-four farmers' gates, twenty-eight doors, twenty-eight windows and frames, three hand lorries, six baggage and freight trucks, two steam shovel tanks and smoke stacks, three switch frames and legs of water tank, twelve tank arms and twenty-three sign boards were painted.

Four cash drawers, one press stand, four setting desks, two shelves, eighteen pieces office furniture, ten card cases and one hand rail were stained and varnished, twenty-three new sashes were glazed and painted, and about one hundred and twenty-five panes of glass put in buildings, and two office windows and twenty-two freight signs were lettered. The flag stations at St. Andrews, five houses, and Duvar were painted inside and out; the flag station at New Zealand was primed, and the track scale house was painted outside.

SAFETY FIRST.

The following special work was done in the shops at Moncton in connection with the Safety First movement to ensure greater protection to the men and also to safeguard the property: Thirty-five machines and gears were inclosed with rails and netting; five circular saws were encased; five emery wheels were equipped with shields; nine new horses were made; six band saws were encased; four fly wheels were made safe; guards were placed under wires on cranes; the floors in the shops were repaired; the crane tracks in all shops were repaired; a new ash-run was built; set screws on all

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machines were inclosed; a new movable platform was made; a new chain for hoisting was made; staging was built for oiling the shafting; smoke stacks in the blacksmith shop were renewed; all pipe lagging was repaired; all circuit breakers were renewed; running boards were put on cranes; a gate was made for the loft in the cabinet shop; all shop doors were repaired and made safe; a guard was applied to the tube cutter in the boiler shop; a shield was put around the toolmakers' anvil; the traveller in the boiler shop was repaired; the face plate was repaired; repairs were made to the cranes in the erecting shop; all steam pipes were repaired; pulleys in the store elevator were repaired and a shield applied; sidewalks were repaired; windows which were unsafe were removed; repairs were made to acetylene gas pipes.

REPORT OF THE GENERAL SOLICITOR.

CONTRACTS and Agreements entered into by Canadian Government Railways, Fiscal Year ending March 31, 1915.

No.	Date of Contract.	Entered into with.	Description.
1914.			
7252	May 1	Canadian Car & Foundry Co., Ltd	Delivery of 180 steel frame box cars.
7248	May 1	Canadian Locomotive Co., Ltd.	5 simple switching engines.
7249	" 1	Canadian Locomotive Co., Ltd....	6 consolidated-type freight locomotives.
7258	" 20	Nova Scotia Car Works, Ltd....	Delivery of 180 steel frame box cars.
7272	" 22	International Correspondence Schools.	For the handling of the International Correspondence Schools' instruction car over the railway for the purpose of instructing enginemen, etc., of the railway at different points.
7276	" 29	Dominion Iron and Steel Co., Ltd	Delivery of 5,000 tons of steel rails.
7298	June 10	Dominion Bridge Company, Ltd..	Manufacture, erection, and completion of the following steel railway bridges: Nepisiguit, Tete a Gouche, Moffatt's, Metis, Rimouski, one-half mile west of Trois Pistoles, Trois Pistoles.
7299	" 10	Canadian Allis-Chalmers, Ltd..	Manufacture, erection, and completion of bridge three-quarters mile west of St. Anaclet, etc.
7300	" 10	Hamilton Bridge Works Co., Ltd	Manufacture, erection, and completion of Barney's River West bridge.
7301	" 10	Dominion Bridge Company, Ltd.	Manufacture, erection, and completion of 12 steel railway bridges.
7304	" 17	Canadian Allis-Chalmers, Ltd....	Manufacture, erection, and completion of Bras St. Nicholas bridge.
7305	" 17	Rbodes-Curry Co., Ltd.....	Manufacture, erection and completion of steel railway bridge at 4 miles west of Riviere-du-Loup.
7346	July 22	John Moffatt & Shives Lumber Co., Ltd.	For certain works of improvement in connection with I.C.R. bridge spanning Christopher's brook and Moffatt's flat, N.B.
7357	Aug. 4	The Northern Electric & Manufacturing Co., Ltd.	Installation of a telephone train despatching circuit between Truro and Halifax, N.S.
7362	" 13	Montreal Locomotive Works, Ltd..	5 Pacific-type locomotives (73-inch drivers)
7363	" 13	Montreal Locomotive Works, Ltd..	5 Pacific-type locomotives (69-inch drivers)
7369	" 21	Corporation of the City of Fraserville, P.Q.	Supply of water.
7377	" 29.	Union Switch & Signal Company	Installation of automatic signals from St. John to Hampton—Moncton to Painssee Junction, N.B., and Windsor Junction to Halifax, N.S.
7400	Sept. 5	W. M. Leacy.....	Construction of the substructures of Kamouraska, St. Jean Port Jobi, crossing over N.T.R. and Black River bridges.
7391	" 5.	John McQuarrie.....	Delivery of 3 standard shelters and 24 standard tool houses.
7394	" 5	Eastern Car Co., Ltd.....	Delivery of 180 steel frame box cars.
7410	" 12	Angus McGillivray.....	Construction of a telegraph line of one wire from a point at or near Dartmouth, N.S., to a point at or near Upper Musquodoboit, N.S.
7409	" 19.	McDonald & McIntosh.....	Construction of the substructures of Barney's River east and west crossing bridges.
7434	" 24	R. B. Stewart.....	Construction of the substructure of Barnaby River third crossing bridge.
7433	" 24	Eastern Car Company, Ltd.....	Supply and delivery of four 75-ton capacity pit cars.
7436	Oct. 2.	J. W. Begin & J. A. Boulay.....	Erection of combined station, freight shed and dwelling at Ste. Perpetue, Que., and erection and completion of extensions to freight sheds at Matapedia, Que., Bathurst and Millerton, N.B.
7516	" 30.	R. S. & J. H. Henderson.....	Construction of the substructures of Riviere Bras St. Nicholas, and Riviere du Sud bridges.

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CONTRACTS and Agreements entered into by Canadian Government Railways, Fiscal Year ending March 31, 1915.—*Concluded.*

No.	Date of Contract.	Entered into with.	Description.
7542	Nov. 17.	Commissioners of the N. T. R.	Erection for the Government Railways at the commissioners' expense of a double track bridge over undercrossing of N. T. R., three-quarters mile west of Chaudière curve, Quebec.
7537	" 20.	Dominion Bridge Co., Ltd.	Manufacture, erection and completion of 14 steel railway bridges.
7536	" 20	Maritime Bridge Company, Ltd.	Manufacture, erection and completion of 12 steel railway bridges on the I.C.R., including the removal of the present superstructures.
7538	" 20.	Hamilton Bridge Works Company, Ltd.	Manufacture, erection, and completion of 4 steel railway bridges.
7550	" 20	Dominion Bridge Company, Ltd.	Manufacture, erection, and completion of Little Forks bridges.
7539	" 20.	Dominion Iron & Steel Co., Ltd.	Delivery of 10,000 tons of steel rails.
7573	Dec. 15.	Hagen & Co., Ltd.	Heating and plumbing, pier No. 2, Halifax, N.S.
7572	" 18	R. B. Stewart	Construction of the substructures of Kouchibouguais, Barnaby River second crossing, one-half mile west of Sayabec and Black River bridges.
7579	" 21	Aqueducts, Limited.	Water Supply at Chaudière Junction, Que.
7577	" 22.	Nova Scotia Construction Co., Ltd.	Construction and completion of bulkhead north of pier No. 2, Halifax, N.S.
7580	" 29.	Nova Scotia Construction Co., Ltd.	Interior fittings, pier No. 2, Halifax, N.S.
	1915.		
7593	Jan. 15.	Canadian Car & Foundry Co., Ltd.	Delivery of 6 steel frame first-class day coaches.
7595	" 18.	The Shedden Forwarding Co., Ltd.	Cartage of freight in the city of Montreal and St. Hyacinthe, Que.
7606	Feb. 9	Soper & McDougall	Main Street subway, Moncton, N.B.
7617	" 18.	Dominion Bridge Co., Ltd.	Manufacture and erection of seven steel railway bridges.
7628	" 23.	Town of Drummondville, P.Q.	Supply of water.
7619	" 23.	John Starr Son & Co., Ltd.	Supply and installation of electrical equipment for new pier No. 2, Halifax, N.S.
7624	Mar. 1.	Canadian Car & Foundry Co., Ltd.	Supply and delivery of five steel snow ploughs.
7633	" 11.	Preston Car & Coach Co., Ltd.	Supply and delivery of four steel sleeping cars.
7632	" 11.	National Steel Car Company.	Supply and delivery of eight steel sleeping cars.
7634	" 11.	Eastern Car Company, Ltd.	250 all-steel dump cars of 50-ton capacity.

H. F. ALWARD,

General Solicitor, Canadian Government Railways.

PROPERTY CONVEYED TO CANADIAN GOVERNMENT RAILWAYS, FISCAL YEAR ENDING MARCH 31, 1915.

6 GEORGE V, A. 1916

No. of Deed.	Date of Deed.	Grantor.	Description.	County and Province.	Area.	Amount.
						\$ cts.
7660	Feb. 14	George J. England, et ux.	Land at George's River.	Cape Breton, N.S.	1.64 acres.	200 00
7665	Feb. 14	John Almond, et ux.	"	"	1.58 "	200 00
7667	Feb. 14	John G. Musgrave, et ux.	"	"	0.45 "	35 00
7668	Feb. 14	Angus Watson, et al.	Little Bras D'Or.	"	1.78 "	250 00
7669	Feb. 14	George Hull, et ux.	"	"	1.71 "	600 00
7687	Feb. 14	James Levi Hull, et ux.	"	"	0.77 "	380 00
7696	Feb. 14	Eliza J. Christie, et al.	"	"	3.03 "	325 00
7674	Mar. 21	Harrnet Agnes Moffat, et al.	"	"	2.28 "	600 00
7688	Mar. 21	William Hull, et ux.	"	"	0.65 "	585 00
7690	Mar. 21	William H. Johnston, et al.	George's River.	"	1.75 "	150 00
7670	Mar. 21	Peter D. Almond, et al.	"	"	1.64 "	223 00
7661	Mar. 28	Laurie Jessonne, et ux.	"	"	2.62 "	335 00
7669	Mar. 29	Susan Jessonne.	"	"	3.38 "	450 00
7676	Mar. 29	Peter B. Moffatt, et ux.	Little Bras D'Or.	"	0.51 "	80 00
7656	Mar. 30	Neil McKinnon, et al.	George's River.	"	1.45 "	200 00
7659	Mar. 30	Matilda J. Ingraham, et al.	"	"	2.30 "	300 00
7666	Mar. 30	Peter Almond, et ux.	"	"	1.49 "	700 00
7685	Mar. 30	Mary Ann Ross, et al.	Little Bras D'Or.	"	0.35 "	40 00
7678	April 1	Sarah Cashin.	"	"	0.54 "	120 00
7679	April 1	Edward Moore, et al.	"	"	0.04 "	100 00
7664	April 3	James Almond, et ux.	George's River.	"	1.36 "	580 00
7689	April 3	Edwin W. Johnston, et al.	Little Bras D'Or.	"	2.40 "	500 00
7692	April 8	George Howatson, et ux.	"	"	0.73 "	150 00
7662	April 12	Kennie S. Piplar, et al.	George's River.	"	0.36 "	110 00
7680	April 15	Mary A. Debison, et al.	Little Bras D'Or.	"	0.46 "	100 00
7697	April 20	Joseph McPherson.	"	"	0.12 "	900 00
7675	April 29	School Trustees of Little Bras D'Or.	"	"	0.34 "	40 00
7682	May 21	John Hood.	"	"	0.83 "	140 00
7683	May 21	Daniel Hood, et ux.	"	"	0.46 "	300 00
7694	July 31	Mary S. Howatson, et al.	"	"	0.02 "	1 00
7693	July 31	Robert B. Christie, et ux.	"	"	13.843 sq. ft.	25 00
7697	Aug. 7	William Pero, et ux.	Sydney Mines.	"	2.14 acres.	300 00
7671	Aug. 30	William Pero, et ux.	George's River.	"	2.17 "	297 00
7691	Oct. 4	William J. Johnston, et ux.	Little Bras D'Or.	"	"	"
7695	Dec. 18	Alexander Campbell, et ux.	"	"	"	"
	1913.					
7751	Feb. 20	Ellen Russell.	Land at East Lawrencetown.	Halifax, N.S.	10.21 acres.	1,200 00
7388	April 8	George J. Sproul, et ux.	Chatham.	Northumberland, N.B.	1.3 "	300 00

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*7385	June 4	William J. Kelly	"	"	3-58	400 00
*7385	June 23	George Simpson, <i>et ux.</i>	"	"	1-63	250 00
*7553	Oct. 30	Reuben G. Crowell, <i>et al.</i>	Halifax, N.S.	"	3-44	68 80
*7558	Oct. 30	Reuben G. Crowell, <i>et al.</i>	Eastern Passage	"	4-22	84 40
*7387	Nov. 15	Samuel Waddleton, <i>et ux.</i>	Chatham	"	1-46	700 00
*7391	Nov. 24	Minnie J. Blenkhorn	Northumberland, N.B.	"	0-233	1 00
*7656	Dec. 1	John McMullin, <i>et ux.</i>	Cumberland, N.B.	"	1-04	581 25
*7658	Dec. 1	Edward J. Johnston, <i>et ux.</i>	Cape Breton, N.S.	"	0-07	26 15
*7672	Dec. 1	Joseph O'Handley, <i>et ux.</i>	"	"	0-96	435 93
*7684	Dec. 1	Robert D. Wilson, <i>et ux.</i>	"	"	1-72	335 00
*7291	Dec. 12	Alice Ross	Pictou, N.S.	"	460 sq. ft.	500 00
*7673	Dec. 15	Mary Ann O'Handley, <i>et al.</i>	Cape Breton, N.S.	"	1-01 acres	383 62
1914.						
*7739	Jan. 2	Amedee Roy	St. Pierre	Montnagmy, P.Q.	11,130 sq. ft.	556 00
*7470	Jan. 8	Clara Murchy, <i>et al.</i>	Middle Musquodoboit	Halifax, N.S.	7-72 acres	400 00
*7501	Feb. 27	Aubrey MacDonald, <i>et al.</i>	Eastern Passage	"	3-75	18 75
*7471	Mar. 9	Robert McGunnigle, <i>et ux.</i>	Edusvale	"	2-12	78 44
*7502	Mar. 9	Stacey Crowell	East Lawnecetown	"	0-80	100 00
*7761	Mar. 9	Donald Horne, <i>et al.</i>	Eastern Passage	"	0-18	10 00
*7667	Mar. 16	Christie McKay, <i>et al.</i>	George's River	Cape Breton, N.S.	2-13	356 25
*7519	Mar. 17	Amos Conrod, <i>et al.</i>	East Lawnecetown	Halifax, N.S.	2-80	500 00
*7563	Mar. 20	George W. Lloy, <i>et ux.</i>	"	"	1-19	225 00
*7472	Mar. 30	Richard Dunbrack, <i>et al.</i>	Meaghers Grant	"	4-13	225 00
*7473	April 8	George Y. Silbey, <i>et ux.</i>	"	"	1-94	400 00
*7590	April 15	The Carritte Paterson Mfg. Co., Ltd.	Fairview	"	4,282 sq. ft.	1
*7254	April 15	F. de L. Clements	Gibson	York, N.B.	4,956	500 00
*7474	April 17	Willis E. Hebb, <i>et ux.</i>	Middle Musquodoboit	Halifax, N.S.	2-08 acres	200 00
*7475	April 18	George B. Redmond	Centre Musquodoboit	"	2-13	150 00
*7476	April 20	John Gazta, <i>et al.</i>	Musquodoboit Harbour	"	4-56	22 80
*7550	April 20	John Gazta, <i>et al.</i>	Musquodoboit	"	1-08	5 40
*7495	April 20	The Alex Gibson Railway & Mfg. Co., Ltd., <i>et al.</i>	Marysville	York, N.B.	0-29	250 00
*7477	April 27	Wm. McLean, <i>et ux.</i>	Meaghers Grant	Halifax, N.S.	1-95	136 50
*7504	April 27	Provost Horne, <i>et ux.</i>	Eastern Passage	"	0-17	10 00
*7505	April 27	"	"	"	0-72	10 00
*7478	April 28	Joseph E. Sexton, <i>et ux.</i>	Meaghers Grant	"	1-51	30 20
*7479	April 28	Sydney Dickie, <i>et al.</i> , etc. (Trustees of Meaghers Grant Cemetery)	"	"	1-42	100 00
*7480	April 28	Wm. J. McBain	"	"	0-24	9 60
*7481	May 1	Burton Kerr	"	"	9-07	180 00
*7482	May 2	Wesley Ritey, <i>et ux.</i>	Crawford's Falls and Musquodoboit Harbour	"	5-50	220 00
*7483	May 2	Sarah Jane Anderson	Crawford's Falls and Musquodoboit Harbour	"	4-24	220 00
*7346	May 2	Harvey Gillis	A Reserved Roadway at Moffatt's Bridge in the Parish of Addington	Restigouche, N.B.	1-86 { 1-18	15 20

*Too late for last year's report.

PROPERTY conveyed to Canadian Government Railways for the Fiscal Year ending March 31, 1915—Continued.

No. of Deed.	Date of Deed.	Grantor.	Description.	County and Province.	Area.	Amount.
	1914					\$ cts.
7506	May 7.	Eliza Leslie, et al.	Land at East Lawrencetown	Halifax, N.S.	1.83 acres	350 00
7021	May 18.	James Benvie, et al.	Upper Musquodoboit.	"	1.52 "	12 16
7681	May 26.	Annie Carr	Sydney Mines	Cape Breton, N.S.	3,537 sq. ft.	270 00
7555	May 27.	Wm. A. Grant, et al.	Mesagers Grant	Halifax, N.S.	2.43 acres	52 00
7484	June 2.	John A. Fleming, et al.	Sydney Mines	"	1.01 "	35 35
7677	June 2.	Michael Cashin, et al.	Upper Musquodoboit	Cape Breton, N.S.	2,337 sq. ft.	236 25
7485	June 4.	Thos. E. Stewart, et al.	Musquodoboit Harbour	Halifax, N.S.	4.35 acres	604 50
7486	June 10.	Robert J. Stoddard, et al.	"	"	0.33 "	31 65
7487	June 12.	Abrer L. Gaetz, et al.	"	"	7.33 "	100 00
7642	June 18.	Byron S. Tulloch, et al.	Eastern Passage	"	3.21 "	1,000 00
7444	June 18.	Hugh Grant, et al.	Woodside	"	0.08 "	2, 100 00
7570	June 19.	Sons of Temperance of Nova Scotia	Upper Musquodoboit	"	1,073 sq. ft.	26 00
7518	June 19.	James K. Dickie, et al.	Mesagers Grant	"	2.15 acres	37 00
7445	July 6.	Phyllane Lecomte	"	Montmagny, P.Q.	"	225 00
7507	July 9.	Thomas A. Naugle, et al.	Land at West Lawrencetown	Halifax, N.S.	1.88 acres	100 00
7509	July 11.	John H. Trider, et al.	"	"	5.68 "	28 40
7508	July 11.	Scott Morash, et al.	Cole Harbour	"	0.56 "	50 00
7648	July 17.	John Urquhart, et al.	Urquhart's Siding	Colechester, N.S.	1.00 "	100 00
7763	July 22.	George G. Hawkins	Lawrencetown	Halifax, N.S.	3.60 "	175 00
7488	July 31.	Howard W. Wentzell, et al.	Eastern Passage	"	0.21 "	50 00
7509	Aug. 10.	Charles W. Danworth	"	"	1.20 "	6 00
7521	Aug. 13.	James A. Myers et al.	Eastern Passage	"	0.88 "	25 00
7520	Sept. 17.	Wm. J. McMullin, et al.	"	"	4.74 "	140 00
7569	Sept. 17.	John A. Shaw, et al.	"	"	0.16 "	0 00
7569	Sept. 17 & 21.	Clarence B. Cole, et al.	Little River	"	7.81 "	226 00
7557	Sept. 19.	Joseph Bruce, et al.	Middle Musquodoboit	"	5.35 "	1,337 50
7559	Sept. 21.	Robert E. Cruikshanks	Little River	"	3.22 "	80 50
7522	Sept. 21.	Burton J. Fox	Middle Musquodoboit	"	5.44 "	290 00
7554	Oct. 7.	Austen H. Richardson	Crawford's Falls	"	0.86 "	4 80
7041	Oct. 10.	Samuel Bayers, et al.	Crawford's Mills	"	0.91 "	4 55
7536	Oct. 13.	Samuel Gaetz	Crawford's Falls	"	1.48 "	80 00
7585	Oct. 14.	Robert E. Cruikshanks	Little River	"	0.73 "	30 50
7020	Oct. 14.	Sydney Cruikshanks	"	"	0.74 "	18 50
7571	Oct. 15 & 16.	{ T. Cumming Holman, et al. { G. N. Gordon McKeen, et al.	Middle Musquodoboit	"	0.02 "	26 00
7558	Oct. 30.	Reuben G. Crowell, et al.	Eastern Passage	"	4.22 "	84 40
7583	Nov. 2.	David A. Power, et al.	Crawford's Falls	"	7.93 "	39 05
7584	Nov. 4.	James Smith, et al.	"	"	2.01 "	10 15
7732	Nov. 17.	John C. Godfrey, et al.	Chatham	Northumberland, N.B.	8,114 sq. ft.	114 00

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7039	Dec. 1...	George Scott.....	Land at Little River.	Halifax, N.S.	3-25 acres.....	32 30
7049	Dec. 5...	Le Baron Drury Lockhart, et al....	" " Moncton...	Westmorland, N.B.	14,400 sq. ft.....	1 00
7057	Dec. 11...	Elizabeth Finnimore.....	" " Marysville	York, N.B.	0-39 acre.....	85 00
7058	Dec. 17...	John A. McPhee, et al.	" " Oxford.....	Cumberland, N.S.	785 sq. ft.....	100 00
1915.						
7040	Feb. 1...	John McFetridge, et al....	" " Middle Musquodoboit	Halifax, N.S.	0-11 acres.....	20 00
7050	Feb. 25...	Stephen J. McNeill, et al.	" " Jamesville.....	Victoria, N.S.	0-46 ".....	50 00
7702	Mar. 29...	George T. Sibley, et al.	" " Meagthers Grant ...	Halifax, N.S.	0-58 ".....	150 00
7764	Mar. 29...	Joseph Howe Roberts....	" " ".....	"	0-43 ".....	140 00
7767	Mar. 30...	James D. Grant, et al.	" " ".....	"	3-55 ".....	100 00

H. F. ALWARD,
General Solicitor, Canadian Government Railways.

LEASES granted by the Canadian Government

No.	Date of Signature.	Lessee.	Lands or rights demised.
	1914.		
7361	Jan. 1	Dominion Atlantic Ry. Co.	Line of railway from Windsor to Windsor Junction known as the "Windsor branch."
7652	Mar. 12	Town of Fraserville, Que.	Land at Fraserville, Que.
7121	Apr. 3	Clifford M. Jack.	Right to lay a 3-inch iron water pipe together with a 1-inch water pipe under the tracks of the I.C.R. near Halifax, N.S.
7219	" 14	Moncton Tramways Electricity and Gas Company.	Privilege to lay and maintain a 4-inch gas pipe along I.R.C. land between Union station and Railway avenue, at Moncton, N.B.
7224	" 23	The New Brunswick Telephone Co., Ltd.	Privilege of erecting a telephone line across the I.R.C. tracks and right of way at Beveridge, N.B.
7221	" 23	Bliss A. Keith.	Land at Anagance, N.B.
7225	" 23	Reginald West.	Land at Windsor Junction, N.S.
7255	May 4	Atlantic Sugar Refineries, Limited.	Right to lay water pipes under the tracks and over the property of the I.C.R. at St. John, N.B.
7275	" 20	Town of New Glasgow, N.S.	Privilege to lay and maintain 6 sewer pipes under the tracks and across the right of way of the I.R.C. at New Glasgow, N.S.
7274	" 23	J. Renwick Robertson.	Land at Rothesay, N.B.
7295	June 5	H. H. Blackader.	Land at Pictou Landing, N.S.
7311	" 17	Ferdinand Migneault.	Land at Metis, P.Q.
7333	" 17	Theodore Richard.	Land at Little Metis, P.Q.
7310	" 17	M. F. Bergman.	Land at Pugwash, N.S.
7326	" 29	Corp. of the Town of Trenton, N.S.	Privilege to lay a 24-inch vitrified clay sewer pipe through I.R.C. culvert at Smelt Brook, N.S.
7321	July 2	George R. Slack.	Land at Londonderry, N.S.
7327	" 8	La Cie Generale d'Entreprises Publiques, Ltée.	Privilege to lay and maintain one 3-inch galvanized iron pipe for compressed air and 1 1/2-inch galvanized iron pipe for electric wires, under tracks of the I.R.C. in Town of Levis, P.Q.
7319	" 8	Wilfred Levasscur.	Land at Eel River, N.B.
7316	" 7	N. B. Telephone Co., Ltd	Privilege of installing and maintaining a public pay station at Dorchester, N.B.
7320	" 8	Wm. McFatrige.	Land at Prince's Lodge, N.S.
7324	" 8	Caritte-Paterson Mfg. Co., Ltd.	Land at Fairview, N.S.
7337	" 8	Clifford M. Jack.	Land at Fairview, N.S.
7322	" 8	Fred King.	Land at Conn's Mills, N.S.
7334	" 13	Patrick Jordan Gray.	Land at Salisbury, N.B.
7356	Aug. 1	Calder Fraser Co., Ltd.	Land at Dartmouth, N.S.
7358	" 5	Charles Stewart McLean.	Land at Londonderry, N.S.
7384	" 7	J. A. Auger.	Land at Laurier, P.Q.
7359	" 7	Mrs. Catherine McPhee.	Land at Harcourt, N.B.
7365	" 10	S. L. Trafton.	Re operating speeder on N.T.R.
7379	" 12	Mt. St. Vincent Academy.	Land at Rockingham, N.S.
7374	" 21	Didace Gamahe.	Land at Causapscal, Que.
7370	" 21	East Pictou Telephone Co., Ltd.	Privilege of crossing with telephone wires the property and under the tracks of the I.R.C. at Mileage 73-08, Mulgrave, S.D.
7364	" 21	N.B. Telephone Co., Ltd.	Installing and maintaining public pay station at various points.
7375	" 21	East Pictou Telephone Co., Ltd.	Privilege of erecting a telephone line over the I.R.C. at Sutherland's platform and at a farra crossing one-quarter mile east of said platform.
7376	" 21	Wellington Dairying Co.	Land at Wellington, P.E.I.
7378	" 21	City of Moncton, N.B.	Privilege to lay and maintain a 12-inch terra cotta sewer pipe under the I.R.C. wharf track at Downing street.
7407	" 21	William Howe	Land at Fairview, N.S.
7368	" 31	George N. Prince	Land at Moncton, N.B.
7399	Sept. 5	Moncton Woodworking Co.	Land at Sunny Brae, N.B.
7404	Oct. 1	Jos. Meunier.	Land at Bic, Que.
7354	Nov. 10	Samuel Laughlin (assignee of est. of Wm. Sproule.)	Land at Campbellton, N.B.
7533	" 10	City of Moncton, N.B.	Land at Moncton, N.B.

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Railways, Fiscal Year ending March 31, 1915.

Area.	Term.	Commencement of term.	Annual Rental.	Duration, years.	First installment due.
			\$ cts.		
	99 years...	Jan. 1, 1914	22,500 00	Mar. 31 June 30 Sept. 30 Dec. 31	Mar. 31, 1914
144 sq. ft....	During pleasure.	Mar. 1, 1914	1 00	Mar. 1	Mar. 1, 1914
	"	" 1, 1914	1 00	" 1	" 1, 1914
	"	Apr. 1, 1914	1 00	Apr. 1	Apr. 1, 1914
	"	Mar. 1, 1914	1 00	Mar. 1	Mar. 1, 1914
2,988 sq. ft.	"	Apr. 1, 1914	5 00	Apr. 1	Apr. 1, 1914
0-12 acres...	"	" 1, 1914	1 00	" 1	" 1, 1914
	10 years..	May 1, 1914	5 00	May 1	May 1, 1914
	During pleasure.	Nov. 1, 1909	1 00	Nov. 1	Nov. 1, 1909
347-7 sq. ft....	"	Apr. 1, 1914	5 00	Apr. 1	Apr. 1, 1914
4,750 sq. ft....	"	May 1, 1914	5 00	May 1	May 1, 1914
85 sq. ft....	"	June 1, 1914	1 00	June 1	June 1, 1914
68 sq. ft..	"	" 1, 1914	1 00	" 1	" 1, 1914
300 sq. ft.	"	" 1, 1914	1 00	" 1	" 1, 1914
	"	" 1, 1914	1 00	" 1	" 1, 1914
½ acre..	"	July 1, 1914	1 00	July 1	July 1, 1914
	"	" 1, 1914	1 00	" 1	" 1, 1914
2,500 sq. ft.	"	" 1, 1914	1 00	" 1	" 1, 1914
	One yr. from date of agreement.	July 7, 1914	10% of gross earnings.	" 1	" 1, 1914
16,100 sq. ft..	During pleasure.	" 1, 1914	1 00	" 1	" 1, 1914
600 sq. ft....	"	Apr. 15, 1914	1 00	Apr. 15	Apr. 15, 1914
4,904 sq. ft..	"	July 1, 1914	1 00	July 1	July 1, 1914
600 sq. ft....	"	" 1, 1914	1 00	" 1	" 1, 1914
1,000 sq. ft.	"	" 1, 1914	2 00	" 1	" 1, 1914
199-82 sq. ft..	"	June 1, 1914	1 00	June 1	June 1, 1914
0-38 acres...	"	July 1, 1914	2 00	July 1	July 1, 1914
120 sq. ft....	"	June 20, 1914	1 00	June 20	June 20, 1914
0-51 acres...	"	July 1, 1914	1 00	July 1	July 1, 1914
	"	Aug. 10, 1914			
6,000 sq. ft.	"	" 1, 1914	1 00	Aug. 1	Aug. 1, 1914
0-44 acres.	"	Oct. 1, 1913	1 00	Oct. 1	Oct. 1, 1913
	"	Apr. 1, 1914	1 00	Apr. 1	Apr. 1, 1914
	One year..	Aug. 21, 1914	10% of gross receipts.		
	During pleasure.	June 1, 1914	1 00	June 1	June 1, 1914
1,950 sq. ft.	"	Aug. 1, 1914	10 00	Aug. 1	Aug. 1, 1914
	"	" 1, 1914	1 00	" 1	" 1, 1914
400 sq. ft.	"	" 1, 1914	1 00	" 1	" 1, 1914
449 sq. ft.	"	" 1, 1914	1 00	" 1	" 1, 1914
3,058 sq. ft..	"	Sept. 1, 1914	1 00	Sept. 1	Sept. 1, 1914
6 acres.	"	July 20, 1914	10 00	July 20	July 20, 1914
1,340 sq. ft.	"	June 30, 1914	5 00	June 30	June 30, 1914
1,500 sq. ft..	"	Sept. 1, 1914	5 00	Sept. 1	Sept. 1, 1914

LEASES granted by the Canadian Government Rail

No.	Date of Signature	Lessor.	Lands or rights demised.
1914.			
7543	Nov. 11.	Travelers Ins. Co	Right and privilege of having ticket agents of the railways sell accident insurance tickets.
7540	" 20	J. E. Berger.	Land at St. Fabien, Que...
7560	Dec. 1	Seofield Bros	Land at St. John, N.B.
7561	" 1	H. L. D. McLeod.	Land at Fredricton, P.E.I. . .
7564	" 9	Eugene Bernard..	Land at Canaan, N.B.
7565	" 9	Town of Dartmouth, N.S.	Right and privilege to lay and maintain a 1½-inch water pipe and one 18-inch sewer pipe at Dartmouth, N.S.
7587	" 30	Sydney Herbert Taylor.	Land at Stewiacke, N.S.
1915			
7596	Jan. 22	Town of Pictou, N.S.	Right and privilege to lay and maintain a 6-inch sewer pipe across the property and under the tracks of the I.R.C. at Pictou.
7598	" 30	Matthews and Scott..	Land at Sydney, N.S.
7616	" 30	Moncton Tramways Electricity & Gas Co., Ltd.	Right and privilege to lay and maintain a 6-inch gas pipe across the right of way and under the tracks of the I.R.C. at Moncton, N.B.
7599	Feb. 1	Department of Marine and Fisheries.	Land at Georgetown, P.E.I.
7603	" 5	East River Mutual Telephone Company.	Right and privilege to cross the property and tracks of the I.R.C. with telephone wires at a point near Ferrona Junction, N.S.
7615	" 18	James Gotre..	Land at Canaan, N.B.
7629	" 23	John Fenderson & Co., Ltd.	Land at Sayabec, Que...
7626	" 24	Daniel Richards.	Land near Campbellton, N.B..
7625	Mar. 1	City of Sydney, N.S..	Privilege to lay and maintain an 18-inch cast iron sewer pipe across the right of way and under the tracks of the I.R.C. at Sydney.
7627	" 3	William Maynes..	Land at St. John, N.B..
7635	" 8	Realities, Limited	Right and privilege to lay a 15-inch sewer pipe across the I.R.C. right of way and under the tracks at Riverside, N.B.
7636	" 17	James Dunlop..	Land at Leitches Creek, N.S..
7646	" 24	Caritte-Paterson Mfg. Co., Ltd.	Right and privilege to lay and maintain one 6-inch sewer pipe under the tracks of the I.R.C. at Fairview, N.S.
7655	" 29	Corporation of Town of St. Germain de Rimouski, P. Q.	Right and privilege to lay and maintain one water and one sewer pipe across the right of way and under the tracks of the I.R.C. at Rimouski, Que.
7723	" 31	Mrs. Selina Jane Atkinson doing business under style and firm of "Henry Atkinson Reg'd."	Land at St. Romuald, Que.

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ways, Fiscal Year ending March 31, 1915.—Continued.

Area.	Term.	Commence- ment of term.	Annual Rental.	Due each year.	First instal- ment due.
	one year	Dec. 1, 1914	\$.05.		
0.085 acres.	During pleasure.	Nov. 1, 1914	1 00	Nov. 1.	Nov. 1, 1914
66 sq. ft.,	"	" 1, 1914	5 00	" 1	" 1, 1914
800 sq. ft.,	"	Oct. 1, 1914	5 00	Oct. 1	Oct. 1, 1914
16,855 sq. ft.,	"	Nov. 1, 1914	5 00	Nov. 1	Nov. 1, 1914
.....	"	Dec. 1, 1914	1 00	Dec. 1	Dec. 1, 1914
1,252 sq. ft.	"	Nov. 1, 1914	10 00	Nov. 1	Nov. 1, 1914
"	"	Jan. 1, 1915	1 00	Jan. 1	Jan. 1, 1915
31,800 sq. ft.,	"	Dec. 1, 1914	100 00	Dec. 1	Dec. 1, 1914
"	"	Jan. 1, 1915	1 00	Jan. 1	Jan. 1, 1915
104 sq. ft.,	"	May 1, 1914	1 00	May 1	May 1, 1914
"	"	Oct. 1, 1914	1 00	Oct. 1	Oct. 1, 1914
9,483 sq. ft.,	"	Nov. 1, 1914	5 00	Nov. 1	Nov. 1, 1914
736 sq. ft.,	"	Feb. 1, 1915	5 00	Feb. 1	Feb. 1, 1915
2,393 sq. ft.,	"	July 1, 1914	16 50	July 1	July 1, 1914
"	"	Mar. 1, 1915	1 00	Mar. 1	Mar. 1, 1915
522 sq. ft.,	"	Dec. 1, 1914	11 00	Dec. 1	Dec. 1, 1914
"	"	Mar. 1, 1915	1 00	Mar. 1	Mar. 1, 1915
400 sq. ft.,	"	Jan. 1, 1915	1 00	Jan. 1	Jan. 1, 1915
"	"	Apr. 1, 1915	1 00	Apr. 1	Apr. 1, 1915
"	"	" 1, 1915	1 00	" 1	" 1, 1915
6,750 sq. ft.,	"	" 1, 1915	5 00	" 1	" 1, 1915

H. F. ALWARD,

General Solicitor, Canadian Government Railways.

LEASES granted to Canadian Government Railways, Fiscal Year ending March 31, 1915.

No.	Date of Signature.	Lessor.	Lands, rights or premises demised.	Area.	Term.	Commencement of Term.
7261	Apr. 3, 1914	Old South Building Association	Room 206 in Old South building in Boston, Mass.		3 years	Feb. 1, 1914
7489	" 22, 1914	John Vincent	Land at Cole harbour, N. S. for purpose of ballast pit.	10.28 acres	Dec. 31, 1914	Apr. 22, 1914
7490	" 27, 1914	Albert Conrod	Land at Cole harbour, Nova Scotia	3.70 acres	" 31, 1914	" 27, 1914
7259	May 18, 1914	Grand Trunk Railway Company of Canada.	Office on Du Fort street in city of Quebec, Que.		3 years	May 1, 1914
7329	Aug. 1, 1914	International Railway Co. of New Brunswick.	Line of railway of the company between Campbellton and St. Leonard, N. B.		5 years	Aug. 1, 1914
7578	" 11, 1914	La Cie De Telephone Nationale	Privilege of stringing wires on the poles of the company at Levis, Que.			" 11, 1914
7438	" 25, 1914	Town of Drummondville, P. Q.	Granting the Crown the right and privilege to connect I. C. R. sewerage pipes with the town sewerage pipes; to pass sewerage through same and to drain certain lots at Drummondville, Que.		5 years	Oct. 1, 1912
7380	" 31, 1914	Mrs. Edith Harris	The right and privilege to lay and maintain a pipe line on lands of the lessor and to take water from the source of a brook thereon at Flatlands, N. B.		In perpetuity	
7589	Oct. 26, 1914	Wesley Ritey, of N.B.	Lot 349a at Musquodoboit Harbour, N. S.	11-4 acres	Dec. 31, 1915	Oct. 26, 1914
7597	Jan. 26, 1915	Town of Campbellton, N. B.	Privilege to lay and maintain an 8-inch water main along Sugar Loaf street.		During pleasure	Jan. 26, 1915
7610	Feb. 10, 1915	Grand Trunk Railway Company of Canada.	Spaces in Transportation building at Montreal for I. C. R. ticket office.		8 yrs. & 9 mos.	Aug. 1, 1913

H. F. ALWARD,

General Solicitor, Canadian Government Railways.

SESSIONAL PAPER No. 20

REPORT OF SAFETY ENGINEER.

SAFETY DEPARTMENT, MONCTON, N.B., July 20, 1915.

The Safety Department was organized on January 1, 1914, and until March 31 of that year the time was spent holding public safety meetings at various division and terminal points. At these meetings, talks, illustrated by stereopticon slides, were given, explaining the purposes and methods of this work to the employees and the public.

For the fiscal year ending March 31, 1915, I have the honour to submit my report:—

During the months of May and June, 1914, the following safety committees were organized: District committee at Lévis, Campbellton, Truro and New Glasgow; terminal committees at Rivière-du-Loup, Moncton, Saint John, Halifax, and Sydney; and committees at the car and locomotive shops, Moncton. During the month of August, 1914, a district committee was organized at Charlottetown.

These committees consist of chairman (who is the local officer in charge of the district terminal), other officers and employees representatives from all branches of the service.

The membership being about three hundred men who watch out for unsafe conditions and practices while in the discharge of the respective duties, correcting what they can, and reporting those they cannot correct, to the chairman of the committee. Meetings are held in the offices of the chairman each month.

During the year the members have reported the correction of over twenty-eight hundred unsafe conditions, and warned against nearly twelve hundred unsafe practices.

During the months of November and December the members of the Safety Committees for districts one, two, three, and four, were taken over portions of their respective territories in a body for the purpose of making a safety inspection.

Printed notices containing safety precautions for the public have been placed in all passenger stations, and enameled Safety First signs have been placed on highway crossing sign posts, section tool-houses, roundhouses and in car and locomotive shops.

The following special work was done in the shops at Moncton in connection with the Safety First movement to ensure greater protection to the men and also to safeguard the property: thirty-five machines and gears were enclosed with rails and netting, five circular saws were encased, five emery wheels were equipped with shields, six band saws were encased, four fly wheels were made safe, guards were placed under wires on cranes, set screws on all machines were enclosed, a new movable platform was made, a new chain for hoisting was made, staging was built for oiling the shafting, all pipe lagging was repaired, all circuit breakers were renewed, running boards were put on cranes, a gate was made for loft in the cabinet shop, a guard was applied to the tube cutter in the boiler shop, a shield was put around the toolmakers' anvil, pulleys in the store elevator had shield applied, windows which were unsafe were removed.

Guards have also been placed on machines at Rivière-du-Loup shops, as well as on machines in a large number of the round-houses and shops at other points.

The results of the campaign for accident prevention are shown in the injury record as follows:—

COMPARATIVE Statement of Personal Injuries for Fiscal Years 1913-14 and 1914-15.

	1913-14	1914-15	Decrease.	
			Number.	Per cent.
Employees—Killed	17	6	11	64.7
“ Injured	678	470	208	30.6
Passengers—Killed	3	1	2	66.6
Others—Killed	23	20	3	13
Total killed	43	27	16	Fewer persons killed.

Respectfully submitted,

J. E. LONG, *Safety Engineer.*

6 GEORGE V, A. 1916

STATEMENT of Casualties for the

Date.	Time of Day	No. of Train	Description of train.	Name of conductor.	Name of driver.	No of Engine	Place of Accident.
1914							
April	1 8 15	Extra	Way freight	C. B. Clark		6	Nauwegiwauk...
	4 18 00	75	Fast frt	David Hines		270	Chatham Jet
"	6 17 5	82	Passenger	A. Calder	J. Campbell.	605	Three miles south Trenton, N.S...
"	8 5 4		Shunter			815	Moncton Yd.
"	8 8 40		"	C. Steele	J. Hessian	821	Richmond Yd.
"	8 17 15	Pilot	No. 834	Jos. Levasseur	J. Chenard.	384	Mont Joli.
"	"	9	Passenger.	J. Coffey			Rockingham
"	10 12 00	Extra	Freight	W. H. Wilbur		22	Springhill Jet.
"	15 4 06	39	Freight...	W. F. Ferguson	A. J. Russell	39	Newcastle.
"	18 13 00		Shunter	G. Levasseur	G. Jean	834	Mont Joli Yd.
"	21 18 10	82	Passenger.	A. Calder.	J. Campbell	620	Stellarton...
"	21 15.15	97	Passenger	W. Clarke	B. Hartlen.	23	Campbell Rd. cross- sing near Rich- mond
"	22 23 20		Light engine		L. V. Sheedy.	430	Rivière-du-Loup
"	25 18 30	1	Passenger...	L. J. Kennedy.	Jas. Moody.	635	near Salisbury.
"	24 13 00	104	Freight	E. W. Cobb	D. McDonald.	70	Watson's Cove, N.S.
May	4 22 30		Shunter...	J. McArdle	J. McLaren.	819	Moncton Yd.
"	5 18 45						Campbellton Yd...
"	5 21 30		Shunter.	J. Turcotte.			Chaudière Jet. Yd...
"	11 5 00	Extra	Freight	E. Johnston.	W. McDonald	149	Near Debert...
"	14 16 00						Shediac...
"	18 15 01						Petiteodiac...
"	19 10 30		Shunter	W. Smith...	A. M. McKenzie.	279	Campbellton...
"	20 15 20	Extra	Freight...	Jos. Beaulieu.	R. Jamieson.	614	Thibault Sdg...
"	24 21.45		Shunter.	H. C. Wilmot.	W. S. Lutes...	815	Moncton...
"	24	33	Passenger...	J. A. Davidson	W. Carson	445	Culligan's Sdg
"	27	19	Passenger...	T. Martin	C. Matheson...	619	Half-mile east of Barchois
"	27 7.00	423	Passenger...	C. Couchy...	G. Roberge	96	Chaudière...
"	29 21 15	34	Passenger	J. B. Dube	A. Mathews	612	near Mont Joli
"	30 15 00	49	Mixed	Jos. Lemieux...	Jos. Gagnon	137	Montmagy...
June	1 6 37	45	Passenger...	J. Paradis	E. Ouellet	411	East St. Paschal
"	7 22 00	200	Passenger	A. E. Brown	L. Starratt.	407	Windsor Jet.....
"	14						New Mills...
"	16 3 07	76	Fast frt	A. Gauvreau...	J. Bruce	114	Bagot.....
"	17 16 05	304	Mixed	Crookshank.	J. Cameron...	1003	Goodspeed, N.B....
"	19						Point du Chene...
"	20 16 00	Extra	Freight...	R. G. Duff	C. Cool.	131	Jacquet River....
"	20 16 10	15	Passenger...	J. L. Chisholm	W. E. Hunter.	419	Sussex.....

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Fiscal Year ended March 31, 1915.

Name of Person injured.	Whether passenger or employee.	Particulars of Accident.	Extent of injury	Verdict
W. A. Steeves...	Brakeman.	Getting off box car.	Sprained ankle badly	
David Haines...	Conductor.	While getting on engine missed footing and fell.	Slightly injured	
A. Calder	Conductor	Cars derailed...	Foot slightly injured	
Roy A. Lutes...	Brakeman	Coupling cars hand injured	Slight	
Harry Wournell	Brakeman.	Fingers caught while cutting cars	Two fingers injured	
Chas. Joly	Brakeman.	Jammed between car and scale building	Slightly injured	
Miss Lildiana Bayer.	Passenger	Found on track seriously injured, supposed to have been struck by No. 9 train.	Fatal	
O. N. Wilbur	Brakeman	Hand caught in car door, thumb injured.	Slight..	
E. Ashfor	Fireman..	Thumb caught in coal box	Nail torn off	
J. B. Claveau	Brakeman	While coupling cars	Contusion of chest	
Jos. Farley.	Neither	Found beside track, supposed to have been struck by train.	Two ribs broken	
John Snow	Neither.	Driving team over crossing struck by train.	Left leg broken, head cut and stomach injured.	
E. Dumas	Fireman..	Fell off engine tender	Shoulder dislocated	
Thos. A. Jackson	Brakeman	Fell off step ladder while lighting lamps in car	Knee injured.	
Grant Fraser	Neither	Fell from car while in charge of horse.	Shaken up and bruised	
A. J. Lirette	Brakeman	Standing on engine which left track and fell under.	Both legs sprained	
Peter Girouard.	Neither	Jumping between cars and fell.	Broken arm	
J. Turcotte.	Foreman shunter.	Climbing car, missed footing..	Ankle sprained	
Wallace Crowe.	Neither	Found alongside of track. Supposed struck by train...	Fatal...	Railway exonerated.
Ray, Hebert	Frt. porter	Pushing freight truck, box fell on him.	Leg bruised	
C. W. Hubley.	Com. trav.	Walking on platform, lamp fell on his head. Head cut.	Slight	
C. Gilhonie.	Messenger	Riding on pilot, struck by flat car	Hip bruised.	
R. Belanger...	Brakeman.	While gilpoking cars, gilpoke fell on his foot.	Foot slightly injured.	
Thos. Baxter...	Neither	Supposed to have been run over by shunter...	Fatal	Railway exonerated
Fabien Guitar.	Neither	Supposed to have been struck by No. 33.	Fatal	No inquest.
Kate Steele.	Passenger...	Jumped off train while going by destination.	Slightly scratched.	
Sadie Nicholson	"	"	Ankle injured, collar bone fractured and shoulder dislocated.	
A. Theriault..	Neither	Attempted to board moving train and fell.	Four toes cut off	
Miss Maria Shannon.	Passenger...	Jumped off train at wrong destination	Leg sprained	
Arthur Boucher.	Fireman...	Assisting with freight..	One finger bruised.	
Miss R. Deschenes	Passenger...	Fell off platform of first-class car, supposed to have fainted	Internal injuries, not serious.	
George Sharp...	Pantryman.	Fell from moving train...	Thumb cut and foot bruised	
Wm. Windsor...	Neither	Run over by some train	Leg cut off—fatal.	No inquest
Rosario Perrault	Neither	Found unconscious near track—Struck by train.	Not serious	
E. Logan.....	Fireman..	Engine derailed and turned over.	Badly scalded.	
John Gallant..	Extra frt. Porter.	Icing cars, fell off car to track	Badly injured	
John Foley	Neither	Struck by shunting engine	Slightly injured..	
Miss Mary Morgan	Neither	Walking over crossing. Struck by train.	Slightly injured	

6 GEORGE V, A. 1916

STATEMENT of Casualties for the Fiscal

Date.	Time of Day	No. of Train	Description of train.	Name of conductor.	Name of driver.	No of Engine	Place of Accident.
1914							
June 20	23 00	40	Mixed.....	J. Card.....	A. Murray.....	30	Green Point, N.B...
" 22	15.45	33.	Passenger...	J. Rioux.....	J. Rioux.....	432	St. Leonard Jet.....
" 22	23 45	Extra.....	Passenger...	C. E. Morton.....	.....	.....	near Canaan.....
" 30	.....	.....	.....	.....	.....	.....	Sydney.....
July 6	1 15	34	Passenger..	S. Bernier.....	A. Mathews.....	433	Champions Sdg....
" 7	6.50	133	Passenger..	T. Coffey.....	J. Irvine.....	636	Moncton Yd.....
" 10	13.23	150	Passenger...	H. Begin.....	A. Berube.....	424	Isle Verte.....
" 12	4.30	.....	Shunter.....	W. Bourcier.....	.....	818	Chaudière Jet. Yd.
" 15	21 20	.....	Shunter.....	J. Jackson.....	J. Daine.....	129	Richmond Yd.....
" 20	14 30	.....	Shunter.....	.....	.....	.....	Moncton Yd.....
" 20	15.20	.....	.....	.....	.....	.....	Three miles west Rogersville.....
" 27	18.20	138	Passenger..	J. McLeod.....	M. A. Hoyt.....	635	St. John.....
" 30	.....	Extra.....	Freight.....	T. G. Stratton.....	Stewart.....	269	Newcastle.....
" 31	14.15	Extra.....	Freight.....	M. McDonald.....	G. Crowell.....	148	Springhill Jet.....
August 1	7.15	Extra.....	Way frt.....	E. A. Smith.....	P. P. Cormier.....	22	Belmont.....
" 1	22.15	.....	Shunter.....	T. McTierman.....	F. Stockall.....	828	Halifax.....
" 3	1.15	.....	.....	.....	W. J. Atkinson.....	147	Turoot, P. Q.....
" 4	7.30	.....	Shunter.....	M. Bernard.....	S. G. Ferguson.....	818	Chaudière Jet.....
" 4	7.59	199	Passenger..	J. Rioux.....	J. Cloutier.....	442	St. Cyrille.....
" 5	8.30	.....	Shunter...	T. McTierman.....	A. McGrath.....	837	Halifax.....
" 3	16.00	Extra.....	Shunter.....	E. Gagnon.....	G. Mann.....	23	Amqui.....
" 5	22.25	17	Passenger..	J. Buchanan.....	.....	.....	Eureka.....
" 8	16.45	Extra.....	Freight.....	J. A. St. Pierre.....	E. Murphy.....	612	Amqui.....
" 9	.....	.....	.....	.....	.....	.....	Riv. Ouelle Bridge.
" 10	19.00	.....	.....	.....	.....	.....	New Glasgow.....
" 11	10.00	Extra.....	Freight.....	Jas. MaAuley.....	D. McDonald.....	19	Olivers Crossing, P.E.I.....
" 12	17.30	.....	Shunter.....	T. Berube.....	J. Scott.....	817	Riv. du Loup.....
" 14	9.20	200	Passenger..	E. Camire.....	E. B. Price.....	444	Mowatt's Mill Cross- ing, N.B.....
" 15	18.05	76	Fast frt.....	J. April.....	A. Ouellet.....	60	Montmagny Yd.....
" 17	21 00	.....	Shunter.....	J. Creamer.....	W. Mathews.....	1028	Chatham.....
" 18	18 15	15	Passenger..	J. Dalcy.....	.....	419	Rothsasy.....
" 18	24 25	Extra.....	Passenger..	O. Samson.....	H. Duclos.....	85	St. Apollinaire.....
" 24	8 10	J. Gallant.....	1	Campbellton.....

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Year ended March 31, 1915.—Continued.

Name of Person injured.	Whether passenger or employee.	Particulars of Accident.	Extent of injury.	Verdict.
J. A. Boudreau		Thrown over seat in collision with Jamison's extra.	Shoulder bruised.	
Oliva Champagne	Neither	Attempted to board train while in motion.	One toe cut off.	
Edward Bernard	Passenger	Shoved off train by fellow soldier.	Ankle and shoulder sprained.	
Henry Muggah	Temp. lab.	Assisting unloading rails—Rail fell on foot	Two toes cut off.	
Frank Keays	Trackman	Riding velocipede and struck by train.	Fatal	Accidental—Ry. exonerated from blame.
Arthur West	Employee	Walking track—struck by train	Slightly injured.	
Mrs. P i e r r e B r i s e b o i s	Neither	Driving across track and struck by train.	Slightly cut on head	
Francois Forques	Yardman	Standing on moving car ran foul umbrella roof.	Hip and feet slightly injured.	
L. Baker	Switchman	Thrown off box car while getting off.	Head cut, shoulder injured	
T. F. Warren	Shunter	Slipped and fell while getting on engine.	Shoulder injured.	
E. Savage	Br. & Bldg. master	Gasoline car jumped track	Head cut and otherwise injured.	
Michael Barry	Neither	Walking on track—Struck by engine.	Fatal	Railway exonerated.
Jos. McDermott	Fireman	Struck by box car while lookout of cab window.	Head cut	
John Doyle	Fireman	Hit on head by lump of coal off tender.	Head cut.	
Elias Bovard	Brakeman	While unloading freight, fell off foot-board.	Back injured	
J. O'Reilly	Neither	Struck by shunter and run over	Fatal—Both legs cut off.	No inquest
H. Pelletier	Fireman	Struck by arm of ash-pit crane	Forehead slightly cut	
Alphonse Demers	Shunter	Opening knuckle with foot—heel caught between drawbar.	Heel crushed	
Jacob Verrier	Neither	Driving over public crossing, team struck.	Instantly killed	Ry. exonerated, but Jury recommends crossing be protected.
Fred Smith	Neither	Supposed sitting under cars, cars moved.	Fatal	No inquest
T. Roy	Brakeman	Struck by gilpoke while gilpoking cars.	Right hip slightly injured.	
Mrs. J. E. Henderson	Passenger	Slipped while getting off train	Slightly injured	
Alphonse Fiola	Neither	Riding on side of car and fell off	One foot cut off	
Elzear Alex. Lavasscur	Neither	Warned not to cross bridge, shot by guardian.	Fatal	Railway exonerated.
Clarence McPherson	Car inspector	Ice refrigerator and fell from top of car.	Face cut	
Baby Oliver	Neither	Baby crossing track, struck by oil box on engine.	Right arm taken off	
Solomon Savage	Neither	Walking between tracks, struck by engine tender.	Head slightly cut	
Dunean Duquay	Neither	Driving across track	Leg broken and head cut	
Abouance Thebault	Extra labourer	Shovelling ballast, struck by engine cylinder.	Skull fractured. Fatal.	
J. Creamer	Conductor	Jumped off box car	Ankle sprained	
Miss S o p h i e Green	Passenger	Foot caught between buffers of cars	Slightly injured	
J. Langlois	Brakeman	Flagging train, fainted and fell, struck by engine.	Shoulder and back bruised	
J. H. Ward	Conductor	Struck by engine while walking on track.	Fatal	No inquest

6 GEORGE V, A. 1916

STATEMENT of Casualties for the Fiscal

Date.	Time of Day	No. of Train	Description of train.	Name of conductor.	Name of driver.	No. of Engine	Place of Accident.
1914							
Aug. 24	19 17	134	Passenger ..	T. Coffey	J. J. Irvine	636	Lakeside, N.B.
"	25	35	Passenger ..				Campbellton
"	25 21 05	22	Passenger ..	Jas. McDonald	C. Mitchell	646	Sydney
"	26 10 26						Truro
"	26 17 20	Extra		F. O. Archibald	C. Crowell	74	near Dorchester near Calhoun, N.B.
"	29 21 00	11	Mixed	J. S. Nickerson	T. Townsend	21	Painse Jet
"	30	150	Passenger ..	H. Begin			Heppi's Sdg., Que.
"	31 1 50	22	Passenger ..	J. Martin	H. McDonald	646	Cape Porcupine
"	31 16 20	146	Passenger ..	C. St. Pierre		606	Victoria Bridge, Montreal
Sept. 1	18 00						Sackville
"	2 16 04	42	Passenger ..	O. Levesque	L. Levesque	15	Caouana
"	6 3 30		.....				Bathurst
"	7 8 50		..				Moncton
"	7 13 30	20	Passenger ..	J. E. McLellan	D. Dunean	421	Antigonish New Glasgow
"	9 12 30	50	Way frt ..	A. Vachon	J. Gagnon	98	Montmagny
"	11 10 05	74	Fast frt	A. Martin	J. Larouche	80	Isle Verte
"	12 15 05	20	Passenger ..	D. McIntosh	L. King	412	New Glasgow
"	14 21 55	17	Passenger ..	J. Buchanon		622	Union, N.S.
"	20 1 30	Extra	Auxiliary	J. Stephenson	W. G. Atkinson	269	Moncton
"	16 24 10	Extra	Shunter	R. G. Duff		73	Bathurst
"	20 24 30		Shunter ...			824	Campbellton
Oct. 9	13 45	Extra ..	Work train.	E. W. Cobb	C. Cool	66	Barra Glen, N.B.
"	10 10 10	Pile driver					Marshy Hope.
"	12 10 05	9	Passenger ..	G. W. Hopper			Shubenacadie Bdge, N.S.
"	15 18 47	150	Passenger ..	V. Canuel	W. F. Duncan	416	Ste. Florence.
"	16 7 30	19	Passenger ..	C. Phillips..	B. Cook	406	Bedford
"	16 14 45	Extra ..	Freight	J. D. McDonald	A. Robbins ..	78	Rocky Lake, N.S.
"	19 30 00		Shunter				Sydney Yd
"	21 12 30						Princes Pier, P.Q.
"	29 10 30						Halifax
Nov. 2	10 00	Extra	Way frt ..	S. Hayward		72	Culligan's Sgd., St. Eleuthère, P.Q.
"	2						
"	6 15 15	Extra ...	Way frt ..	J. F. Doyle		253	Elm Tree Bridge, N.B.
"	9 16 25	199	Passenger ..	T. C. Ayer	W. F. Hicks	446	McPhee's Crossing near Rogersville, N.B.

SESSIONAL PAPER No. 20

Year ended March 31, 1915.—Continued.

Name of Person injured.	Whether passenger or employee.	Particulars of Accident.	Extent of Injury.	Verdict
Marjorie MeManus	Neither.	Crossing track in front of train. (Deaf-mute).	Fatal.	No inquest
Alonzo Assof...	Passenger..	Jumped off train before arrival at station.	Slightly injured and bruised.	
Boozyli Kirly-scki.	Neither...	Jumped off train after seeing friends off.	Leg cut off	
Sophie Crossman	Passenger...	Attempting to board moving train fell.	Slightly injured	
Daniel Cook	Sectionman.	While loading rails one fell off car	Right leg severely injured	
R. F. B. Campbell.	Chainman..	Following train on hand car and collided.	Arm dislocated and bruised.	
R. J. Elliott	Brakeman.	Uncoupling cars, pushed drawbar with foot.	Foot smashed—Amputated.	
Thos. Belanger	Passenger..	Jumped off train going at full speed.	Slightly injured.	
Alex. Nicholas	Passenger..	Fell off train—Intoxicated	Injuries slight	
Wm. Gadbois..	Passenger...	Supposed to have fallen between baggage and first class car.	Leg broken	
R. J. Tower	Conductor..	Assisting re-railing an engine	Forearm bruised	
Geo. Morrison..	Passenger..	Attempting to board moving train and fell..	Left leg broken	
J. W. Spencer ..	Tel. oper.	Struck on right arm by semaphore lever.	Arm broken	
Ant. J. Belliveau	Tool checker.	Crossing between cars, one of which was moved.	Arm smashed and amputated.	
Mrs. Proper	Passenger..	Hand caught between vestibules.	Thumb smashed...	
Walter King	Neither..	Walking track and struck by some train.	Badly shaken up...	
J. A. Cote	Brakeman..	Left leg caught in gang-way while shifting.	Slightly injured	
J. B. Boucher	Neither..	Crossing track with team, struck by engine.	Head slightly injured..	
Mrs. Wm. Diamond.	Neither	Seeing friends away, jumped off moving train.	Foot smashed and amputated.	
Adam Taylor.	Passenger...	Stepping off train fell between platform and car.	Head and right shoulder slightly injured.	
Patriek Scott ..	Neither..	Supposed to be walking track, struck by engine.	Fatal.....	Railway exonerated.
Clifford Leger	Brakeman..	Getting off caboose, slipped and fell.	Side injured	
E. Dupont ..	Yardmaster	Getting on foot-board of engine, slipped.	Foot jammed....	
Dan. H. McNeil	Employee	Rail fell on hand, cutting it...	Hand crushed.....	
D. A. McFarlane	Conductor..	Trip block fell.	Head cut and shoulder bruised.	
Angus Carson ..	Neither...	Jumped off train, seeing friends away.	Fatal.....	No inquest.
Miss Elmure Roy.	Passenger...	While getting off train, fell between steps and platform.	Two fingers crushed	
Pat Donavon..	Neither..	Walking track, struck by engine...	Fatal.....	Railway exonerated.
Jos. Roche....	Sec.-for-man.	Hatch door on car dropped suddenly.	Arm and shoulder slightly injured.	
Eleazer Pitten.	Brakeman..	Fell off top of box car...	Right arm injured..	
Ferd Begin ..	Ship labourer	Unloading coal, struck by coal clam.	Fatal.....	Accidental.
Geo. R. James..	Fitter ..	Fell while stepping off engine.	Arm broken.....	
W. D. Marrs	Brakeman..	Unloading freight.....	Back injured.....	
P. Charron...	Neither..	Axle broke in hand car.....	Eye injured.....	
V. J. Bernard ..	Brakeman..	Flagging train across bridge, bridge collapsed.	Eye cut and hips injured.	
Oliver Bourque.	Neither....	Driving across railway crossing.	Fatal.....	Ry. exonerated, jury recommend crossing protection.
Docithe Bourque	Neither.	struck by engine.		

6 GEORGE V, A. 1916

STATEMENT of Casualties for the Fiscal

Date.	Time of Day	No. of Train	Description of train.	Name of conductor.	Name of driver.	No of Engine	Place of Accident.
1914							
Nov. 9	22 00	200	Passenger	J. Daley....	M. White..	407	Halifax
"	11 6.00	Extra.....	Freight...	J. Ahearn....	.....	274	Canaan, N.B. .
"	13 11.00	.....	.....	.....	.....	.....	Sydney Mines .
"	16 15.00	Extra...	Freight...	R. G. Duff...	C. Cool.....	75	Beresford, N.B....
"	17 .....	.....	.....	.....	.....	.....	Stephen Valley Mills, N.S.
"	19 10 20	Extra	Way frt.....	J. F. Doyle.....	.....	.....	Kent Jet., N.B.
"	23 15.00	Extra.....	Work train..	D. M. Bruce....	Wm. McDougall	121	Union, N.S.
"	23 15.00	Extra.....	Work train..	D. M. Bruce....	Wm. McDougall	121	Union, N.S.
"	28 9.10	Extra.....	Work train..	E. J. Campbell.	A. McLean....	70	Sydney Mines....
"	29 19 00	.....	.....	.....	.....	.....	Campbellton ..
Dec. 1	1 00	77	Passenger...	A. Calder ..	.....	.....	Stellarton
"	1 5.56	45	Passenger..	B. Walker	E. Ouellet	430	Riv. Ouelle Jet., Que.
"	5 1.20	10	Passenger .	G. W. Hopper..	.....	.....	Near Anagance, N.B
"	7 17.20	33	Passenger..	A. Lagrace .	Geo. Findlay.	447	St. Hyacinthe ..
"	8 12.00	.....	Shunter..	.....	A. McGrath.	837	Halifax.....
"	14 20.27	.....	Shunter .	Wm. McGillivroy	W. Atkinson	1012	North Sydney....
"	14 24.30	.....	Shunter .	C. H. Matthews.	E. Shirley..	824	Campbellton
"	15 1.03	302	Passenger .	A. E. Logan ..	P. J. Ivory .	1101	Nelson Hollow Bridge, N.B.....
"	22 9.00	29	Passenger ..	G. L. Nixon	E. Doyle .	11	Moncton.....
"	25 5.00	7	Passenger..	J. H. Hughes .	.....	23	near Breadalbane, P.E.I.
"	30 8.00	56	Passenger .	H. McDorman ..	R. A. Sutherland	100	Monastery, N.S.....
1915							
Jany. 2	17.05	.....	Light engine	.....	L. W. King .	417	Truro, N.S.
"	13 23.10	.....	.....	.....	.....	.....	Pietou, N.S.....
"	10 24 00	.....	.....	.....	.....	1092	Newcastle, N.B. .
"	20 15.20	2	Passenger .	T. Guinan	N. Sinclair	624	Proberts Crossing, N.S.
"	23 8 45	Extra. .	Way frt. .	C. W. Lutes .	P. O'Toole	152	Stewinacke, N.S....
"	23 20 10	.....	Light engine	.....	J. Wall ..	406	Willow Park Jet....
"	20 .....	.....	.....	.....	.....	.....	St. Valier, Que. ...
"	29 2 47	33	Passenger .	J. Swetnam ..	O. McGinity .	440	McLeod's Sdg, near Dalhousie Jet., N.B.
"	30 18.00	.....	Shunter...	H. Levy	J. Walsh	820	Halifax, N. S.....

SESSIONAL PAPER No. 20

Year ended March 31, 1915.—Continued.

Name of Person injured.	Whether passenger or employee.	Particulars of Accident.	Extent of injury	Verdict.
W. B. Beaching.	Neither	Standing too close to track, struck by engine.	Badly shaken up.	
A. D. Irving	Brakeman.	Fell over ties piled alongside of track.	Knee slightly injured.	
Dan J. Gillis	Extra emp	While cutting rail bolts, struck in the eye by piece of steel.	Eye injured.	
Henry Sonier	Mason.	Rough shunting of boarding car.	One rib broken and two bruised.	
Sinelair Malcolm	Neither	Supposed to have been struck by train.	Concussion of brain.	
J. F. Doyle	Conductor.	Lifting car wheel.	Back sprained.	
Stanley Hiltz	Labourer	Fingers caught between two rails.	Two fingers smashed.	
Harry Whooten	Labourer	Fingers caught between two rails.	Three fingers smashed.	
Michael Egan	Labourer	Cable slipped while ploughing ballast off cars.	Head badly cut.	
J. Bourque	Ticket clerk	Lighting pipe, celluloid shield over eyes caught fire.	Face badly burned.	
Miss Marie McEachern.	Passenger.	Out on platform, lost balance and fell.	Face scratched and shoulder injured.	
A. Raymond	Fireman.	Sprinkle hose on engine disconnected.	Leg scalded.	
Wm. O'Brien	Passenger.	Standing on car step, thrown off by lurch.	Bruised and shaken up.	
F. Dieulesait	Passenger.	Fell while getting off train.	Back injured.	
Jas. Lenhey	Neither	Struck by cars being shunted.	Arm broken and foot injured.	
R. McNeil	Brakeman.	Fell from top of cars.	Leg crushed.	
A. O. Ferguson	Brakeman	Left foot caught between drawbar	Foot crushed.	
Frank Sivoué	Labourer	Stepped from behind cars onto track and struck by engine.	Slightly injured.	
W. A. McDougall	Neither	Crossing track, struck by train.	Head cut.	
John McKenzie and wife.	Neither	Driving over crossing, struck by train.	Fatal.	Railway ex-operated.
John F. Gero	Neither	Attempting to board train in motion, fell between cars.	Fatal.	Railway ex-operated.
Mrs. Melissa Nelson.	Neither	Struck by engine while going over street crossing.	Cut on side of head.	
George Walsh	Watchman.	Raising steel door in freight shed.	Head cut.	
Jas. Mann	Hostler	Fell off engine tender while watering engine.	Head cut.	
Robert Fish	Passenger.	Insane, jumped off train.	Knee and forehead cut.	
John Morley	Brakeman.	Stepped on rail, slipped and fell under wheels.	Right foot and ankle crushed.	
Chas. Aitkenhead.	Temporary trackman	Supposed to have been struck by engine.	Fatal.	No inquest.
Ed. Corriveau	Station por	Working semaphore, lever slipped	Wrist broken.	
Mrs. W. D. Ross	Passenger	Train derailed.	Badly shaken up.	
Mrs. F. G. H. Starr.	Passenger	Train derailed.	Right foot cut, one stitch required, ankle bruised.	
Miss E. Gibson	Passenger	Train derailed.	Left knee bruised.	
Miss E. Elliott	Passenger	Train derailed.	Shaken up.	
A. A. Bartlett.	Passenger	Train derailed.	Cheek cut and forehead bruised.	
Mrs. A. A. Bartlett.	Passenger	Train derailed.	Back strained.	
T. H. Melville.	Passenger	Train derailed.	Head slightly cut.	
Mr. Othwaithie	Passenger	Train derailed.	Badly shaken up.	
Geo. E. Messer	Passenger	Train derailed.	Cut on right leg.	
J. Murphy	Passenger	Train derailed.	Cut on right leg.	
Mr. Conway	Passenger	Train derailed.	Injured right side and back.	
H. Levy	Brakeman.	Thrown from top of cars, caused by sudden application of brakes.	Back and legs slightly injured.	

STATEMENT of Casualties for the Fiscal

Case	Time of Day	No. of Train	Description of train.	Name of conductor.	Name of driver.	No. of Engine	Place of Accident.
1914							
Feb.	3 23 35	Extra	Freight....	B. Ripley ...	T. Jackson.	201	Truro, N.S.
"	5 3 10	75	Fast frt...	R. W. Orchard	E. Henderson	278	Millstream, N.B....
"	11 17.30	Extra	Snow train.	E. R. Allanach	W. Savidont....	812	Campbellton, N.B..
"	17 11 00	Extra	Freight. .	E. Morin	G. Bergin .	452	St. Lambert, P.Q. .
"	25 8 00	Matane	Ry. train.	J. Bernier	.	28	Mont Joli, P.Q....
"	27 9 30						Lakeside, N.B....
"	28 24 30	75	Fast frt .	Wm. McClafferty	B. Ferguson	130	Brookfield, N.S. . .
Mar.	8 20 35	75	Fast frt	C. McWilliams	H. Casey	274	near Bathurst, N.B.
"	8 21 40						St. John, N.B. .
"	20 14 00						Halifax, N.S.
"	24 18 40	17	Passenger...				Enfield, N.S.
"	28 10 00						Campbellton, N.B. .
"	31 .						near Alton, N.S. . .

SESSIONAL PAPER No. 20

Year ended March 31, 1915.—Continued.

Name of Person injured.	Whether passenger or employee.	Particulars of Accident.	Extent of injury.	Verdict.
J. P. Guinan	Brakeman	Fell from top of caboose while entering cupola.	Shoulder injured	
R. W. Orchard.	Conductor.	Train derailed and thrown about caboose.	Right hip and leg bruised	
J. B. St. Pierre Fred Smith...	Brakeman. Snow shoveller	Fell between cars while train in motion.	Arm bruised Fatal	Hospital.
Alfred Areand	Brakeman.	Leaning out of car steps, struck switch stand.	Back injured	
Octave Levesque.	Snow shoveller	Working on track, struck by plough	Badly bruised	
C. McKiel.	Batteryman	Collision between motor and hand car.	Badly shaken up	
Wm. Fleming. George Woods.	Batteryman Trespasser.	Stealing ride on train, fell between cars.	Right leg slightly injured Fatal.	Railways operated
Frauk Hachey	Neither	Driving team on track, struck by train.	Slightly injured	
P. J. Linkletter	Yardman	Throwing switch, tripped and fell against switch target	Head cut.	
V. Lilly....	Ashpitman	Thumb caught in air hoist machinery.	Thumb injured	
Morton McDonald.	Neither	Supposed to be lying down on track intoxicated.	Leg cut off	
Phillip Gallie	Stm. boiler fireman.	Lifting board from bin, struck on hand by heavy piece of coal	Three fingers smashed	
Daniel McHugh.	Neither	Supposed stealing ride, fell off train.	Collar bone broken, face scratched and head cut.	

SESSIONAL PAPER No. 20

Increase facilities at divisional points, power plants.....	24,163 30			
Safety appliances.....	14,000 00			
Willow Park yard sewer, Halifax.....	265 93			
Original construction.....	800 00			
Elimination of level crossings and grades, Moncton.....	24,290 85			
Permanent wiring of engine houses.....	3,800 00			
Towards construction of railway, Dartmouth to Desars.....	623,953 00			
Increase facilities, Trenton.....	26 20			
Interlocking tower and plant, Aston Junction.....	41 15			
Anti-creeper and tie plates.....	32,000 00			
Raise grain conveyor, Halifax.....	9,270 67			
Paintach gas equipment for charging cars.....	4,018 77			
Improve triple valves of Air Brakes.....	4,745 73			
Increased accommodation, Campbellton. Ex-chequer Court award.....	10,691 63			
Less—				
By increased accommodation and facilities along the line (previous year's expenditure) old turntable.....	1,400 00	1915.		
		Mar. 31	6,655,792 99	6,655,792 99
			108,123,294 84	108,123,294 84

S. L. SHANNON,
Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

6 GEORGE V, A. 1915

No. 2—INTERCOLONIAL RAILWAY—Revenue Account, Year ended March 31, 1915.

Working expenses.	\$	cts.	\$	cts.	Earnings.	\$	cts.
Maintenance of way and structures	1,913,901	52			Passenger earnings	3,291,916	96
Add: Surplus for year transferred to Fire Renewal Account and debited to this account	36,465	08			Freight earnings	7,310,765	11
			1,950,366	60	Mail and Express earnings	704,908	60
Maintenance of equipment			2,301,884	48	Miscellaneous earnings	137,282	47
Traffic expenses..			262,647	19			
Transportation expenses...			6,595,906	57			
General expenses..			327,568	30			
Balance	42,965	08					
Loss—Surplus transferred to Fire Renewal Account	36,465	08					
			6,500	00			
			11,444,873	14		11,444,873	14

S. L. SHANNON,
Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

No. 3—INTERCOLONIAL RAILWAY—Maintenance of Way and Structures, Year ended March 31, 1915.

	\$	cts.
No. 1. Superintendence..	106,310	94
" 2. Ballast.	55,847	32
" 3. Ties..	360,608	65
" 4. Rails.	44,446	42
" 5. Other track material	120,247	33
" 6. Roadway and track	756,905	24
" 7. Removal of snow, sand, and ice.	58,827	77
" 8. Bridges, trestles and culverts	56,224	84
" 10. Over and under grade crossings	494	99
" 11. Grade crossings, fences, cattle guards, and signs	38,799	31
" 12. Snow and sand fences, and snowsheds	1,344	73
" 13. Signals and interlocking plants	8,274	59
" 14. Telegraph and telephone lines	3,975	30
" 16. Buildings, fixtures and grounds..	255,260	71
" 17. Docks and wharves...	26,167	90
" 18. Roadway tools and supplies..	18,353	46
" 22. Injuries to persons.	1,190	29
" 23. Stationery and printing.	11,933	60
" 25. Other expenses..	454	53
" 26. Maintaining joint tracks, yards and other facilities. Dr.	34,719	73
" 27. Maintaining joint track, yards and other facilities. Cr	1,960,385	65
	10,019	05
	1,950,366	60

S. L. SHANNON,
Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

SESSIONAL PAPER No. 20

No. 4—INTERCOLONIAL RAILWAY—Maintenance of Equipment, Year ended March 31, 1915.

	\$	cts.
No. 28. Superintendence	89,943	80
" 29. Steam locomotives—Repairs.	883,996	69
" 35. Passenger train cars—Repairs.	372,743	97
" 38. Freight train cars—Repairs.	782,308	28
" 44. Floating equipment—Repairs.	8,211	70
" 47. Shop machinery and tools	65,512	74
" 49. Injuries to persons	2,149	44
" 50. Stationery and printing.	12,432	87
" 51. Maintaining joint equipment at terminals. Dr	8,010	18
" 52. Other expenses.	23,901	50
" 53. Work equipment—Repairs.	52,673	31
	2,301,884	48

S. L. SHANNON,
Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

No. 5—INTERCOLONIAL RAILWAY—Traffic Expenses, Year ended March 31, 1915.

	\$	cts.
No. 57. Superintendence	58,978	67
" 58. Outside agencies.	121,131	54
" 59. Advertising.	46,738	70
" 60. Stationery and printing.	31,938	68
" 61. Traffic associations.	3,788	46
" 65. Other expenses.	71	14
	262,647	19

S. L. SHANNON,
Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

6 GEORGE V, A. 1916

No. 6—INTERCOLONIAL RAILWAY—Transportation Expenses, Year ended March 31, 1915.

	\$	cts.
No. 66. Superintendence..	87,184	69
" 67. Despatching trains..	198,870	22
" 68. Station employees ..	885,120	17
" 69. Weighing and Car Service Associations	1,560	70
" 72. Station supplies and expenses ..	123,226	63
" 73. Yardmasters and their clerks ..	60,646	37
" 74. Yard conductors and brakeman ..	233,740	37
" 75. Yard switch and signal tenders..	17,269	28
" 76. Yard supplies and expenses.....	27,914	40
" 77. Yard enginemen	142,513	16
" 78. Enginehouse expenses—Yard.....	44,324	85
" 79. Fuel for yard locomotives.....	212,478	86
" 80. Water for yard locomotives.....	10,495	49
" 81. Lubricants for yard locomotives.....	2,261	82
" 82. Other supplies for yard locomotives ..	2,277	96
" 83. Operating joint yards and terminals. Dr..	136,762	18
" 86. Road enginemen.....	683,795	64
" 87. Enginehouse expenses—Road.	330,949	05
" 88. Fuel for road locomotives.....	1,882,118	49
" 89. Water for road locomotives.....	68,047	53
" 90. Lubricants for road locomotives ..	25,822	32
" 91. Other supplies for road locomotives..	22,271	93
" 94. Road trainmen	898,562	92
" 95. Train supplies and expenses.....	226,115	87
" 96. Interlockers, block and other signals—Operation ..	16,726	34
" 97. Crossing flagman and gateman ..	19,873	37
" 98. Drawbridge operation.....	3,021	82
" 99. Clearing wrecks.....	22,674	09
" 100. Telegraph and telephone—Operation ..	14,732	70
" 101. Operating floating equipment ..	57,163	53
" 103. Stationery and printing ..	92,661	84
" 105. Other expenses	39,204	35
" 106. Loss and damage—Freight ..	72,868	74
" 107. Loss and damage—Baggage.....	614	01
" 108. Damage to property ..	7,645	87
" 109. Damage to stock on right of way.....	5,553	25
" 110. Injuries to persons.....	12,647	59
" 111. Operating joint tracks. Dr.....	14,043	87
	6,704,362	27
No. 84. Operating joint yards and terminals. Cr.....	108,455	70
	6,595,906	57

S. L. SHANNON,
Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

SESSIONAL PAPER No. 20

No. 7—INTERCOLONIAL RAILWAY—General Expenses, Year ended March 31, 1915.

	\$	cts.
No. 113. Salaries and expenses of general officers.....	28,286	33
" 114. Salaries and expenses of clerks and attendants..	135,266	44
" 115. General office supplies and expenses.....	3,695	45
" 116. Law expenses.....	18,908	32
" 118. Relief Department expenses.....	9,400	00
" 119. Pensions.....	93,012	27
" 120. Stationery and printing	22,521	51
" 121. Other expenses.....	16,477	98
	327,568	30

No. 8—INTERCOLONIAL RAILWAY—General Stores Account, Year ended March 31, 1915.

Dr.	\$	cts.	Cr.	\$	cts.
To Balance March 31, 1914		2,179,882	08		
Purchases during year ended March 31, 1915.....	4,726,185	90	By Issues during year ended March 31, 1915.	4,827,096	18
Charges from other Departments.....	649,921	20	Sales of Material.....		
Labour.....	71,167	75	Fuel, etc.....	139,193	96
Staff pay-rolls	51,925	66	Sales old material.....	333,548	32
		5,499,200	60	BALANCE—	
			Ordinary Stores, including fuel.....	1,410,366	06
			Roadway and bridge material.....	968,878	16
		7,679,082	68		2,379,244
					22
					7,679,082
					68

S. L. SHANNON,
Comptroller and Treasurer.

C. F. BURNS,
Auditor of Disbursements.

No. 9—INTERNATIONAL RAILWAY—General Balance, Year ended March 31, 1915.

To	Dr	\$	cts	\$	cts	Cr.	\$	cts
To Cash								
General stores								
Station agents								
Receiver General, Provident Fund Account		2,379	244	22			921,491	79
Authors' Suspense Account		167	522	84			576,826	29
Cash in Transit Account		1,496	769	98			5,740	56
Commissary Account		40	453	10				
Unincluded freight		19	227	98				
Loss and damage freight—Suspense Account		29	348	46				
Rail Loan Account		2,265	70				152,538	06
Commissary stock—Moncton restaurant		10	648	01				
Expenditure for road and equipment, Suspense		61	324	04				
Rolling stock		299	69					
		200,808	83		4,401,942	87		
To Individuals and Companies ledger								
Acadia Coal Co.		227	70					
Alabama & Vicksburg Ry.		1	29					
Atlantic Coast Line		17	19					
Armour Car Lines		22	24					
H. & A. Allan		32	15					
Anlae Station		16	76					
Atlantic and Lake Superior Ry.		75	92					
Atlanta, Birmingham & Atlantic Ry.		44	62					
American Refrigerator Transit Co.		2	95					
Atchafon, Topexia & Santa F6 Ry.		24	34					
Aon Arlaer Ry.		2	44					
Alabama Great Southern Ry.		16	31					
Steamship Line Co.		0	70					
Austin Laundry Co.		272	46					
Advocate, Newcastle		13	15					
Canadian Allis Chalmers Co.		705	14					
John Abrams Sons		1	50					
Alabama, Tennessee & Northern Ry.		0	22					
Arms Palace Horse Car Co.		1	27					
Albiquippa & Southern Ry.		0	25					
Boston & Maine Ry.		471	53					
John Bertram & Sons		15	23					
Bathmore & Ohio Ry.		325	19					
Boston & Albany Ry.		86	38					
Bangor & Aroostook Ry.		2	18					
Buffalo, Rochester & Pittsburg Ry.		109	83					
Bessemer & Lake Erie Ry.		2	67					
Ovide Brouillard		92	09					
Bay of Quinte Ry.		2	79					
By Dominion of Canada								
Intercolonial and Prince Edward Island Road								
Way's Employees Provident Fund								
Freight in Transit Account								
Fire Renewal Account (Buildings, Fixtures and Grounds)								
By Individuals and Companies Ledger								
Anthracite Malleable Iron Co.		40	42					
Atlantic Sugar Refining Co.		421	07					
Berensville Coal & Ry. Co.		216	90					
Cumberland Ry. & Coal Co.		65	75					
Chatham Ry.		0	07					
Canadian Oil Co.		72	35					
Colonial Granite Co.		37	50					
Canada Cement Co.		2,319	12					
Coldbrook Realty & Development Co.		1,151	62					
Coldbrook Excelsior Works		238	76					
Canadian Atlantic Coal Co.		100	00					
Dubis & Co.		98	63					
Dominion Express Co.		4	93					
W. H. Duffy		288	85					
Elmsdale Co.		1,190	18					
T. E. Ferrald & Co.		223	50					
Finch, Pruyne & Co.		6,318	00					
G. B. Fenwick		15	00					
Grand Lake Lumber Co.		382	00					
H. J. Garson & Co.		3	53					
Ludlow Goodspeed & Son		207	44					
Aloner Gordon		161	79					
General Average Account		10	19					
P. P. Gatchus		0	87					
L. E. Goodwin		15	00					
Charles & Davison Hill		350	81					
T. A. Hurley		108	09					
International Harvester Co.		41	98					
J. A. Kirkpatrick		248	50					
L. Lorr		13	15					
W. S. Luzzie & Co.		39	77					
La Cie Industrielle de Rimouski		222	92					
Peter Lynam & Sons Construction Co.		432	93					
J. Lewis & Son		417	90					
La Compagnie Fonderie & Machinerie		31	10					

No. 9.—INTERCOLONIAL RAILWAY.—General Balance, Year ended March 31, 1915.—Continued.

Dn.		Cr.	
	\$ cts.	\$ cts.	\$ cts.
Brought forward.....	122,245 27	4,401,942 87	15,433 51
To Chicago, Rock Island & Pacific Ry.....	600 36		238 50
Chicago Great Western Ry.....	4 93		332 92
Chicago, Peoria & St. Louis Ry.....	12 85		12 50
Cold Blast Transportation Co.....	18 62		135 54
Copper Crown Co.....	45 13		505 05
Central of Georgia Ry.....	3 19		182 48
F. A. Cutting Car Co.....	3 44		0 29
Canada Foundry Co.....	441 75		105 90
Customs Department.....	15 00		1 59
J. & A. Calligan.....	10 22		4 13
Cornwall & York Cotton Mills Co.....	11 37		5 50
Canada & Gulf Terminal Ry.....	9,518 13		704 00
Chicago Junction Ry.....	1 18		9 00
Canada Car & Foundry Co.....	250 00		1,033 94
Chicour Bay Mills.....	224 54		1,296 22
Chicago, Terre Haute & Southeastern Ry.....	309 87		440 46
John J. Cunniff.....	11 96		295 51
Carrutte Patterson Co.....	10 71		130 22
Colonial Coal Co.....	103 76		184 10
Canfield Tank Line.....	7 14		29 86
Cook Construction Co. & Wheaton Brothers.....	4,484 69		104 59
Canadian Transfer Co.....	10 00		29 83
Continental Lumber Co.....	265 36		567 41
John H. Cuvandall.....	9 36		24 97
Cameron & Fraser Co.....	17 71		2 68
Caldor Fraser Co.....	7 10		89 50
Department of Agriculture.....	121 26		13 80
Dominion Tar & Chemical Co.....	6 58		97 50
Department of Justice Works.....	128 27		8 62
Department of Public Works.....	1,164 49		21 20
Department of Marine & Fisheries.....	100 82		36 11
Department of Militia & Defence.....	1,224 94		9 40
Dominion Atlantic Ry.....	12,903 88		191 29
Dominion Coal Co.....	81 89		4,805 80
Dominion Iron & Steel Co.....	948 84		8 82
Delaware & Hudson Ry.....	149 11		81 10
Delaware, Lackawanna & Western Ry.....	43 55		299 09
Duluth, South Shore & Atlantic Ry.....	10 56		641 62
Department of Interior.....	322 22		425 20
Department Railways & Canals.....	82,933 14		12,114 54
Detroit & Mackinac Ry.....	2 91		27 05
Dominion Molasses Co.....	1 40		24 45
Dominion Bridge Co.....	2,660 27		2 95
Brought forward.....			
By Chicago, Rock Island & Pacific Ry.....			
Chicago, Burlington & Quincy Ry.....			
Chicago Great Western Ry.....			
Chicago & North Western Ry.....			
Chicago, Milwaukee & St. Paul Ry.....			
Chicago, Rock Island & Gulf Ry.....			
Cincinnati, Hamilton & Dayton Ry.....			
Cumberland Ry. & Coal Co.....			
Central Ry. of New Jersey.....			
Chicago & Eastern Illinois Ry.....			
Caracquet & Gulf Shore Ry.....			
Willam Cuthbertson.....			
Canadian Steamship Co.....			
Canadian Northern Ry. System.....			
Department of Marine & Fisheries.....			
Duluth, South Shore & Atlantic Ry.....			
Dominion Atlantic Ry.....			
Dominion Northern Ry.....			
Denver & Rio Grande Ry.....			
Eastern Steamship Co.....			
Elgin & Havelock Ry.....			
El Paso & South Western Ry.....			
Elgin, Joliet & Eastern Ry.....			
Great Northern Ry.....			
Galveston, Harrisburg & San Antonio Ry.....			
Grand Trunk Pacific Coast Steamship Line.....			
Illinois Central Ry.....			
Interprovincial Navigation Co.....			
Indiana Harbour Belt Ry.....			
International Ry. of New Brunswick.....			
Kansas City, Mexico & Orient Ry.....			
Kansas City, Mexico & Orient Ry. of Texas.....			
Lehigh Valley Ry.....			
Levis Ferry Co.....			
Maine Central Ry.....			
Mincapolis, St. Paul & Sault Ste. Marie Ry.....			
Steamship <i>Minio</i>			
Northem Pacific Ry.....			
New York, New Haven & Hartford Ry.....			
New Brunswick Coal & Ry.....			
National Transcontinental Railway.....			
Oregon Short Line.....			
Pennsylvania R. R.....			
Philadelphia & Reading Ry.....			

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Detroit, Toledo & Ironton Ry.	36 51	Pacific Coast Steamship Co.	41 00
Denver & Rio Grande Ry.	2 61	Quebec Oriental Ry.	357 07
Alfred Dieckie Lumber Co.	88 45	Quebec Central Ry.	172 97
Detroit & Toledo Shore Line.	100 04	Reid Newfoundland Co.	65 45
M. P. & J. T. Davis.	66 58	Robert Reford Co.	35 10
Department of Naval Service.	6,224 00	San Pedro, Los Angeles & Salt Lake Ry.	305 66
Duluth, Winnipeg & Pacific Ry.	3 73	Southern Pacific Co. (Pacific System)	897 69
Detroit Terminal Ry. Co.	2 04	Southern Ry.	1 25
Domainion Pulp Co.	15 36	Spokane, Portland & Seattle Ry.	79 63
Elgin & Havelock Ry.	0 12	Steamship Stanley.	60 07
Esne Ry.	333 59	St. John & Quebec Ry.	1,014 42
Eastern Steamship Co.	25 81	Tennessee Ry.	61 13
El Paso & Southwestern Ry.	7 75	Thousand Islands Ry.	0 12
Eastern Car Co.	7 59	Union Pacific Ry.	283 94
Eastern Trust Co.	8,120 25	Wheeling & Lake Erie Ry.	48 98
Captain J. A. Farquhar.	9 60		
Furness Withy Co.	118 15	By Car Service Ledger—	
Fraserville Foundry.	519 25	Bristol R.R.	0 50
Freight Claim Agent.	*30 47	Detroit & Toledo Shore Line.	4 30
Fort Smith & Western Ry.	0 14	Evanville Suburban & Newburg Ry.	0 15
Fruit Growers Express.	14 06	Fredericton & Grand Lake Coal & Ry Co.	0 45
C. Fred Fawcett.	605 56	Graselli Chemical Co.	3 42
Fort Dodge, Des Moines & Southern Ry.	2 02	Manneapolis, St. Paul & Sault Ste. Marie Ry.	10 30
Fredericton & Grand Lake Coal & Ry. Co.	1,031 68	Piedmont Ry.	4 05
W. A. Fraser.	16 97		
Fruit Despatch Co. of New York.	0 83	By Revis Ledger—	
Florida East Coast Ry.	1 42	Edmund White.	2 50
Frisco Refrigerator Line.	17 44	William O. McAllister.	5 67
Ford Motor Co. of Canada.	100 00	T. B. Cochrane.	1 46
Grand Trunk Ry.	47,133 47	Town of Pictou.	1 00
General Storekeeper.	10 46	A. P. Monette.	4 00
Galema Signal Oil Co.	1,399 81	Dos. L. LeBlanc.	0 20
Great North Western Telegraph Co.	50 06	Caldor Fraser Co.	1 00
Gulf, Colorado & Sante Fé Ry.	0 20	Atlante Sugar Refining Co.	1 00
Great Northern Ry.	249 03	J. Cameron.	0 25
Georgia Southern & Florida Ry.	51 63	Estate Rufus Black.	1 00
Grand Trunk Ry.—Suspense.	98 75	George Lovett.	1 00
Georgia Ry.	1 44	Price, Porritt Pulp & Paper Co.	1 00
Georgia & Florida Ry.	12 66	Town of Fraserville.	2 00
Gulf & Ship Island Ry.	3 72	Flavion & Odilon Gray.	1 00
Norton Griffiths Dredging Co.	957 50		
General Car & Machinery Co.	25 00		
Gloucester Lumber & Trading Co.	7 51		
Habitat & South Western Ry.	177,868 60		
Hampson & St. Martins Ry.	542 12		
Hoeking Valley Ry.	7 97		
J. A. Harris.	7 50		
W. C. Hunter.	249 18		
	487,769 78	Carried forward.	5,026,964 32
	4,401,942 87		
			23 17
			44,134 99
			25 08
			48 98
			283 94
			61 13
			1,014 42
			79 63
			1 25
			897 69
			305 66
			35 10
			65 45
			172 97
			357 07
			41 00

No. 9.—INTERNATIONAL RAILWAY. General Balance, Year ended March 31, 1915 *Continued*

Dr.	\$	cts	\$	cts	Cr.	\$	cts
Brought forward	487,766	78	4,401,942	87	Brought forward	5,026,964	17
To							
Hoed's Quarry Co	179	34					
Houston & Texas Central Ry	32	53					
Hamilton Bridge Works Co.	734	51					
C. A. Hayes	25	98					
Hardwood Planing Mills	24	79					
Hibbard Construction Co	75	00					
Humphrey's Unshrinkable Underwear Co	18	76					
Inverness Ry. & Coal Co	255	26					
International Coal Mining Co.	47	95					
International & Prince Edward Island Railways							
Employees' Relief and Insurance Association	351	34					
Imperial Oil Co	423	99					
International & Great Northern Ry	423	99					
International & Prince Edward Island Railways	152	92					
Employees' Provident Fund	1	85					
Indiana Harbor Belt Ry	798	30					
International Engineering Works	429	26					
International Harvester Co.	440	27					
International Ry. of New Brunswick	11,632	63					
Illinois Terminal Ry.	0	28					
Jonesboro, Lake City & Eastern Ry.	14	18					
Kent Northern Ry.	6,918	69					
Kansas City Southern Ry	18	52					
Kansas City, Mexico & Orient Ry	0	28					
Kingman Refrigerator Line	0	54					
Louisiana & Magaurie Ry	31	59					
Londonderry Iron & Mining Co	21,314	12					
Lough Valley Ry	62	72					
Louisville & Nashville Ry	13	79					
Lake Shore & Michigan Southern Ry	829	93					
Lake Erie & Western Ry	0	14					
Louisiana & North Western Ry	96	40					
R. S. Low	0	87					
Lehigh & New England Ry	3	25					
Lehigh Valley Ry	4	29					
Lobby, McNeill & Lobby Refrigerator Line	0	41					
Louisiana & Arkansas Ry.	26	06					
Thomas Lohrey	30	00					
P. J. Lynch	5	48					
Louisiana Ry. & Navigation Co	124	30					
W. M. Leary	13,189	45					
Moncton & Buctouche Ry.							

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Michigan Central Ry	363 08	
Maine Central Ry	83 43	
John Murphy	0 25	
L. G. Morrissette	35 14	
Montreal Cotton & Wood Waste Co.	175 00	
Montmaguy Light & Pulp Co.	756 09	
Thomas Malouin	4,742 75	
Missouri Pacific Ry	65 11	
Minneapolis, St. Paul & Sault Ste. Marie Ry	1,457 19	
Missouri, Kansas & Texas Ry	93 78	
Maritime Coal Ry. & Power Co	60 00	
Metropolitan Steamship Co.	31 88	
Miramichi Quarry Co	203 04	
Morgan's Louisiana & Texas Ry	43 00	
Mather Stock Car Co.	14 86	
Minneapolis & St. Louis Ry	36 61	
Miscouari River Despatch, Transit Co.	1 51	
Morris & Co., Refrigerator Line	2 73	
Mobile & Ohio Ry	87 31	
Midland Valley Ry	1 65	
Millerton Station	333 73	
Montreal Locomotive Works	103 10	
J. T. Munro	11 91	
I. Matheson & Co	31 85	
R. W. Mayer	17 92	
20 00		
Fred Magee	1 96	
Manitoba & North Eastern Ry.	0 56	
Missouri & North Arkansas Ry.	190 00	
Moneton Construction Co	0 54	
Mexico Northwestern Ry.	17,922 51	
Roger Miller & Sons	77 89	
Maritime Bridge Co	14 79	
Miramichi Foundry & Machine Co	27 09	
D. R. Morrison & Co.	13 62	
Miller's Oil Refining Co	71 43	
John S. Metcalf & Co.	968 62	
McLean Holt & Co.	363 94	
Estate of H. F. McDougall	46 10	
E. D. McGrath	25 00	
Reid McManus	2 38	
E. H. McMillan	25 83	
Dan McNeil & Sons	75 00	
Nelson McDougall	15 09	
J. J. McDonald Estate	13 75	
J. M. McGrath	2 80	
John W. McNeill	2 30	
H. W. McLennan	2 30	
Alexander H. McSween	250 35	
	574,876 33	4,401,942 87

Carried forward

Continued on page 22

5,036,984 33

Père Marquette Ry	537 37	
Pittsburg & Lake Erie Ry	100 74	
Philadelphia & Reading Ry	163 64	
Pickford & Black	164 87	
Peoria & Pekin Union Ry	2 87	
Pittsburg, Shawmut & Northern Ry	0 72	
Pirie & Sinkovitz	13 55	
David Porter	45 09	
Pacific Fruit Express	53 65	
Preston Car & Coach Co	14 75	
W. J. Poupore Co	79 75	
E. Powers	3 15	
P. Puquet & Fils	57 57	
Puon County Contractors Supply Co	2 44	
Pennsylvania Delaware Oil Co	4 36	
Peoria Ry Terminal Co	0 06	
Quebec Central Ry	6,451 89	
Quebec, Montreal & Southern Ry	141 93	
Quebec & Lake St. John Ry	108 22	
Quebec & Lewis Ferry Co	73 48	
Quebec Contracting Co	701 40	
Quebec Cartago & Transfer Co	12 90	
Rhodes Carry Co	12 36	
Rutland R. R.	12 77	
Ryan & MacDonnell	2,736 29	
Rockingham Station	3 00	
Restoucho Hotel	13 00	
Reed Company, Limited	8 71	
Edouard Robt	20 40	
Railway Automobile Car Co	61 40	
Renous Bridge Lumber Co	1 42	
Richmond, Fredericksburg & Potomac Ry	16 23	
Rood & McGregor	92 07	
Rock Island Southern Ry	308 50	
Swift Refrigerator Line	121 59	
Sherbrooke Tank Line	4 38	
Sackville Station	65 97	
Salisbury & Albert Ry	70,690 72	
Southern Pacific Ry	26 25	
Southern Ry	31 53	
St. Wenceslas Station	7 77	
Seaboard Air Line	37 76	
St. Louis & San Francisco Ry	53 16	
E. R. Stiles	7 50	
San Pedro, Los Angeles & Salt Lake Ry	1 08	
Shives Lumber Co	36 75	
St. Louis & Southern West Ry	19 03	
St. Joseph & Grand Island Ry	0 12	
Carried forward	\$70,041 80	4,401,942 87

Carried forward

5,056,964 32

No. 9.—INTERCOLONIAL RAILWAY.—General Balance, Year ended March 31, 1915.—Continued.

Dr.	\$	cts.	\$	cts.	Cr.	\$	cts.	\$	cts.
Brought forward.....	77,617	31	5,324,266	60	Brought forward.....			5,626,964	32
To Department of Labour & Commerce, U.S.A....	181	55							
Detroit & Toledo Shore Line.....	942	60							
T. A. S. DeWolfe & Son.....	23	00							
Dominion Iron & Steel Co.....	37,943	62							
Department of Agriculture, New Brunswick....	100	00							
Department of Immigration.....	45	20							
Department of Naval Service.....	2,714	42							
Department of Agriculture, Ottawa.....	525	00							
Fredericton & Grand Lake Coal & Railway Co....	209	23							
Grand Trunk Ry.....	77,708	56							
Grand Trunk Pacific Ry.....	10,151	29							
Galt, Preston & Hespeler Ry.....	510	57							
Greenwich & Johnsonville Ry.....	259	96							
Grand Trunk Ry.—European Office.....	589	52							
Hamburg-American Steamship Line.....	7	63							
Inverness Ry. & Coal Co.....	499	96							
A. G. Jones & Co.....	9	50							
Lake Shore & Michigan Southern Ry.....	0	90							
Michigan Central Ry.....	2,914	03							
New York Central Ry.....	470	72							
Northern New Brunswick & Seaboard Ry.....	3,311	76							
New Brunswick & Prince Edward Island Ry....	342	00							
Ocean Charges—St. John.....	5,524	38							
Ocean Charges—Halifax.....	11,667	46							
Ocean Charges—Montreal.....	174	55							
Prince Edward Island Ry.....	2,096	64							
Père Marquette Ry.....	3,209	98							
Piekeford & Black.....	96	86							
Quebec, Montreal & Southern Ry.....	1,404	38							
Rutland Ry.....	11,190	01							
Russian-American Line.....	4	95							
Reid Newfoundland Co.—Suspense.....	23,479	90							
Salvation Army.....	320	10							
Salisbury & Albert Ry.....	116	65							
St. John River Steamship Line.....	1	50							
Temiskaming & Northern Ontario Ry.....	5	60							
Toronto, Hamilton & Buffalo Ry.....	982	35							
Toledo, St. Louis & Western Ry.....	394	01							
Wabash Ry.....	1,307	92							
			279,105	57					

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To Car Service Ledger—			
Albany & Hudson Ry.	4 25		
Atlantic & Western Ry.	3 15		
Atlanta & St. Andrews Bay Ry.	42 90		
Arkansas South Eastern Ry.	9 45		
Buffalo & Susquehanna Ry.	4 50		
Benwood & Wheeling Ry.	1 35		
Buffalo & Susquehanna Ry. (New account)	0 45		
Buffalo & Susquehanna R.R.	9 00		
Chicago, Cincinnati & Louisville Ry.	137 25		
Cincinnati, Bluffton & Chicago Ry.	11 25		
Cinacada & Gulf Terminal Ry.	875 90		
Chicago, Anamosa & Northern Ry.	8 10		
Cincinnati & Westwood Ry.	3 30		
Cape Girardeau Northern Ry.	4 50		
Canadian Northern Ry.	61 40		
Canadian Northern Ry. System.	790 25		
Dominion Atlantic Ry.	0 10		
Dallas Terminal Ry. & Union Depot.	0 45		
Durham & South Carolina Ry.	285 20		
Edgin & Havlock Ry.	2 05		
East Carolina Ry.	3 60		
Greenville & Knoxville Ry.	17 10		
Georgia & Florida Ry.	3 15		
Huntingdon & Broad Top Mountain Ry.	596 60		
International Ry. of New Brunswick.	1 80		
Interstate R.R.	45 50		
Jamesstown, Chautauqua & Lake Erie Ry.	4 95		
Jamesstown, Westfield & North Western Ry.	2 70		
Kanona & Prattsburgh Ry.	234 55		
Kent Northern Ry.	3 15		
Lake Terminal Ry.	13 05		
Leligh & New England Ry.	6 75		
Liberty White Ry.	59 70		
Lorain, Ashland & Southern Ry.	9 90		
Muscatine North & South Ry.	1 80		
Mississippi River & Boons Terre Ry.	3 60		
Maryland & Pennsylvania Ry.	42 30		
Missouri, Oklahoma & Gulf Ry.	0 90		
McKeesport Connecting Ry.	5,703 05		
New York Central Lines.	5 85		
Newburgh & South Shore Ry.	0 45		
Natebez & Southern Ry.	6,376 82		
National Transcontinental Ry.	367 05		
Northern New Brunswick & Seaboard Ry.	13 95		
New Jersey & Pennsylvania Ry.	157 40		
New Brunswick & Prince Edward Island Ry.	4 05		
Pittsburg & Susquehanna Ry.			
Carried forward.....	15,925 02	5,603,372 17	
			5,636,964 32

No. 9.—INTERCOLONIAL RAILWAY.—General Balance, Year ended March 31, 1915—Continued.

Dr.		\$	cts.	\$	cts.	Ck.	\$	cts.
Brought forward.....		15,925	02	5,603,372	17	Brought forward..	5,629,964	32
To	Ratland R. R.	365	15					
	Register & Glenville Ry.	1	75					
	Randolph & Cumberland Ry.	10	60					
	Salisbury & Albert Ry.	122	45					
	St. Louis & San Francisco Ry.	30	30					
	St. Louis, San Francisco & Texas Ry.	8	45					
	Savannah & Statesboro Ry.	0	90					
	St. John & Quebec Ry.	134	50					
	Teniskaming & Northern Ontario Ry.	4	00					
	Terminal R. R. Association of St. Louis.	173	45					
	Trinity & Brazos Valley Ry.	26	15					
	Toledo & Western Ry.	13	50					
	Valdosta, Moultrie & Western Ry.	1	35					
	Wabash, Chester & Western Ry.	20	70					
	White River R. R.	0	90	16,839	57			
To	Rents Ledger—							
	Newfoundland Ry.	1,341	65					
	Post Office Department.	0	95					
	Oliver Geldart.	5	67					
	H. Embray.	5	67					
	J. M. O'Brien.	1,214	93					
	William Barrie.	53	67					
	Canadian Pacific Co.	645	80					
	Post Office Department.	37	50					
	Steamer <i>Gruxville</i> .	56	25					
	Mrs. Ryan.	70	90					
	Mrs. Margaret McFarlane.	3	00					
	Albert Gunn.	8	00					
	James Elliott.	152	00					
	George Taylor.	5	00					
	George & Ed. Couture.	8	34					
	P. Robitaille.	75	00					
	Canadian Express Co.	12	00					
	Canadian Northern Steamship Co.	8	00					
	Department Militia and Defence.	206	43					
	Maple Leaf Telephone Co., Ltd.	10	00					
	H. H. Blackadar.	5	00					
	Adamsville Telephone Co.	2	00					
	Antigonish & Sherbrooke Telephone Co.	2	50					
	E. H. McElmon.	2	00					

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City of Sydney.....	1 00
Joseph Cote.....	26 00
David Rouleau.....	24 00
Emile St. Laurent.....	283 00
Louis Boisvert.....	8 00
Matouin Sanson.....	40 00
C. Veilleux.....	7 50
N. Lamontagne.....	264 00
Dame C. W. Carrier.....	66 00
Oliver Gingras.....	12 00
Misses Camire.....	11 00
Maurice Camire.....	110 00
Mrs. J. Atkinson.....	120 00
Mrs. L. Roberge.....	44 00
James Cloutier.....	9 00
Frank Cloutier.....	231 00
A. Begin.....	58 50
Jean Lecomte.....	1 00
Atlantic Lumber Co.....	2 00
Hiram D. McLean.....	15 00
Hiram D. McLean.....	5 00
Miramichi Lumber Co.....	20 80
James Comeau.....	15 00
George A. Mason.....	5 00
Arthur S. Comeau.....	1 00
City of Sydney.....	12 00
J. A. R. Weir.....	10 00
Spencer Brothers & Turner.....	3 00
Mrs. Agnes Weir.....	4 00
Thomas Sharpe.....	1 00
J. W. Campbell.....	1 50
John R. Stewart.....	8 00
William Young.....	1 00
Mrs. M. Bourgoin.....	1 00
Estate Patrick McCourt.....	4 00
James E. Kelly.....	1 00
John Roach.....	15 00
M. McLean.....	1 00
I. Matheson & Co.....	1 00
Arthur W. Moffatt.....	6 00
Estate H. F. McDougall.....	1 00
Town of Shediac.....	2 00
LeClaire & Daigle.....	1 00
D. Henry Goodwin.....	0 75
W. R. Sleeves.....	3 75
G. W. White.....	

5,384 18

Carried forward.....

5,026,964 32

Carried forward.....

No. 9.—INTERCOLONIAL RAILWAY.—General Balance, Year ended March 31, 1915.—Concluded.

Dr.	\$	cts.	\$	cts.	Cr.	\$	cts.
Brought forward.....	5,384	18	5,020,211	74	Brought forward.....		
To B. N. T. Underhill.....		5 00					
Archibald Fraser.....		2 00					
H. McH. Hart.....		45 00					
City of Sydney.....		1 00					
Simeon Forth.....		3 00					
William R. Wilson.....		1 00					
I. B. Shaffner & Co.....		5 00					
Ralph W. Eastwood.....		10 00					
Ernest O. Dufault.....		10 00		5,466			18
To Advances—							
H. M. Stevens.....		5 00					
A. R. Smith.....		20 00					
A. M. McLellan.....		16 65					
T. W. Butler.....		276 96					
J. K. McGrath.....		31 85					
C. Coulombe.....		57 52					
C. A. Lowe.....		13 36					
W. J. Hughes.....		25 00					
W. C. Chalmers.....		20 00					
A. D. Gunn.....		20 00					
Prototary of the Superior Court, District of Kamouraska.....		800 00					
				1,236			40
				5,020,964			32

E. & O. E.,

MONCTON, N.B.

S. L. SHANNON,

Comptroller and Treasurer.

SESSIONAL PAPER No. 20

No. 10—INTERCOLONIAL RAILWAY—Statement of Receipts and Expenses, Year ended March 31, 1915.

Expenses.	\$	cts.	Receipts.	\$	cts.
Maintenance of way and structures...	1,950,366	60	Received from Parliamentary appropriations on account of Intercolonial Railway working expenses through the Department of Railways and Canals.....	11,438,373	14
Maintenance of equipment.....	2,301,884	48	Cash received for sale of old rolling stock.....	30,134	68
Traffic expenses.....	262,647	19	Amount transferred to Capital Rolling Stock Account, 1914-15.....	875,943	18
Transportation expenses.....	6,595,906	57	Difference between the earnings of the year 1914-15 and the total amount of expenditure for the year, less the amount paid by department at Ottawa for compassionate allowances credited to Fire Renewal Account.....	36,465	08
General expenses.....	327,568	30	Balance at credit of Fire Renewal Account at April 1, 1914.....	156,272	96
Balance at debit of Equipment Renewal Account at April 1, 1914 ..	823,265	69	Balance at credit of Rail Renewal Account at April 1, 1914.....	236,582	79
Amount expended for renewal of rolling stock.....	82,812	17			
Amount expended for renewal of rails	263,961	83			
Amount expended for renewal of buildings.....	12,820	34			
	12,621,233	17			
Balance—					
Fire Renewal Account.....	152,538	66			
	\$12,773,771	83		\$12,773,771	83

E. & O. E., MONCTON, N.B.

S. L. SHANNON,
Comptroller and Treasurer.

6 GEORGE V, A. 1916

No. 11—INTERCOLONIAL RAILWAY—Equipment Renewal Account.

	\$ cts.	\$ cts.
On the 1st April, 1914, there was a balance to the debit of the Equipment Renewal Account of	823,265 69	
During the year ended March 31, 1915, there was charged to the above account:—		
57 box cars	68,775 00	
Cost of inspection of box cars during the year ended March 31, 1915	330 75	
Labour and material, converting 3 box cars into stock cars, Moncton shops	1,772 98	
Labour, converting box cars into platform cars, Moncton shops	306 00	
Labour and material, remodelling car "Dufferin" into official car, Moncton shops	1,949 39	
Material, 20 box baggage cars under construction, Moncton shops	4,845 42	
Value of freight cars destroyed at Campbellton, July 11, 1911. These cars were replaced	4,800 00	
Cost of analysis of steel axle drillings	30 00	
Cost of analysis of steel axle, passenger cars	2 50	
Express charges on parcel from Kingston, Ont.	0 13	
During the year ended March 31, 1915, there was credited to the Equipment Renewal Account:—		
Cash received from sale of old rolling stock		30,134 68
Transfer to Capital Rolling Stock Account 1914-15 for—		
8 first class passenger cars, paid for in 1913-14		132,688 00
100 Hart convertible cars, paid for in 1913-14		128,912 00
8 box cars, paid for in 1913-14		4,860 00
89 box cars, paid for in 1913-14		107,690 00
143 box cars, paid for in 1913-14		173,030 00
Freight cars to amount of		290,898 83
20 caboose cars and cost of inspecting same		37,864 35
	906,077 86	906,077 86

S. L. SHANNON,
Comptroller and Treasurer.

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SESSIONAL PAPER No. 20

No. 12.—INTERCOLONIAL RAILWAY—Rail Renewal Account.

On April 1, 1914, there was a balance to the credit of Rail Renewal Account of	\$236,582 79
Amount transferred from Fire Renewal Account	27,379 04
	<hr/>
	\$263,961 83
There has been charged during the year against the above amount	263,961 83
	<hr/>

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E. & O. E., MONCTON, N.B.

No. 13—INTERCOLONIAL RAILWAY—Fire Renewal Account.

On April 1, 1914, there was a balance to the credit of Fire Renewal Account of	\$156,272 96
During the year ended March 31, 1915, there was credited to Fire Renewal Account, the difference between the earnings of the year 1914-15 and the total amount of the expenditure for the year, less the amount paid by the department at Ottawa for compassionate allowances	36,465 08
	<hr/>
	\$192,738 04
There has been charged during the year against the above amount	\$12,820 34
Debit balance of Railway Renewal Account at February 28, 1915, charged to this account	27,379 04
	<hr/>
	40,199 38
	<hr/>
	\$152,538 66

S. L. SHANNON,
Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

No. 14—INTERCOLONIAL RAILWAY—Statement of Cash Received, Year ended March, 31, 1915.

Dr.	\$ cts.	Cr.	\$ cts.
To Balance on hand April 1, 1914	6 20	By amounts deposited to the credit of the Honourable Receiver General of Canada during the year ended March 31, 1915	13,812,155 30
Amounts received during year and credited as follows:—		Leaving a balance on hand at March 31, 1915, made up as follows:—	
Station Agents 8,576,421 48			0 02
Traffic Ledger 2,868,365 66			<hr/>
Car Service Ledger 483,673 34			0 02
Individuals and Companies Ledger 1,844,755 32			
General Ledger 15,724 32			
Rents Ledger 23,209 00			
	<hr/>		
	13,812,149 12		
	<hr/>		
	\$13,812,155 32		<hr/>
			\$13,812,155 32

S. L. SHANNON,
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E. & O. E., MONCTON, N.B.

INTERCOLONIAL RAILWAY—Statement of Averages, Year ended March 31, 1915.

Mileage of railway..		1,448'82
Engine mileage..		9,127,205
Total train mileage..		7,532,678
Total car mileage..		110,767,770
Total gross earnings..	Dollars.	11,444,877 14
Total working expenses..	"	11,438,373 14
Ratio of earnings to gross earnings:—		
Revenue from transportation..	Per cent.	98.80
Revenue from operations other than transportation..	"	1.20
Gross earnings per mile of railway..	Dollars.	7,899.44
" engine mile..	"	1.25
" train mile..	"	1'52
" car mile..	"..Cents.	10.33
Ratio of expenses to gross earnings:—		
Maintenance of way and structures..	Per cent.	17.04
Maintenance of equipment..	"	20.11
Traffic expenses..	"	2.30
Transportation expenses..	"	57.63
General expenses..	"	2.86
Expenses per train mile:—		
Maintenance of way and structures..	Cents.	25.89
Maintenance of equipment..	"	30.56
Traffic expenses..	"	3.49
Transportation expenses..	"	87.56
General expenses..	"	4.35
Total per train mile..	"	151'85
Expenses per mile of railway:—		
Maintenance of way and structures..	Dollars.	1,346 18
Maintenance of equipment..	"	1,588 80
Traffic expenses..	"	181 28
Transportation expenses..	"	4,552 61
General expenses..	"	226 09
		<u>\$7,894 96</u>
Locomotive and car repairs, per locomotive and car:—		
Locomotives, 392..		\$2,255'09
Passenger cars, 505..		738.11
Freight cars, 14,065..		55.62

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SESSIONAL PAPER No. 20

INTERCOLONIAL RAILWAY—Comparative Statement of principal revenue-producing freight over the Intercolonial Railway in 1913-14 and 1914-15.

Description.	Year ended March 31 1914.	Year ended March 31 1915.
	Tons.	Tons.
<i>Products of Agriculture—</i>		
Grain.....	160,489	127,460
Flour.....	196,092	237,444
Potatoes.....	52,688	39,609
Hay.....	62,872	83,491
Apples, fruits and vegetables.....	24,561	31,260
Other mill products.....	54,076	87,759
Other products of agriculture.....	11,383	9,490
Cotton.....	6,498	3,014
<i>Products of Animals—</i>		
Hogs and horses.....	9,586	20,110
Sheep and cattle.....	15,672	17,498
Lambs.....	1,749	1,187
Dressed meats.....	10,899	13,839
Poultry and game.....	643	378
Fish.....	34,835	38,813
Oysters and clams.....	3,423	2,140
Wool.....	3,042	4,109
Hides and leather.....	10,189	9,364
Other packing house products.....	37,701	23,086
<i>Products of Mines—</i>		
Coal and coke.....	1,305,047	1,121,754
Ore.....	75,861	9,221
Sand stone, etc.....	194,126	219,604
Salt.....	10,082	11,856
Slate and granite.....	1,709	6,085
Phosphate.....	19,963	18,922
Other products of mines.....	27,420	8,573
<i>Products of Forests—</i>		
Lumber.....	748,289	610,208
Bark.....	14,855	14,242
Cordwood.....	45,839	39,837
Pulpwood.....	289,865	273,919
Woodpulp.....	36,355	34,337
Shingles.....	65,913	53,873
Other forest products.....	146,350	104,174
<i>Manufactures—</i>		
Petroleum and oils.....	26,984	39,907
Sugar.....	66,785	68,008
Iron and steel rails.....	143,501	73,275
Iron, pig and bloom.....	111,335	33,429
Wire rods.....	19,876	9,854
Steel billets.....	80,766	37,102
Other castings and machinery.....	74,059	65,457
Bar and steel metals.....	86,922	53,514
Brick, lime and cement.....	139,702	126,730
Agriculture implements.....	10,689	10,924
Furniture.....	13,202	9,783
Immigrants' effects.....	4,031	3,678
Miscellaneous.....	831,816	720,676
	5,287,740	4,529,002

S. L. SHANNON,
Comptroller and Treasurer.

W. H. ESTANO,
Auditor of Traffic.

6 GEORGE V, A. 1916

INTERCOLONIAL RAILWAY—Statement showing quantity of the undermentioned articles carried over the Intercolonial Railway during Fiscal Year ended March 31, 1915.

Articles.	Via Montreal.	Via Ste. Rosalie	Via St. John.	Local Stations.	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.
Raw sugar, westbound.....	1,998	2,053		5,894	9,945
Refined sugar, westbound.....	11,331	10,333	861	30,399	52,924
European freight, westbound, via Halifax	6,922	4,356	52	25,600	36,930
European freight, westbound, via St. John.....	7,144	391		14,156	21,691
European freight, eastbound, via Halifax	29,297	17,560	15,200	*107,851	169,908
European freight, eastbound, via St. John.....	21,401	512		*46,523	68,436
Grain for export, via Halifax.....	Bush. 462,649	Bush.	Bush. 397,239	Bush.	Bush. 859,888
Grain for export, via St. John.....	658,524				658,524
Fresh fish.....	Tons. 3,746	Tons. 2,183	Tons. 1,180	Tons. 9,904	Tons. 17,013
Salt fish.....	6,771	2,549	452	9,246	19,018
Coal.....			50	1,083,492	1,083,542

*Includes lumber exported via Halifax, 78,355, via St. John, 43,625.

S. L. SHANNON,
Comptroller and Treasurer.

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Auditor of Traffic.

INTERCOLONIAL RAILWAY—Descriptive Statement of Freight transported during the year ended March 31, 1915.

Articles.	Number.	Tons.
Barrels flour.....	2,374,440	237,440
Bushels grain.....	5,011,840	127,460
Live stock.....	163,800	38,804
Sup. feet lumber.....	538,730,900	768,255
Coal and other fuel.....		1,161,591
Manufactured goods.....		743,328
All other articles.....		1,452,124
		4,529,002

S. L. SHANNON,
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SESSIONAL PAPER No. 20

INTERCOLONIAL RAILWAY—Statement of Coal shipped over the Intercolonial Railway during the Fiscal Year ended March 31, 1915.

From.	Via St. John.	Via Ste. Rosalie	Via Montreal.	For Local Stations.	Total.
	Tons.			Tons.	Tons.
Stellarton.....	50			387,660	387,710
Westville.....				23,408½	23,408½
New Glasgow.....				235	235
Point Tupper.....				97,488	97,488
North Sydney.....				13,821½	13,821½
Sydney Mines.....				65,592	65,592
Sydney.....				17,787	17,787
Springhill Junction.....				184,844	184,844
Maccan.....				206,018	206,018
Norton.....				2,564	2,564
Harcourt.....				5,106	5,106
McGivneys.....				12,613	12,613
Other stations.....				66,355	66,355
	50			1,083,492	1,083,542

S. L. SHANNON,
Comptroller and Treasurer.

W. H. ESTANO,
Auditor of Traffic.

INTERCOLONIAL RAILWAY—Statement of Receipts.

Month.	Passenger.	Freight Traffic.	Mails and Sundries.	Total Revenue.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
1914.				
April.....	296,459 71	684,113 06	88,947 62	1,069,520 39
May.....	262,568 32	642,690 55	47,666 36	952,925 23
June.....	317,151 69	628,603 84	89,674 80	1,035,430 33
July.....	394,784 12	665,970 64	55,914 14	1,116,668 90
August.....	358,556 08	589,823 18	59,162 37	1,007,541 63
September.....	323,870 94	652,333 95	94,353 54	1,070,558 43
October.....	254,240 94	605,048 84	68,381 90	927,671 68
November.....	200,071 06	562,125 60	68,966 04	831,162 70
December.....	242,205 91	540,203 01	89,211 90	871,620 82
1915.				
January.....	198,451 31	493,962 63	72,033 72	764,447 66
February.....	200,798 54	566,019 72	54,144 35	820,962 61
March.....	212,758 34	679,870 09	53,734 33	946,362 76
1914-1915.....	3,291,916 96	7,310,765 11	842,191 07	11,444,873 14
1913-1914.....	3,674,878 75	8,469,590 33	734,079 92	12,878,549 00

S. L. SHANNON,
Comptroller and Treasurer.

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Auditor of Traffic.

INTERCOLONIAL RAILWAY—Freight Statement.

Month.	Local.		Through.		Total.	
	Tons.	Mileage.	Tons.	Mileage.	Tons.	Mileage.
1914.						
April.....	278,175	42,371,351	142,707	58,727,751	420,882	101,099,112
May.....	267,372	46,130,030	115,908	52,970,751	383,280	99,100,781
June.....	269,093	46,618,584	105,818	46,683,182	374,911	93,301,766
July.....	310,653	48,232,740	108,375	55,456,348	419,028	103,689,088
August.....	280,158	47,073,173	89,409	44,976,367	369,567	92,049,540
September.....	331,108	50,902,067	104,889	54,371,485	435,997	105,273,552
October.....	271,041	38,779,090	104,568	52,233,510	375,609	91,012,600
November.....	100,736	47,927,744	234,192	44,726,100	334,928	92,653,844
December.....	196,928	40,512,982	127,234	58,644,780	324,162	99,157,762
1915.						
January.....	192,184	32,327,028	127,568	49,650,658	319,752	81,977,686
February.....	213,966	37,047,623	135,695	52,844,144	349,661	89,891,767
March.....	272,305	45,805,440	148,920	63,222,930	421,225	109,028,370
1914-1915.....	2,983,719	523,727,852	1,545,283	634,508,016	4,529,002	1,158,235,868
1913-1914.....	3,783,578	707,512,447	1,504,162	715,229,856	5,287,740	1,422,742,303

S. L. SHANNON,
Comptroller and Treasurer.

W. H. ESTANO,
Auditor of Traffic.

INTERCOLONIAL RAILWAY—Passenger Statement.

Month.	Local.		Through.		Total.	
	Number.	Mileage.	Number.	Mileage.	Number.	Mileage.
1914.						
April.....	290,090	9,351,462	30,709	10,545,337	320,799	19,896,799
May.....	281,551	9,314,785	22,658	5,168,210	304,209	14,482,995
June.....	298,829	11,717,970	22,019	4,462,367	320,848	16,180,337
July.....	382,713	15,000,535	32,521	5,397,984	415,234	20,398,519
August.....	342,310	12,746,595	33,482	7,164,031	375,792	19,910,626
September.....	297,919	11,497,632	28,273	5,324,437	3' 6,192	16,821,469
October.....	255,102	9,090,015	23,152	3,636,781	278,254	12,726,796
November.....	221,991	7,828,672	15,058	2,655,902	237,049	10,484,574
December.....	271,646	10,015,618	17,318	2,765,231	288,964	12,780,849
1915.						
January.....	238,197	7,419,888	14,552	2,978,878	252,749	10,398,766
February.....	209,193	7,663,521	11,101	2,161,201	220,294	9,824,722
March.....	259,073	8,062,486	13,914	4,220,811	272,987	12,283,297
1914-1915.....	3,348,614	119,708,579	264,757	56,481,170	3,613,371	176,189,749
1913-1914.....	3,637,482	127,423,098	346,029	85,372,198	3,983,511	212,795,296

S. L. SHANNON,
Comptroller and Treasurer.

W. H. ESTANO,
Auditor of Traffic.

SESSIONAL PAPER No. 20

PRINCE EDWARD ISLAND RAILWAY—Capital Account, Year ended March 31, 1915.

DR.		\$	cts.	\$	cts.	CR.		\$	cts.
1914						1914.			
Mar.31	To cost of P. E. I. Ry. to date.....			8,920,369	01	Mar. 31	By Dominion of Canada.	8,920,369	01
1915.									
Mar.31	To Car ferry, etc....	566,613	63						
	Original construction.....		222	40					
	Increased accommodation and facilities along the line.....	3,694	67	570,530	70	1915.			
						Mar. 31	By Dominion of Canada.	570,530	70
				9,490,899	71				9,490,899

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

PRINCE EDWARD ISLAND RAILWAY—Revenue Account, Year ended March 31, 1915.

Expenditure.	\$	cts.	Earnings.	\$	cts.
Maintenance of way and structures..	166,097	82	Passenger.	184,416	25
Maintenance of equipment.....	96,766	48	Freight.....	187,622	15
Traffic expenses.....	9,891	17	Mails and express	30,488	27
Transportation expenses.....	306,471	43	Miscellaneous.....	12,968	77
General expenses.....	19,000	07			
			Balance.....	415,495	44
				182,731	53
	598,226	97		598,226	97

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

6 GEORGE V, A. 1916

PRINCE EDWARD ISLAND RAILWAY—Maintenance of Way and Structures, Year ended
March 31, 1915.

	\$	cts.
No. 1. Superintendence...	10,994	09
2. Ballast.	7,521	35
3. Ties...	28,680	29
4. Rails...	402	61
5. Other track material..	3,913	54
6. Roadway and track..	73,271	29
7. Removal of snow, sand and ice.	5,218	11
9. Bridges, trestles, and culverts.	1,321	99
11. Grade crossings, fences, cattle guards, and signs..	8,370	96
12. Snow and sand fences, and snow sheds	3,111	24
13. Signals and interlocking plants.....	322	86
14. Telegraph and telephone lines.....	287	73
16. Buildings, fixtures, and grounds.....	15,755	41
17. Docks and wharves.....	4,274	34
18. Roadway tools and supplies.....	2,159	87
22. Injuries to persons.....	8	44
23. Stationery and printing.....	503	70
	166,097	82

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

PRINCE EDWARD ISLAND RAILWAY.—Maintenance of Equipment, year ended
March 31, 1915.

	\$	cts.
No. 28. Superintendence.....	8,248	26
29. Steam locomotives—Repairs.....	40,185	09
35. Passenger train cars—Repairs.....	19,956	43
36. Passenger train cars—Renewals.....	333	11
38. Freight train cars—Repairs.....	20,951	97
47. Shop machinery and tools.....	2,957	62
48. Power plant equipment.....	66	94
49. Injuries to persons.....	31	27
50. Stationery and printing.....	441	34
52. Other expenses.....	2,107	25
53. Work equipment—Repairs.....	1,487	20
	96,766	48

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

SESSIONAL PAPER No. 20

PRINCE EDWARD ISLAND RAILWAY.—Traffic expenses, year ended March 31, 1915.

	\$	cts.
No. 57. Superintendence.....	2,890	41
58. Outside agencies.....	5,416	03
59. Advertising.....	812	25
60. Stationery and printing.....	772	48
	9,891	17

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

PRINCE EDWARD ISLAND RAILWAY.—Transportation Expenses, year ended
March 31, 1915.

	\$	cts.
No. 66. Superintendence.....	4,945	51
67. Despatching trains.....	5,241	30
68. Station employees.....	76,708	49
72. Station supplies and expenses.....	8,858	89
73. Yardmasters and their clerks.....	3,497	09
74. Yard conductors and brakemen.....	7,488	20
76. Yard supplies and expenses.....	115	26
77. Yard enginemen.....	8,709	94
78. Enginehouse expenses—Yard.....	216	63
79. Fuel for yard locomotives.....	6,019	74
80. Water for yard locomotives.....	292	50
81. Lubricants for yard locomotives.....	119	51
82. Other supplies for yard locomotives.....	95	21
86. Road enginemen.....	32,856	51
87. Enginehouse expenses—Road.....	13,106	51
88. Fuel for road locomotives.....	61,547	87
89. Water for road locomotives.....	2,288	86
90. Lubricants for road locomotives.....	1,331	82
91. Other supplies for road locomotives.....	924	99
94. Road trainmen.....	49,097	91
95. Train supplies and expenses.....	10,135	72
96. Interlockers, block and other signals—Operation.....	170	73
97. Crossing flagman and gateman.....	670	21
98. Drawbridge operation.....	683	02
99. Clearing wrecks.....	567	08
100. Telegraph and telephone—Operation.....	325	95
103. Stationery and printing.....	8,853	61
105. Other expenses.....	8	00
106. Loss and damage—Freight.....	929	42
107. Loss and damage—Baggage.....	50	00
108. Damage to property.....	254	65
109. Damage to stock on right of way.....	341	66
110. Injuries to persons.....	108	44
	306,471	43

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

6 GEORGE V, A. 1916

PRINCE EDWARD ISLAND RAILWAY.—General Expenses, year ended March 31, 1915.

	\$	cts.
No. 113. Salaries and expenses of general officers.....	5,066	11
114. Salaries and expenses of clerks and attendants.....	6,414	76
115. General office supplies and expenses.....	377	84
116. Law expenses.....	64	90
118. Relief Department expenses.....	600	00
119. Pensions.....	5,943	43
120. Stationery and printing.....	221	30
121. Other expenses.....	311	73
	19,000	07

S. L. SHANNON,
Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

PRINCE EDWARD ISLAND RAILWAY

SESSIONAL PAPER No. 20

PRINCE EDWARD ISLAND RAILWAY.—General Balance, year ended March 31, 1915.

Dr.	\$	cts.	\$	cts.	Cr.	\$	cts.
To General stores.....			62,095	61	By Dominion of Canada.....		
Cash in transit.....			72	00	Unclaimed wages.....		
Station agents.....			3,568	34	Freight in transit.....		
To Individuals and Companies Ledger—					Auditor's Suspense.....		
Canadian Express Company.....	80	00			By Individuals and Companies Ledger—		
Post Office Department.....	18,481	73			By Traffic Ledger—		
Dominion Express Company.....	0	60			Canadian Northern Railway.....	1	67
Province of Prince Edward Island.....	220	52			Department Marine and Fisheries.....	887	34
Galeus Signal Oil Co.....	123	32			Grand Trunk Railway.....	117	72
Intercolonial Railway.....	16	97			Grand Trunk Pacific Railway.....	216	00
Imperial Oil Company.....	17	00			Intercolonial Railway.....	1,200	14
Charlottetown Steam Navigation Co.....	8	95			By Individuals and Companies Ledger—		
Murray Harbour Branch, telegraph earnings.....	6	33			Department of Railways and Canals.....		
Canadian Pacific Railway.....	2	69			By Rents Ledger—		
Furness Withy Co.....	1	92			Department Marine and Fisheries.....		
Intercolonial and Prince Edward Island Railways Employees' Provident Fund.....	24	68					
Canada Atlantic and Plant Steamship Line.....	1	00					
Department Railways and Canals.....	3	25					
Western Union Telegraph Co.....	832	40					
Grand Trunk Ry.....	7	96					
Anglo-American Telegraph Co.....	124	95					
Buntain, Bell & Co.....	8	47	19,962	74			
To Traffic Ledger—							
Department of Agriculture, P. E. Island.....	22	50					
Department Militia and Defence.....	479	37					
Department of Agriculture, Ottawa.....	97	50					
Department of Naval Service.....	3	18					
To Individuals and Companies Ledger—			602	75			
Roper, Clarke & Co.....			3	00			
To Rents Ledger—							
McLean Brothers.....	1	00					
Arsenault & Gaudet.....	1	00					
Robert Ellis.....	1	00					
Haywood & Campbell.....	1	00					
John P. Smith.....	1	00					
Benjamin Gallant.....	5	00					
Dominion Express Co.....	12	00					
Sydney Gray.....	45	83	67	83			
			86,972	27			

S. L. SHANNON, Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

6 GEORGE V, A. 1915

PRINCE EDWARD ISLAND RAILWAY.—General Stores account for year ending
March 31, 1915.

1914.	DR.	\$	cts.	\$	cts.
March 31.....	To balance brought forward.....			67,669	97
1915.					
March 31.....	To purchases during year.....	164,084	89		
	Charges from other departments.....	14,489	25		
	Labour, etc.....	5,901	09		
	Staff pay-roll.....	2,790	00		
				187,265	23
1915.				254,935	20
March 31.....	By issues during year.....			192,239	59
				62,695	61
	Balance.....	(Ordinary stores, including stationery.....	28,658	56	
		Fuel store.....	15,312	82	
		Road stock store.....	18,724	23	
			62,695	61	

S. L. SHANNON,

Comptroller and Treasurer.

C. F. BURNS,

Auditor of Disbursements.

E. & O. E., MONCTON, N.B.

SESSIONAL PAPER No. 20

PRINCE EDWARD ISLAND RAILWAY.—Statement of Averages, year ended March 31, 1915.

Mileage of railway.....		275.2
Engine mileage.....		477,025
Total train mileage.....		384,631
Total car mileage.....		2,388,869
Ratio of earnings to gross earnings:—		
Revenue from transportation.....	Per cent.	96.88
Revenue from operation other than transportation.....	"	3.12
Gross earnings per mile of railway.....		
“ “ engine mile.....	Dollars.	1,599.79
“ “ train mile.....	"	.87
“ “ car mile.....	Cents.	1.08
Ratio of expenses to gross earnings:—		
Maintenance of way and structures.....	Per cent.	39.98
Maintenance of equipment.....	"	23.29
Traffic expenses.....	"	2.38
Transportation expenses.....	"	73.76
General expenses.....	"	4.57
Expenses per train mile:—		
Maintenance of way and structures.....	Cents.	43.18
Maintenance of equipment.....	"	25.16
Traffic expenses.....	"	2.57
Transportation expenses.....	"	79.68
General expenses.....	"	4.94
Total per train mile.....	"	155.53
Expenses per mile of railway:—		
Maintenance of way and structures.....	Dollars.	603.55
Maintenance of equipment.....	"	351.63
Traffic expenses.....	"	35.94
Transportation expenses.....	"	1,113.63
General expenses.....	"	69.04
		\$ 2,173.79
Locomotives and car repairs, per locomotive and car:—		
Locomotives, 31.....		\$1,296.29
Passenger cars, 59.....		338.24
Freight cars, 526.....		39.83

S. L. SHANNON,

Comptroller and Treasurer.

F. & O. E., MONCTON, N.B.

PRINCE EDWARD ISLAND.—Statement of Receipts.

Month.	Freight.	Passenger.	Mails and Sundries.	Total Revenue.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
1914.				
April.....	13,050 26	11,758 59	2,280 30	27,089 15
May.....	20,662 78	12,495 46	2,563 66	35,721 90
June.....	19,047 53	14,735 65	2,639 52	36,422 70
July.....	17,558 26	25,993 56	6,906 72	50,458 54
August.....	15,156 28	24,306 89	2,291 92	41,755 09
September.....	14,305 34	19,971 54	2,018 26	36,295 14
October.....	19,482 18	16,377 67	2,092 56	37,952 41
November.....	20,279 84	13,287 37	2,162 42	35,729 63
December.....	14,577 54	15,051 51	2,815 17	32,444 22
1915.				
January.....	10,586 67	10,443 21	7,072 56	28,102 44
February.....	11,603 14	8,423 25	2,250 82	22,277 21
March.....	11,312 33	11,571 55	8,363 13	31,247 01
1914-1915.....	187,622 15	184,416 25	43,457 04	415,495 44
1913-1914.....	184,004 11	183,649 79	41,962 84	409,616 74

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

SESSIONAL PAPER No. 20

PRINCE EDWARD ISLAND RAILWAY.—Passenger Statement.

Month.	LOCAL.		THROUGH.		TOTAL.	
	Number.	Mileage.	Number.	Mileage.	Number.	Mileage.
1914.						
April.....	30,926	633,116	287	12,908	31,213	646,024
May.....	36,890	636,569	819	26,212	37,709	662,781
June.....	34,357	728,776	2,054	85,428	36,411	814,204
July.....	55,242	1,328,683	3,120	151,599	58,362	1,480,282
August.....	42,537	972,735	5,332	254,259	47,869	1,226,994
September.....	39,083	1,035,095	3,056	134,186	42,139	1,169,281
October.....	32,534	722,994	2,847	120,703	35,381	843,697
November.....	29,258	604,497	1,511	65,336	30,769	669,833
December.....	34,507	779,864	1,143	54,778	35,650	834,642
1915.						
January.....	23,043	500,601	575	30,071	23,618	530,672
February.....	18,875	450,781	464	20,160	19,339	470,941
March.....	24,579	605,104	457	23,664	25,036	628,768
1914-1915.....	401,831	8,998,815	21,665	979,304	423,496	9,978,119
1913-1914.....	423,007	9,313,578	22,732	1,125,807	445,739	10,439,385

S. L. SHANNON,
Comptroller and Treasurer.

W. H. ESTANO,
Auditor of Traffic.

E. & O. E., MONCTON, N.B.

PRINCE EDWARD ISLAND RAILWAY.—Freight Statement.

Month.	LOCAL.		THROUGH.		TOTAL.	
	Tons.	Mileage.	Tons.	Mileage.	Tons.	Mileage.
1914.						
April...	12,266	421,594			12,266	421,594
May...	11,347	430,640	962	35,116	12,309	465,756
June...	10,087	377,397	1,301	62,910	11,388	440,307
July...	9,712	362,658	898	36,530	10,610	399,188
August...	8,570	318,050	704	33,058	9,274	351,108
September.	8,808	362,755	507	23,992	9,315	326,747
October...	10,881	403,760	2,224	86,921	13,105	490,681
November...	11,682	435,758	2,453	105,542	14,135	541,300
December...	6,159	271,475	2,716	101,732	8,875	373,207
1915.						
January...	5,809	162,209	2,396	157,408	6,205	319,617
February...	7,718	291,816	1,554	106,232	9,272	398,048
March...	7,016	247,557	1,502	92,393	8,518	339,950
1914-1915.	108,055	4,025,669	17,217	841,834	125,272	4,867,503
1913-1914	115,751	4,392,912			115,751	4,392,912

S. L. SHANNON;

Comptroller and Treasurer.

W. H. ESTANO,

Auditor of Traffic.

E. & O. E., MONCTON, N.B.

SESSIONAL PAPER No. 20

PRINCE EDWARD ISLAND RAILWAY.—Comparative Statement of principal revenue-producing freight carried over the Prince Edward Island Railway in 1913-14 and 1914-15.

Description.	Year ended March 31, 1914.	Year ended March 31, 1915.
	Tons.	Tons.
<i>Products of Agriculture.—</i>		
Grain.....	11,417	17,207
Flour.....	3,881	4,581
Other mill products...	1,997	1,096
Hay.....	2,776	4,828
Tobacco.....		208
Cotton.....	74	130
Potatoes.....	11,672	6,292
Fruit and vegetables...	196	580
Other products of agriculture..		873
<i>Products of Animals—</i>		
Horses and hogs.....	1,919	1,063
Sheep and cattle.....	3,129	3,720
Lambs.....	512	484
Dressed meats.....	6,028	2,265
Poultry and game.....	443	397
Hides and leather.....	712	786
Wool.....	49	80
Fish.....	2,875	2,531
Oysters and clams.....	954	845
Other products of animals.....		1,438
Other packing-house products.....		2,316
<i>Products of Mines—</i>		
Coal and coke.....	14,331	12,833
Ore.....	2,030	
Sand stone, etc.....	568	5,812
Salt.....	59	1,234
Slate and granite.....		97
Phosphate.....	1	6
Other products of mines.....		13
<i>Products of Forests—</i>		
Lumber.....	11,977	10,562
Bark.....	10	81
Cordwood.....	1,377	3,001
Woodpulp.....		2
Shingles.....	146	656
Other forest products.....	325	738
<i>Manufactures—</i>		
Petroleum and oils.....	1,970	3,801
Sugar.....	1,403	1,233
Iron and steel rails.....	495	463
Iron, pig and bloom.....	285	27
Wire rods.....	35	78
Steel billets.....	1	5
Other casting- and machinery.....	877	1,583
Bar and sheet metals.....	119	54
Brick, lime and cement.....	2,205	2,331
Agricultural implements.....	898	1,170
Wagons, carriages and tools.....		371
Wines, liquors and beers.....		371
Naval stores.....		9
Household goods furniture.....	896	706
Immigrants effects.....	25	40
Miscellaneous.....	27,084	26,475
	115,751	125,272

S. L. SHANNON,

Comptroller and Treasurer.

W. H. ESTANO,

Auditor of Traffic.

E. & O. E., MONCTON, N.B.

6 GEORGE V, A. 1916

NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY.—Maintenance of Way and Structures, eight months ended March 31, 1915.

		\$	cts.
No.	1 Superintendence.....	600	99
	2 Ballast.....	91	69
	4 Rails.....	159	97
	5 Other track material.....	122	85
	6 Roadway and track.....	9,873	09
	7 Removal of snow, sand, and ice.....	189	21
	9 Bridges, trestles, and culverts.....	1,079	13
	11 Grade crossings, fences, cattle guards, and signs.....	197	35
	14 Telegraph and telephone lines.....	21	44
	16 Buildings, fixtures, and grounds.....	2,392	01
	18 Roadway tools and supplies.....	562	14
	23 Stationery and printing.....	75	81
Cr.		15,363	68
	3 Ties.....	144	37
		15,221	31

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY.—Maintenance of Equipment, eight months ended March 31, 1915.

		\$	cts.
No.	28 Superintendence.....	27	94
	29 Steam locomotives—Repairs.....	4,245	55
	35 Passenger train cars—Repairs.....	736	34
	38 Freight train cars—Repairs.....	1,616	98
	46 Floating equipment—Depreciation.....	1	00
	50 Stationery and printing.....	1	99
	53 Work equipment—Repairs.....	0	20
		6,630	00

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

SESSIONAL PAPER No. 20

NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY.—Traffic Expenses, eight months ended March 31, 1915.

	\$	cts.
No. 57. Superintendence.....	31	20
58. Outside agencies.....	14	75
59. Advertising.....	35	00
60. Stationery and printing.....	229	63
	310	58

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY.—Transportation Expenses, eight months March 31, 1915.

	\$	cts.
No. 66. Superintendence.....	59	84
67. Despatching trains.....	296	13
68. Station employees.....	2,197	58
72. Station supplies and expenses.....	180	00
74. Yard conductors and brakemen.....	349	20
76. Yard supplies and expenses.....	35	22
78. Enginehouse expenses—Yard.....	63	44
79. Fuel for yard locomotives.....	540	30
86. Road enginemen.....	3,938	43
87. Enginehouse expenses—Road.....	883	24
88. Fuel for road locomotives.....	5,542	20
89. Water for road locomotives.....	207	05
90. Lubricants for road locomotives.....	230	06
91. Other supplies for road locomotives.....	255	12
94. Road trainmen.....	4,825	57
95. Train supplies and expenses.....	47	49
98. Drawbridge operation.....	120	16
99. Clearing wrecks.....	309	47
103. Stationery and printing.....	565	04
106. Loss and damage—Freight.....	30	07
109. Damage to stock on right of way.....	15	00
	20,791	51

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

6 GEORGE V, A. 1916

NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY.—General Expenses, eight months ended March 31, 1915.

	\$	cts.
No. 113. Salaries and expenses of general officers.....	169	80
114. Salaries and expenses of clerks and attendants.....	470	46
119. Pensions.....	249	28
120. Stationery and printing.....	99	59
	989	13

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY.—General Store Balance, year ended March 31, 1915.

	\$	cts.	\$	cts.
DR.				
Mar. 31, 1915..... To Purchases during year.....	24,814	26		
Charges from other departments.....		99 08		
			24,913	34
CR.				
Mar. 31, 1915..... By issues during year.....			18,901	89
Balance, road store.....			6,011	45

C. F. BURNS,

Auditor of Disbursements.

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

SESSIONAL PAPER No. 20

NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY.—Operated by Canadian Government Railways—Statement of Receipts for the eight months ended March 31, 1915.

Month.	Freight.	Passenger.	Mails and Sundries.	Total.	Less Rentals.	Net Receipts.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
1914.						
August.....	3,699 88	943 10	75 45	4,718 43	1,081 80	3,636 63
September.....	5,650 65	721 25	95 69	6,467 59	520 00	5,947 59
October.....	7,066 78	926 90	89 36	8,083 04	1,054 80	7,028 24
November.....	3,455 95	797 42	111 62	4,364 99	2,605 85	1,759 14
December.....	2,444 08	1,258 28	103 49	3,805 85	2,022 30	1,783 55
1915.						
January.....	1,029 41	733 62	1,257 86	3,020 89	2,380 59	640 30
February.....	1,035 32	584 02	1,788 08	3,407 42	1,505 20	1,902 22
March.....	1,305 47	825 11	957 66	3,088 24	366 10	2,722 14
1914-1915.....	25,687 54	6,789 70	4,479 21	36,956 45	11,536 64	25,419 81

W. H. ESTANO,
Auditor of Traffic.

S. L. SHANNON,
Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

6 GEORGE V, A. 1916

NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY.—Operated by Canadian Government Railways.—Freight and Passenger Statement for the eight months ended March 31, 1915.

Month.	FREIGHT TRAFFIC.		PASSENGER TRAFFIC.	
	Tons.	Mileage.	Number.	Mileage.
1914.				
August.....	7,419	215,772	2,004	40,346
September.....	11,717	313,392	1,433	36,160
October.....	17,823	399,877	2,006	31,965
November.....	5,677	148,743	1,974	32,681
December.....	4,791	81,461	2,522	47,175
1915.				
January.....	1,452	20,619	1,553	29,761
February.....	1,191	14,563	1,270	19,756
March.....	1,642	19,246	1,747	29,067
	51,712	1,213,673	14,509	266,911

W. H. ESTANO,
Auditor of Traffic.

S. L. SHANNON,
Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

SESSIONAL PAPER No. 20

NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY—Operated by Canadian Government Railways.—Statement of principal revenue-producing freight commodities carried over the New Brunswick and Prince Edward Island Railway for the eight months ended March 31, 1915.

Description.	Tons.
<i>Products of Agriculture—</i>	
Grain.....	199
Flour.....	626
Other mill products.....	104
Hay.....	2,110
Tobacco.....	4
Cotton.....	1
Potatoes.....	1,093
Vegetables.....	19
Other products of agriculture.....	12
<i>Products of Animals—</i>	
Horses and hogs.....	35
Sheep and cattle.....	201
Lambs.....	1
Dressed meats.....	12
Poultry and game.....	16
Hides and leather.....	3
Wool.....	2
Fish.....	955
Other products of animals.....	12
Packing-house products.....	84
<i>Products of Mines—</i>	
Coal.....	1,459
Sand stone, etc.....	29,900
Salt.....	278
Phosphate.....	156
Other products of mines.....	28
<i>Products of Forests—</i>	
Lumber.....	8,395
Cordwood.....	296
Shingles.....	135
Other forest products.....	458
<i>Manufactures—</i>	
Oils.....	126
Sugar.....	4
Iron and steel rails.....	12
Iron, pig and bloom.....	16
Wire rods.....	5
Other castings and machinery.....	53
Bar and sheet metals.....	21
Brick, lime and cement.....	14
Agricultural implements.....	15
Wagons, carriages and tools.....	28
Wines.....	4
Household goods and furniture.....	40
Manufactured goods.....	441
Miscellaneous.....	4,339
	51,712

W. H. ESTANO,
Auditor of Traffic.

S. L. SHANNON,
Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

6 GEORGE V, A. 1916

NEW BRUNSWICK AND PRINCE EDWARD ISLAND RAILWAY.—Statement of Averages, year ended March 31, 1915.

Mileage of railway.....		36
Engine mileage.....		40,394
Total train mileage.....		28,926
Total car mileage.....		150,426
Ratio of earnings to gross earnings:—		
Revenue from transportation.....	Per cent.	99.74
Revenue from operation other than transportation.....	"	0.26
Gross earnings per mile of railway.....		
" " engine mile.....	Dollars.	706.11
" " train mile.....	"	0.63
" " car mile.....	"	0.88
	Cents.	16.90
Ratio of expenses to gross earnings:—		
Maintenance of way and structures.....	Per cent.	59.88
Maintenance of equipment.....	"	26.08
Traffic expenses.....	"	1.22
Transportation expenses.....	"	81.80
General expenses.....	"	3.89
Expenses per train mile:—		
Maintenance of way and structures.....	Cents.	52.62
Maintenance of equipment.....	"	22.92
Traffic expenses.....	"	1.07
Transportation expenses.....	"	71.88
General expenses.....	"	3.42
Total per train mile.....	"	151.91
Expenses per mile of railway:—		
Maintenance of way and structures.....	Dollars.	422.81
Maintenance of equipment.....	"	184.17
Traffic expenses.....	"	8.63
Transportation expenses.....	"	577.54
General expenses.....	"	27.48
		\$ 1,220.63
Locomotive and car repairs, per locomotive and car:—		
Locomotives, 3.....	Dollars.	1,415.18
Passenger cars, 2.....	"	368.17
Freight cars, 34.....	"	47.56

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. B., MONCTON, N.B.

SESSIONAL PAPER No. 20

INTERNATIONAL RAILWAY OF NEW BRUNSWICK.—Capital Account, eight months ended March 31, 1915.

DR.	\$ cts.	CR.	\$ cts.
Mar. 31, 1915. To bring line up to Intercolonial branch line standard	1,300 00	Mar. 31, 1915. By Dominion of Canada.....	1,300 00
	1,300 00	•	1,300 00

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

INTERNATIONAL RAILWAY OF NEW BRUNSWICK.—Revenue Account, eight months ended March 31, 1915.

Expenditure.	\$	cts.	Earnings.	\$	cts.
Maintenance of way and structures.....	26,191	87	Passenger.....	28,317	20
Maintenance of equipment.....	5,353	56	Freight.....	42,707	14
Traffic expenses.....	32,632	17	Mail and express.....	1,238	55
Transportation expenses.....	32,850	11			
General expenses.....	1,678	64	Less—		
			Miscellaneous.....	72,282	89
				6,813	97
			Balance.....	65,468	92
				1,237	43
				\$	66,706
					35

S. L. SHANNON,
Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

SESSIONAL PAPER No. 20

INTERNATIONAL RAILWAY OF NEW BRUNSWICK.—General Balance, eight months ended March 31, 1915.

Dr.	\$	ct.	\$	cts.	Cr.	\$	cts.	\$	cts.
To General Stores.....			5,574	10	By Dominion of Canada.....			2,298	18
Auditors' suspense.....			418	93	Equipment suspense—Stores.....			7,750	37
Station agents.....			1,340	66					
To Individuals and Companies Ledger—					By Individuals and Companies Ledger:—			293	50
Intercolonial Railway.....	70	88			A. F. Hammond.....			4	00
W. H. Miller Co. (Ltd.).....	16	00			Evan Price.....				
Post Office Department.....	407	68							
Richards Manufacturing Co.....	43	85							
Sydney Lumber Co.....	32	00							
D. A. Stewart (M.L.A.).....	10	50							
St. John and Quebec Railway.....	1,827	02							
To Traffic Ledger:—			2,407	93					
Canadian Pacific Railway.....	413	77							
Intercolonial Railway.....	139	85							
National Transcontinental Railway.....	2	80							
			574	43					
			\$ 10,316	05				\$ 10,316	05

E. & O. E., MONCTON, N.B.

S. L. SHANNON,

Comptroller and Treasurer.

6 GEORGE V, A. 1916

INTERNATIONAL RAILWAY OF NEW BRUNSWICK.—Maintenance of Way and Structures,
eight months ended March 31, 1915.

		\$	cts.
No.	1. Superintendence.....	2,033	55
	3. Ties.....	1,631	72
	4. Rails.....	145	42
	5. Other track material.....	1,719	83
	6. Roadway and track.....	14,667	56
	7. Removal of snow, sand, and ice.....	3,467	73
	9. Bridges, trestles, and culverts.....	14	61
	10. Grade crossings, fences, cattle guards, and signs.....	5	35
	14. Telegraph and telephone lines.....	808	63
	16. Buildings, fixtures, and grounds.....	712	59
	18. Roadway tools and supplies.....	820	85
	23. Stationery and printing.....	64	03
	26. Maintaining joint track, yards, and other facilities—Dr.....	100	00
		26,191	87

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

INTERNATIONAL RAILWAY OF NEW BRUNSWICK.—Maintenance of Equipment, eight
months ended March 31, 1915.

		\$	cts.
No.	23. Superintendence.....	138	30
	29. Steam locomotives—Repairs.....	3,593	77
	35. Passenger train cars—Repairs.....	630	46
	38. Freight train cars—Repairs.....	810	52
	52. Other expenses.....	0	69
	53. Work equipment—Repairs.....	179	82
		5,353	56

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

SESSIONAL PAPER No. 20

INTERNATIONAL RAILWAY OF NEW BRUNSWICK.—Traffic Expenses eight months ended
March 31, 1915.

		\$	cts.
No. 57.	Superintendence.....	260	00
58.	Outside agencies.....	9	70
59.	Advertising.....	85	00
60.	Stationery and printing.....	277	47
		632	17

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

INTERNATIONAL RAILWAY OF NEW BRUNSWICK.—Transportation Expenses, eight months
ended March 31, 1915.

		\$	cts.
No. 66.	Superintendence.....	849	39
67.	Despatching trains.....	1,064	93
68.	Station employes.....	3,018	75
72.	Station supplies and expenses.....	280	10
73.	Yardmasters and their clerks.....	201	53
74.	Yard conductors and brakemen.....	445	45
76.	Yard supplies and expenses.....	3	28
77.	Yard enginemen.....	88	70
78.	Enginehouse expenses—Yard.....	193	56
79.	Fuel for yard locomotives.....	352	30
83.	Water for yard locomotives.....	1,589	00
86.	Road enginemen.....	4,123	05
87.	Enginehouse expenses—Road.....	838	09
88.	Fuel for road locomotives.....	10,667	16
89.	Water for road locomotives.....	14	50
90.	Lubricants for road locomotives.....	133	44
91.	Other supplies for road locomotives.....	81	22
94.	Road trainmen.....	5,224	31
95.	Train supplies and expenses.....	843	58
99.	Clearing wrecks.....	1,995	66
100.	Telegraph and telephone—Operation.....	24	84
103.	Stationery and printing.....	812	67
106.	Loss and damage—Freight.....	4	60
		32,850	11

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

6 GEORGE V, A. 1916

INTERNATIONAL RAILWAY OF NEW BRUNSWICK.—General Expenses, eight months ended
March 31, 1915.

	\$	cts.
No. 113. Salaries and expenses of general officers.....	554	78
114. Salaries and expenses of clerks and attendants.....	670	04
119. Pensions.....	388	79
120. Stationery and printing	32	57
121. Other expenses.....	32	46
	1,678	64

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

INTERNATIONAL RAILWAY OF NEW BRUNSWICK.—Store Account—Period ended March
31, 1915.

Dr.	\$	cts.	\$	cts.
Aug. 1, 1914 To Balance on hand (inventory of August 1, 1914).....			1,345	90
Mar. 31, 1915. Purchases during period from Aug. 1, 1914.....	7,550	59		
Labour charges " "		46	7,597	21
			8,943	11
Mar. 31, 1915. By issues during period from Aug. 1, 1914.....			3,369	01
Balance road stock store.....			5,574	10

C. F. BURNS,

Auditor of Disbursements.

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

SESSIONAL PAPER No. 20

INTERNATIONAL RAILWAY OF NEW BRUNSWICK.—Statement of Averages, eight months ended March 31, 1915

Mileage of railway.....		112
Engine mileage.....		54,911
Total train mileage.....		52,051
Total car mileage.....		348,203
Ratio of earnings to gross earnings—		
Revenue from transportation.....	Per cent	99-41
Revenue from operations other than transportation.....	"	0-59
Gross earnings per mile of railway.....		
" " engine mile.....	Dollars.	584-54
" " train mile.....	"	1-19
" " car mile.....	Cents.	1-26
Ratio of expenses to gross earnings:—		
Maintenance of way and structures.....	Per cent.	40-01
Maintenance of equipment.....	"	8-18
Traffic expenses.....	"	0-96
Transportation expenses.....	"	50-18
General expenses.....	"	2-56
Expenses per train mile:—		
Maintenance of way and structures.....	Cents.	50-32
Maintenance of equipment.....	"	10-29
Traffic expenses.....	"	1-21
Transportation expenses.....	"	63-11
General expenses.....	"	3-23
Total per train mile.....	"	128-16
Expenses per mile of railway:—		
Maintenance of way and structures.....	Dollars.	233-86
Maintenance of equipment.....	"	47-80
Traffic expenses.....	"	5-64
Transportation expenses.....	"	293-30
General expenses.....	"	14-99
		\$ 595-59
Locomotive and car repairs, per locomotive and car:—		
Locomotives, 4.....	Dollars.	898-44
Passenger cars, 11.....	"	57-31
Freight cars, 74.....	"	10-95

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

6 GEORGE V, A. 1916

INTERNATIONAL RAILWAY—Operated by Canadian Government Railways.—Statement of principal revenue-producing freight commodities carried over the International Railway for the eight months ended March 31, 1915.

Description.	Tons.
<i>Products of Agriculture—</i>	
Grain.....	810
Flour.....	214
Other mill products.....	502
Hay.....	1,665
Tobacco.....	7
Potatoes.....	426
Fruit and vegetables.....	170
Other products of agriculture.....	2
<i>Products of Animals—</i>	
Horses and hogs.....	717
Sheep and cattle.....	248
Dressed meats.....	128
Fish.....	30
Oysters and clams.....	4
Other products of animals.....	2
Packing-house products.....	55
<i>Products of Mines—</i>	
Coal.....	1,219
Sandstone.....	53
Slate and granite.....	26
<i>Products of Forests—</i>	
Lumber.....	6,795
Cordwood.....	222
Pulpwood.....	4,724
Shingles.....	3,454
Other forest products.....	2,760
<i>Manufactures—</i>	
Oils.....	60
Sugar.....	4
Iron and steel rails.....	3
Iron, pig and bloom.....	18
Wire rods.....	1
Castings and machinery.....	863
Brick, lime and cement.....	13
Agricultural implements.....	85
Wagons, carriages and tools.....	428
Wines, beers, etc.....	5
Household goods and furniture.....	180
Manufactures.....	372
Miscellaneous.....	6,079
	32,374

W. H. ESTANO,
Auditor of Traffic.

S. L. SHANNON,
Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

SESSIONAL PAPER No. 20

INTERNATIONAL RAILWAY—Operated by Canadian Government Railways.—Statement of Receipts for the eight months ended March 31, 1915.

Month.	Freight.	Passenger.	Mails and sundries.	Total.	Less rentals, etc.	Net receipts.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
1914.						
August.....	3,927 05	2,240 00	118 48	6,285 53	577 80	5,707 73
September.....	4,282 86	3,094 85	190 86	7,568 57	.....	7,568 57
October.....	5,436 46	3,721 39	219 80	9,377 65	557 10	8,820 55
November.....	4,820 63	4,207 27	274 25	9,302 14	978 85	8,323 29
December.....	4,927 73	4,488 65	138 54	9,554 92	1,029 65	8,525 27
1915.						
January.....	6,605 83	3,616 74	233 07	10,455 64	881 75	9,573 89
February.....	5,819 05	3,126 75	170 56	9,116 36	1,127 90	7,988 46
March.....	6,887 54	3,821 53	192 01	10,901 10	1,939 94	8,961 16
	42,707 14	28,317 20	1,537 57	72,561 91	7,092 99	65,468 92

W. H. ESTANO,

Auditor of Traffic.

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

INTERNATIONAL RAILWAY—Operated by Canadian Government Railways.—Freight and Passenger Statement for the eight months ended March 31, 1915.

Month.	FREIGHT TRAFFIC.		PASSENGER TRAFFIC.	
	Tons.	Mileage.	Number.	Mileage.
1914.				
August.....	3,460	150,649	2,033	85,467
September.....	3,122	158,693	2,408	101,333
October.....	3,251	187,364	3,015	130,131
November.....	2,770	161,758	3,320	137,510
December.....	3,123	150,453	3,879	161,806
1915.				
January.....	5,156	244,179	3,192	129,256
February.....	6,005	255,376	2,955	112,257
March.....	5,487	254,252	3,484	133,522
	32,374	1,562,724	24,286	991,232

W. H. ESTANO,

Auditor of Traffic.

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

NATIONAL TRANSCONTINENTAL RAILWAY.—Revenue Account, year ended March 31, 1915.

Expenditure.	\$	cts.	Earnings.	\$	cts.
Maintenance of way and structures.....	96,774	51	Passenger.....	20,779	86
Maintenance of equipment.....	13,998	41	Freight.....	166,797	37
Traffic expenses.....	1,822	06	Mail.....	262	92
Transportation expenses.....	112,700	48			
General expenses.....	3,329	89	Less:—		
			Miscellaneous.....	187,840	15
			Balance..	45,528	50
				142,311	65
				86,313	70
				228,625	35

E. & O. E., MONCTON, N.B.

S. L. SHANNON,
Comptroller and Treasurer.

SESSIONAL PAPER No. 20

NATIONAL TRANSCONTINENTAL RAILWAY.—General Balance, year ended March 31, 1915.

Dr.	\$	cts.	\$	cts.	Cr.	\$	cts.	\$	cts.	
To General stores.....			65,183	55	By Dominion of Canada.....			94,027	43	
Station agents.....			1,941	08	Freight in Transit.....			8	70	
Auditors' Suspense Account.....			2,387	21	By Individuals and Companies Ledger—					
Railway Equipment Service.....			7,099	38	G. W. Gillmore & Co.....			20	00	
Cash in Transit.....			57	13	J. D. McLaughlin.....			20	00	
					Sayre & Holly Lumber Co.....			21	55	
To Individuals and Companies Ledger—					Ernest St. Pierre.....			20	00	
Canadian Pacific Railway.....		2	25		Auguste and John Violette.....			20	00	
M. P. & J. T. Davis.....		108	75							
Donald Fraser & Sons.....		107	48		By Traffic Ledger—					
Glendyne Slate & Roofing Co.....		44	27		International Ry. of N.B.....				2	80
Grand Trunk Railway.....		4	82							
Interoceanic Railway.....		1	30							
National Transcontinental Ry. Commissioners.....		2,357	85							
Post Office Department.....		64	68							
Quebec Harbour Commission.....		8	94							
			2,759	94						
To Traffic Ledger—										
Canadian Pacific Railway.....		257	05							
Interoceanic Railway.....		12,114	54							
			12,371	59						
			91,740	48				91,740	48	

E. & O. E., MONCTON, N.B.

S. L. SHANNON,
Comptroller and Treasurer.

6 GEORGE V, A. 1916

NATIONAL TRANSCONTINENTAL RAILWAY.—Maintenance of Way and Structures, year ended March 31, 1915.

		\$	cts.
No.	1. Superintendence.....	4,402	29
	2. Ballast.....	918	39
	3. Ties.....	12,998	32
	4. Rails.....	278	55
	5. Other track material.....	4,745	70
	6. Roadway and track.....	48,976	73
	7. Removal of snow, sand, and ice.....	17,253	71
	8. Tunnels.....	52	50
	9. Bridges, trestles, and culverts.....	746	03
	10. Over and under grade crossings.....	7	00
	11. Grade crossings, fences, cattle guards, and signs.....	523	24
	13. Signals and interlocking plants.....	86	47
	14. Telegraph and telephone lines.....	2,301	67
	16. Buildings, fixtures, and grounds.....	907	89
	18. Roadway tools and supplies.....	1,996	24
	23. Stationery and printing.....	29	78
	26. Maintaining joint tracks, yards, and other facilities—Dr.....	550	00
		96,774	51

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

NATIONAL TRANSCONTINENTAL RAILWAY.—Maintenance of Equipment, year ended March 31, 1915.

		\$	cts.
No.	28. Superintendence.....	379	51
	29. Steam locomotives—Repairs.....	3,909	00
	35. Passenger train cars—Repairs.....	814	42
	38. Freight train cars—Repairs.....	6,858	61
	47. Shop machinery and tools.....	329	81
	50. Stationery and printing.....	13	18
	52. Other expenses.....	350	45
	53. Work equipment—Repairs.....	1,343	43
		13,998	41

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

SESSIONAL PAPER No. 20

NATIONAL TRANSCONTINENTAL RAILWAY.—Traffic Expenses, year ended March 31, 1915.

		\$	cts.
No. 57.	Superintendence.....	196	70
58.	Outside agencies.....	532	70
59.	Advertising.....	401	25
60.	Stationery and printing.....	691	41
		1,822	06

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

NATIONAL TRANSCONTINENTAL RAILWAY.—Transportation Expenses, year ended
March 31, 1915.

		\$	cts.
No. 66.	Superintendence.....	2,450	40
67.	Despatching trains.....	302	54
68.	Station employees.....	2,883	37
72.	Station supplies and expenses.....	4,109	04
78.	Enginehouse expenses—Yard.....	16	42
69.	Fuel for yard locomotives.....	538	83
83.	Operating joint yards and terminals—Dr.....	1,685	86
86.	Road enginemen.....	19,211	54
87.	Enginehouse expenses—Road.....	6,784	54
88.	Fuel for road locomotives.....	38,790	62
89.	Water for road locomotives.....	3,558	08
90.	Lubricants for road locomotives.....	509	31
91.	Other supplies for road locomotives.....	173	94
94.	Road trainmen.....	22,940	47
95.	Train supplies and expenses.....	1,842	79
96.	Interlockers, block and other signals—Operation.....	1,583	18
99.	Clearing wrecks.....	2,791	22
100.	Telegraph and telephone—Operation.....	30	15
103.	Stationery and printing.....	2,101	82
106.	Loss and damage—Freight.....	351	32
108.	Damage to property.....	20	00
109.	Damage to stock on right of way.....	25	00
		112,700	44

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

6 GEORGE V, A. 1916

NATIONAL TRANSCONTINENTAL RAILWAY.—General Expenses, year ended March 31, 1915.

	\$	cts.
No. 113. Salaries and expenses of general officers.....	1,402	26
114. Salaries and expenses of clerks and attendants.....	1,913	61
120. Stationery and printing.....	7	02
121. Other expenses.....	7	00
	3,329	89

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

NATIONAL TRANSCONTINENTAL RAILWAY.—General Stores Account, year ended March 31, 1915.

DR.	\$	cts.	\$	cts.
Mar. 31, 1914..... To Balance brought forward.....			55,557	67
Mar. 31, 1915..... Purchases during year.....			82,938	03
				138,495 70
CR.				
Mar. 31, 1915..... By Issues during year.....				73,312 15
Balance... { Ordinary stores, including stationery.....	3,656	86		
{ Fuel store.....	6,728	88		
{ Road stock store.....	54,797	81		
	65,183	55	65,183	55

C. F. BURNS,

Auditor of Disbursements.

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

SESSIONAL PAPER No. 20

NATIONAL TRANSCONTINENTAL RAILWAY (operated by Canadian Government Railways)—Statement of Receipts.

Month.	Freight.	Passenger.	Mails and Sundries.	Total.	Less Rentals, etc.	Net Receipts.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
1914—						
April.....	7,184 88	1,267 84	23 12	8,475 84	2,453 89	6,021 95
May.....	5,756 59	1,108 54	36 10	6,901 23	2,635 11	4,266 12
June.....	6,453 05	2,561 73	35 21	9,049 99	1,774 77	7,275 22
July.....	5,223 50	1,826 55	36 07	7,086 12	4,175 44	2,910 68
August.....	3,934 09	1,261 56	50 33	5,245 98	3,669 11	1,576 87
September.....	5,302 78	1,167 69	37 24	6,507 71	2,423 92	4,083 79
October.....	5,464 88	1,580 30	65 03	7,110 21	2,030 68	5,079 53
November.....	7,123 12	1,524 56	32 12	8,679 80	1,434 26	7,245 54
December.....	15,357 95	2,071 18	49 61	17,478 74	3,899 57	13,579 17
1915—						
January.....	34,143 84	1,976 94	136 55	36,257 33	4,495 99	31,761 34
February.....	33,745 26	1,987 99	52 12	35,785 37	9,596 34	26,189 03
March.....	37,107 43	2,444 98	194 37	39,746 78	7,424 37	32,322 41
1914-15.....	166,797 37	20,779 86	747 87	188,325 10	46,013 45	142,311 65
1913-14.....	51,351 96	10,244 29	668 18	62,264 42	17,630 31	44,634 11

W. H. ESTANO,

Auditor of Traffic.

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

6 GEORGE V, A. 1916

NATIONAL TRANSCONTINENTAL RAILWAY (operated by Canadian Government Railways).—Freight Statement.

Months.	LOCAL.		THROUGH.		TOTAL.	
	Tons.	Mileage.	Tons.	Mileage.	Tons.	Mileage.
1914—						
April.....	4,206	133,081	3,322	344,140	7,528	477,221
May.....	2,247	94,806	4,095	397,149	6,342	491,955
June.....	2,548	138,485	3,454	513,244	6,002	651,729
July.....	1,564	73,918	3,654	503,500	5,218	577,418
August.....	2,038	37,530	3,027	262,559	5,065	300,089
September.....	2,816	188,980	3,293	205,338	6,109	394,318
October.....	3,413	186,958	5,960	389,475	9,373	576,433
November.....	3,233	176,479	6,614	559,353	9,847	735,832
December.....	7,930	828,407	4,400	439,429	12,330	1,267,836
1915—						
January.....	21,809	2,404,961	8,687	1,713,036	30,496	4,117,997
February.....	20,417	1,863,126	10,058	1,152,536	30,475	3,015,662
March.....	23,268	2,159,001	13,325	1,603,192	36,593	3,762,193
1914-15.....	95,509	8,285,732	69,889	8,082,951	165,398	16,368,683
1913-14.....	51,149	4,086,146			51,149	4,086,146

W. H. ESTANO,

Auditor of Traffic.

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

SESSIONAL PAPER No. 20

NATIONAL TRANSCONTINENTAL RAILWAY (operated by Canadian Government Railways).—Passenger Statement.

Month.	LOCAL.		THROUGH.		TOTAL.	
	Passenger No.	Mileage.	Passenger No.	Mileage.	Passenger No.	Mileage.
1914—						
April.....	1,180	50,574	25	1,081	1,205	51,655
May.....	1,324	45,265	70	2,833	1,394	48,098
June.....	1,714	55,480	528	59,163	2,242	114,583
July.....	1,864	68,868	427	40,745	2,291	109,613
August.....	1,707	61,598	298	8,976	2,005	70,574
September.....	1,416	49,332	38	2,115	1,454	51,447
October.....	1,466	52,197	596	40,373	2,062	92,570
November.....	1,626	54,630	154	5,295	1,780	59,925
December.....	1,339	58,029	223	16,671	1,562	74,700
1915—						
January.....	1,698	58,117	119	6,335	1,817	64,452
February.....	1,751	51,112	466	39,573	2,217	90,685
March.....	2,265	81,621	209	14,659	2,474	96,280
1914-15.....	19,350	686,823	3,153	237,759	22,503	924,582
1913-14.....	7,900	424,755			7,900	424,755

W. H. ESTANO,

Auditor of Traffic.

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONTON, N.B.

6 GEORGE V, A. 1916

NATIONAL TRANSCONTINENTAL RAILWAY (operated by Canadian Government Railways)
 —Comparative Statement of principal revenue producing freight carried over
 the National Transcontinental Railway for years ended March 31, 1914 and
 1915.

Descriptive.	1913-14.	1914-15.
	Tons.	Tons.
<i>Products of Agriculture—</i>		
Grain	224	1,036
Flour	20	1,585
Other mill products		484
Hay	323	2,162
Tobacco		2
Cotton		20
Potatoes	3,675	5,818
Fruit, vegetables		2
<i>Products of Animals—</i>		
Hogs and horses	76	181
Sheep and cattle		76
Dressed meats		41
Poultry and game		1
Hides and leather		10
Fish	18	60
Other products of animals		15
Packing-house products	10	18
<i>Products of Mines—</i>		
Coal and coke	14,315	23,960
Sandstone	156	297
Salt		109
Phosphate	1,237	460
Other products of mines		19
<i>Products of Forests—</i>		
Lumber	14,137	30,140
Bark		153
Cordwood		40
Pulpwood		73,086
Shingles		1,226
Other forest products	9,120	8,511
<i>Manufactures—</i>		
Oils	29	293
Sugar	167	452
Iron and steel rails	71	57
Iron, pig and bloom	101	4
Other castings and machinery	618	1,283
Bar and steel metals	115	101
Brick, lime and cement	721	638
Agriculture implements	13	13
Wagons and tools		27
Wines and liquors, etc.		87
Household goods and furniture		141
Immigrants' effects		11
Miscellaneous	6,003	12,777
	51,149	165,398

W. H. ESTANO,

Auditor of Traffic.

S. L. SHANNON.

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

SESSIONAL PAPER No. 20

NATIONAL TRANSCONTINENTAL RAILWAY.—Statement of Averages, year ended March 31, 1915.

Mileage of railway		454.9
Engine mileage		173,236
Total train mileage.....		166,590
Total car mileage.....		1,681,304
Ratio of earnings to gross earnings:—		
Revenue from transportation.....	Per cent	99.81
Revenue from operations other than transportation.....	"	0.19
Gross earnings per mile of railway	Dollars..	312.84
Gross earnings per engine mile.....	"	0.82
Gross earnings per train mile.....	"	0.85
Gross earnings per car mile.....	Cents	8.46
Ratio of expenses to gross earnings:—		
Maintenance of way and structures.....	Per cent	68.00
Maintenance of equipment.....	"	9.84
Traffic expenses.....	"	1.29
Transportation expenses.....	"	79.19
General expenses.....	"	2.34
Expenses per train mile:—		
Maintenance of way and structures.....	Cents	58.09
Maintenance of equipment.....	"	8.40
Traffic expenses.....	"	1.10
Transportation expenses.....	"	67.65
General expenses.....	"	2.00
Total per train mile.....	"	137.24
Expenses per mile of railway:—		
Maintenance of way and structures.....	Dollars	212.74
Maintenance of equipment.....	"	30.77
Traffic expenses.....	"	4.03
Transportation expenses.....	"	247.75
General expenses.....	"	7.32
		\$ 502.61
Locomotive and car repairs, per locomotive and car:—		
Locomotives, 11.....	Dollars	355.36
Passenger cars, 8.....	"	101.80
Freight cars, 242.....	"	28.34

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

6 GEORGE V, A. 1916

ST. JOHN AND QUEBEC RAILWAY.—Revenue Account, three months ended March 31, 1915.

Expenditure.	\$ cts.	Earnings.	\$ cts.
Maintenance of way and structures.	9,198 60	Passenger.	4,575 92
Maintenance of equipment.	1,193 52	Freight.	16,647 76
Traffic expenses.	744 36		21,225 68
Transportation expenses.	12,384 67	Less:—	
General expenses.	1,173 60	Miscellaneous.	2,483 95
		Balance.	18,739 73
			5,955 02
	24,694 75		24,694 75

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

ST. JOHN AND QUEBEC RAILWAY.—General Balance, three months ended March 31, 1915.

Dr.	\$ cts.	Cr.	\$ cts.
To Auditor's suspense.	85 20	By Dominion of Canada.	3,856 66
Station agents.	269 94	General stores.	579 67
Cash in transit.	150 00	Freight in transit.	0 66
Province of New Brunswick.	2,977 51	By Individuals and Companies Ledger:—	
To Traffic Ledger:—		Manuel, Brewer, Carson &	
Intercolonial Railway.	1,014 42	Cronkite. \$ 15 00	
To Individuals and Companies Ledger:		F. E. Scott. 48 58	
Canadian Pacific Railway.	3 50		63 58
	4,500 57		4,500 57

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

SESSIONAL PAPER No. 20

ST. JOHN AND QUEBEC RAILWAY.—Maintenance of Way and Structures, three months ended March 31, 1915.

No.		\$	cts.
1.	Superintendence.....	506	33
3.	Ties.....	1	87
4.	Rails.....	56	57
5.	Other track material.....	1,749	83
6.	Roadway and track.....	3,014	26
7.	Removal of snow, sand, and ice.....	2,159	24
9.	Bridges, trestles, and culverts.....	2	53
11.	Grade crossings, fences, cattle guards, and signs.....	1	20
13.	Signals and interlocking plants.....	6	14
16.	Buildings, fixtures and grounds.....	142	01
18.	Roadway tools and supplies.....	1,374	16
23.	Stationery and printing.....	63	00
26.	Maintaining joint tracks, yards, and other facilities—Dr.....	150	00
2.	Ballast—Cr.....	28	54
		9,198	60

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

ST. JOHN AND QUEBEC RAILWAY.—Maintenance of Equipment, three months ended March 31, 1915.

No.		\$	cts.
28.	Superintendence.....	75	00
29.	Steam locomotives—Repairs.....	883	81
35.	Passenger train cars—Repairs.....	86	18
38.	Freight train cars—Repairs.....	133	09
47.	Shop machinery and tools.....	11	12
53.	Work equipment—Repairs.....	4	32
		1,193	52

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

ST. JOHN AND QUEBEC RAILWAY.—Traffic Expenses, three months ended March 31, 1915.

No.		\$	cts.
57.	Superintendence.....	479	05
58.	Outside agencies.....	72	75
59.	Advertising.....	60	00
60.	Stationery and printing.....	132	56
		744	36

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

6 GEORGE V, A. 1916

ST. JOHN AND QUEBEC RAILWAY.—Transportation Expenses, three months ended March 31, 1915.

	\$	cts.
No. 66. Superintendence.....	398	27
67. Despatching trains.....	53	41
68. Station employees.....	756	81
72. Station supplies and expenses.....	230	35
73. Yardmasters and their clerks.....	1	32
74. Yard conductors and brakemen.....	24	91
78. Enginehouse expenses—Yard.....	25	40
79. Fuel for yard locomotives.....	114	28
83. Operating joint yards and terminals—Dr.....	512	25
86. Road enginemn.....	1,711	52
87. Enginehouse expenses—Road.....	265	50
88. Fuel for road locomotives.....	4,918	28
89. Water for road locomotives.....	202	45
90. Lubricants for road locomotives.....	62	31
91. Other supplies for road locomotives.....	36	41
94. Road trainmen.....	2,110	26
95. Train supplies and expenses.....	363	03
99. Clearing wrecks.....	64	71
103. Stationery and printing.....	527	95
106. Loss and damage—Freight.....	5	25
	\$	12,384 67

S. L. SHANNON,

E. & O. E., MONCTON, N.B.

Comptroller and Treasurer.

ST. JOHN AND QUEBEC RAILWAY.—General Expenses, three months ended March 31, 1915.

	\$	cts.
No. 113. Salaries and expenses of general officers.....	206	25
114. Salaries and expenses of clerks and attendants.....	806	95
119. Pensions.....	122	71
120. Stationery and printing.....	37	69
	\$	1,173 60

S. L. SHANNON,

E. & O. E., MONCTON, N.B.

Comptroller and Treasurer.

ST. JOHN AND QUEBEC RAILWAY.—General Store Account, year ended March 31, 1915.

Mar. 31, 1915. Purchases during period three months.....	\$ 593 39
Issues during period three months.....	1,173 06
Cr. Balance.....	\$ 579 67

C. F. BURNS,

Auditor of Disbursements.

S. L. SHANNON,

E. & O. E., MONCTON, N.B.

Comptroller and Treasurer.

SESSIONAL PAPER No. 20

ST. JOHN AND QUEBEC RAILWAY (operated by Canadian Government Railways).—
Statement of Receipts for the three months ended March 31, 1915.

Month.	Freight.	Passenger	Less Miscella- neous.	Net revenue.
1915.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
January.....	3,271 88	1,317 25	...	4,589 13
February.....	6,685 31	1,004 05	606 57	7,082 79
March.....	6,690 57	2,254 62	1,877 38	7,067 81
	16,647 76	4,575 92	2,483 95	18,739 73

W. H. ESTANO,
Auditor of Traffic.

S. L. SHANNON,
Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

ST. JOHN AND QUEBEC RAILWAY (operated by Canadian Government Railways).—
Freight and Passenger Statement for three months ended March 31, 1915.

Month.	FREIGHT.		PASSENGER.	
	Tons.	Mileage.	Number.	Mileage.
1915				
January.....	3,568	166,480	1,963	49,413
February.....	7,158	317,344	1,837	41,541
March.....	7,161	277,313	2,517	52,124
	17,887	761,137	6,317	143,078

W. H. ESTANO,
Auditor of Traffic.

S. L. SHANNON,
Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

6 GEORGE V, A. 1916

ST. JOHN AND QUEBEC RAILWAY (operated by Canadian Government Railways).—
Statement of principal revenue-producing freight commodities carried over the
St. John and Quebec Railway for the months of January, February, and March,
1915.

Description.	Tons.
<i>Products of Agriculture—</i>	
Grain.....	360
Flour.....	139
Other mill products.....	1
Hay.....	5,040
Potatoes.....	5,069
Fruits and vegetables.....	79
<i>Products of Animals—</i>	
Hogs and horses.....	13
Sheep and cattle.....	24
Dressed meats.....	2
Hides and leather.....	1
Fish.....	1
Other products of animals.....	2
<i>Products of Mines—</i>	
Coal.....	51
Salt.....	1
Phosphate.....	1,047
<i>Products of Forests.</i>	
Lumber.....	1,403
Bark.....	238
Cordwood.....	1,782
Pulpwood.....	1,375
Shingles.....	94
Other forest products.....	213
<i>Manufactures—</i>	
Oils.....	12
Wire rods.....	1
Castings and machinery.....	88
Brick, lime and cement.....	21
Agricultural implements.....	2
Furniture.....	162
Manufactures.....	477
Miscellaneous.....	189
	17,887

W. H. ESTANO,
Auditor of Traffic.

S. L. SHANNON,
Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

SESSIONAL PAPER No. 20

ST. JOHN AND QUEBEC RAILWAY.—Statement of Averages, three months ended
March 31, 1915.

Mileage of railway.....		121.2
Engine mileage.....		19,204
Total train mileage.....		17,988
Total car mileage.....		134,807
Ratio of earnings to gross earnings:—		
Revenue from transportation.....	Per cent.	97.88
Revenue from operations other than transportation.....	"	2.12
Gross earnings per mile of railway.....	Dollars.	155.44
" " engine mile.....	"	0.98
" " train mile.....	"	1.04
" " car mile.....	Cents.	13.90
Ratio of expenses to gross earnings:—		
Maintenance of way and structures.....	Per cent.	49.00
Maintenance of equipment.....	"	6.37
Traffic expenses.....	"	3.97
Transportation expenses.....	"	66.00
General expenses.....	"	6.26
Expenses per train mile:—		
Maintenance of way and structures.....	Cents.	51.14
Maintenance of equipment.....	"	6.63
Traffic expenses.....	"	4.14
Transportation expenses.....	"	63.85
General expenses.....	"	6.52
Total per train mile.....	"	137.28
Expenses per mile of railway:—		
Maintenance of way and structures.....	Dollars.	75.90
Maintenance of equipment.....	"	9.85
Traffic expenses.....	"	6.14
Transportation expenses.....	"	102.18
General expenses.....	"	9.68
		\$ 203.75
Locomotive and car repairs, per locomotive and car:—		
Locomotives, 3.....	Dollars.	294.60
Passenger cars, 4.....	"	21.55
Freight cars, 28.....	"	4.75

S. L. SHANNON,

E. & O. E., MONCTON, N.B.

*Comptroller and Treasurer.*No. 1—WINDSOR BRANCH RAILWAY.—Revenue Account, from April 1, 1914, to
September 14, 1914.

Expenditure.	\$ cts.	Earnings.	\$ cts.
Maintenance of way and structures.....	17,982 86	Passenger earnings.....	9,037 19
Balance.....	5,186 36	Freight earnings.....	13,565 92
		Mail earnings.....	566 11
	23,169 22		23,169 22

S. L. SHANNON,

E. & O. E., MONCTON, N.B.

Comptroller and Treasurer.

No. 2—WINDSOR BRANCH RAILWAY.—Maintenance of Way and Structures, from
April 1, 1914, to September 14, 1914.

Superintendence..	\$ 2,900 52
Ties..	7,201 84
Rails..	142 79
Other track material..	667 62
Roadway and track..	5,955 92
Removal of snow, sand, and ice..	3 48
Bridges, trestles, and culverts..	28 30
Grade crossings, fence, cattle guards, and signs..	116 20
Signals and interlocking plants..	8 60
Buildings, fixtures, and grounds..	776 81
Roadway tools and supplies..	56 93
Stationery..	16 40
Other expenses..	198 05
	\$17,982 86

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

No. 3—WINDSOR BRANCH RAILWAY.—From April 1, 1914, to September 14, 1914.

Month.	Passenger Earnings.	Freight Earnings.	Mail Earnings.	Total.
1914.	\$ cts.	\$ cts.	\$ cts.	[\$] cts.
April.....	1,255 34	2,191 22	103 66	3,550 22
May.....	1,284 35	2,337 92	103 65	3,725 92
June.....	1,670 13	2,349 75	103 65	4,123 53
July.....	1,852 95	2,533 41	107 65	4,494 01
August.....	2,131 65	2,547 99	103 65	4,783 29
September.....	842 77	1,605 63	43 85	2,492 25
	9,037 19	13,565 92	566 11	23,169 22

S. L. SHANNON,

Comptroller and Treasurer.

E. & O. E., MONCTON, N.B.

PART IV.

Report of the Government Chief Engineer of the
Western Division of the National Trans-
continental Railway.

MR. COLLINGWOOD SCHREIBER, C.M.G.

The Honourable FRANK COCHRANE,
Minister of Railways and Canals,
Ottawa, Canada.

OTTAWA, April 1, 1915.

SIR,—I have the honour to submit my annual report for the fiscal year ended March 31, 1915, upon the progress made with the work of construction of the western division of the National Transcontinental railway, extending from Winnipeg to Prince Rupert, the Pacific Ocean terminus, a distance of 1,745 miles; in addition to which the Pacific Ocean terminals extend along the foreshore of Prince Rupert a distance of $3\frac{1}{4}$ miles.

For construction purposes, the western division is divided into two sections, viz:—

1. The Prairie section extending from the city of Winnipeg to the east bank of Wolf creek, a distance of 915 miles.
2. The Mountain section commencing on the east bank of Wolf creek to the city of Prince Rupert, the Pacific Ocean terminus, a distance of 830 miles.
3. The terminal extension along the foreshore of Prince Rupert, $3\frac{1}{4}$ miles.

PRAIRIE SECTION.

I regret having again to report very little work having been done during the fiscal year just closed towards completing this section of road in accordance with the requirements of the contract and specification.

In so far as the western approach to the city of Winnipeg is concerned, it has been disposed of by the passage through Parliament of the 4-5 George V, chapter 57, entitled an "Act respecting the entrance of the Grand Trunk Pacific Railway Company and the Canadian Northern Railway Company into their joint terminals into the city of Winnipeg."

However, there yet remains the following named works to be done, viz:—

1. The construction of the road through the city of Edmonton.
2. About 400,000 cubic yards of filling to make up embankments to their full width and height.
3. About 1,400,000 cubic yards of ballasting.

The value in all is about \$950,000.

The road on this section is in good condition for the operation of public traffic and has been operated successfully throughout the past fiscal year.

MOUNTAIN SECTION.

The work of construction on this section of the road have been carried on steadily during the year, but the progress made with the work has been somewhat retarded by slips and slides in embankments and cuttings through the "wet gumbo district."

The condition of the works may be cited as follows, viz:—

1. The grading is completed with the exception of the filling in of several temporary trestle bridges, and the making up of slides which may occur in embankments, and the removal of slides that may take place in cuttings.
2. The wooden bridges and culverts are all built.
3. The steel bridges, fifty-nine (59) in number, are practically completed.

6 GEORGE V, A. 1916

4. There are about 225 miles of fencing yet to be erected.
 5. The main track is all laid, but rails and switches have yet to be provided for the extension of sidings in four of the divisional station yards.
 6. The whole of the road has received the first lift of ballast, 830 miles, of which 406 miles have received a second or final lift.
 7. Three roundhouses of twelve stalls each have been erected, and four more of the same capacity are in course of being built.
 8. Three machine shops have been constructed, and two more are in course of erection.
 9. Four divisional stations have been built, and three are not yet commenced.
 10. One hundred and eight way stations have been built, two additional are in course of erection, and nine have not yet been commenced.
 11. It is proposed to use oil as fuel for the locomotives in the province of British Columbia. So far, the erection of all the oil fuel stations has been commenced.
 12. It is proposed to establish thirty-four water stations of 50,000 gallons capacity, of which twenty-eight have been provided, and five others commenced. Also seven large tanks of 100,000 gallons capacity are proposed for divisional points, of which four have been constructed.
 13. It is proposed to equip the machine shops at five divisional stations with the necessary machinery and tools. Three only have so far been partially equipped.
 14. The only work so far which has been executed at the Prince Rupert terminals is the grading, which has been completed, and the construction of a pile dock with warehouses thereon, as well as the laying down of about 10 miles of track in the yard.
- Up to the present time the Grand Trunk Pacific Railway Company do not appear to have arrived at a decision as to the probable requirements of this port in the way of railway facilities, either in the extent of siding accommodation, warehouses and wharf capacity, but I understand preparations are being made for the erection of a twelve-stall roundhouse, a freight or warehouse, a passenger station, as well as a car shop.

GENERAL.

The western division—Winnipeg to Prince Rupert—has been in successful operation throughout since September 6, 1914. A very comfortable express train service has traversed the road twice a week each way, provided with the most modern design of sleeping and dining cars, in addition to which a passenger and freight service has been given daily on the road between Winnipeg and Prince George sufficient to handle the traffic offering.

BALANCE OF WORK REMAINING TO BE DONE.

The works of construction remaining to be done on the Mountain section to bring it up to the requirements of the contract and specification, may be cited as follows, viz. :—

1. Four hundred and fifty thousand cubic yards of grading.
2. Yet to pay on steel bridges, \$74,548.37, not including \$55,000 force account work on the bridge at the fourth crossing of the Fraser river (Prince George).
3. Fencing about 225 miles.
4. Two thousand four hundred and fifty tons of steel rails.
5. Thirty miles of tracklaying in divisional station yards.
6. Ninety switches.
7. Seven hundred and fifty thousand cubic yards of ballasting.
8. Four roundhouses (now in course of erection).
9. Two machine shops.
10. Six oil fuel plants; two of which are being erected (steel work), and substructures being built for the other four.

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11. Three divisional station houses.
12. Nine way station houses.
13. Four divisional freight houses.
14. Six water services.
15. Machinery and tools—say to the value of \$125,000.
16. Terminals at Prince Rupert—say \$2,000,000 in addition to the \$1,600,000 already expended, making the total estimated cost about \$3,600,000.

The above estimate of cost of the terminals at Prince Rupert represents what, in my opinion, should cover the reasonable necessities of the port for the first ten or twelve years.

There is, of course, no limit to the expenditure which the company might see fit to make, as this would depend on the magnitude, character and detail of the buildings and facilities they consider desirable beyond what is actually essential.

OPERATION AND MAINTENANCE AND INTEREST.

In addition to the above works of construction, the government guarantee, it should be noted, applies, amongst other things, to expenditures for maintenance, repairs and replacement of works and materials "during construction"; and, further, to certain interests on bonds, loans, advances, and guaranteed securities.

I have the honour to be, sir,

Your obedient servant,

COLLINGWOOD SCHREIBER.

Chief Engineer Western Division N. T. Ry.

PART V.

QUEBEC BRIDGE RECONSTRUCTION,

REPORT OF CHAIRMAN OF BOARD OF ENGINEERS.

HON. FRANK COCHRANE,
Minister of Railways and Canals,
Ottawa.

MONTREAL, May 14, 1915.

SIR,—I beg to report progress of work on the construction of the new Quebec bridge for the fiscal year ending March 31, 1915, as follows:—

Substructure.—During the season of 1914, Messrs. M. P. and J. T. Davis entirely completed their contract for the construction of the substructure of the bridge. The final estimate was passed on December 22, 1914, showing that the total cost of this work amounted to \$2,376,756.23, which amount includes \$24,926.63 for extra work necessitated by changes in plans, etc. I might point out that this total amount is \$71,818.77 below the original estimate of the cost of this work. A description of the work involved in this contract was given in my last annual report.

Superstructure.—During the fiscal year 1914-15 very rapid progress has been made both in the shop and in the field. The status of the work in hand up to March 31, 1915, is as follows:—

	Total to March 31, 1914.	Total to March 31, 1915.
	Tons.	Tons.
Raw material ordered from the mills	28,000	54,000
Raw material received at the shop.....	24,741	50,028
Fabricated at shop	9,991	38,518
Members delivered at site	7,484	36,528
Steel erected and partially riveted	1,370	15,000
Total estimated weight	65,000	

As shown by this statement, some 15,000 tons of steel have been erected. This covers both north and south approaches, and practically the entire north anchor arm.

Absolutely no difficulty was experienced in the field in the erection of this steel-work, and the contractor was able to keep up his schedule.

A start on the construction and erection of a duplicate erection traveller was made on the south side, and this will be ready for operation about the last of May, thus enabling the work to proceed simultaneously on both sides of the river during the coming season.

With this equipment the contractor expects to erect the greater part of the south anchor arm and north cantilever arm, or some 28,000 tons, before work closes down in 1915.

The shop drawings for the bridge are practically completed and approved, with the exception of those for the suspended span, and are far ahead of the requirements of the shop.

All of which is respectfully submitted.

C. N. MONSARRAT,
Chairman and Chief Engineer.

PART VI.

REPORT OF THE CHIEF ENGINEER OF THE DEPARTMENT

AND

Reports of the Superintending Engineers, Engineers in Charge, and Superintendents of the various Canals, the Engineer in Charge of the Car Ferry Terminals at Cape Tormentine, the Chief Engineer of the Hudson Bay Railway, the Engineer in charge of the Hudson Bay Railway Terminus at Port Nelson, the Engineer in Charge of the Dartmouth-Deans Branch of the I.C.R., and the Inspecting Engineer of the Department of Railways and Canals,

FOR THE YEAR 1914-15.

Ernest Marceau, Superintending Engineer, Quebec Canals.

C. D. Sargent, Superintending Engineer, Ontario-St. Lawrence and St. Peter's Canals.

A. T. Phillips, Superintending Engineer, Rideau Canal.

A. J. Grant, Superintending Engineer, Trent Canal.

A. L. Killaly, Superintendent, Trent Canal.

J. L. Weller, Engineer in Charge, Welland Ship Canal.

L. D. Hara, Acting Superintending Engineer, Welland Canal.

J. W. LeB. Ross, Superintending Engineer, Sault Ste. Marie Canal.

F. B. Fripp, Engineer in Charge, Car Ferry Terminals, Cape Tormentine.

J. W. Porter, Chief Engineer, Hudson Bay Railway.

D. W. McLachlan, Engineer in Charge, Hudson Bay Railway Terminus, Port Nelson.

W. A. Hendry, Engineer in Charge, Dartmouth-Deans Branch, I.C.R.

Alex. Ferguson, Inspecting Engineer, Dept. of Railways and Canals.

REPORT OF THE CHIEF ENGINEER.

OTTAWA, April 1, 1915.

SIR,—I have the honour to submit my annual report for the fiscal year ending March 31, 1915.

Attached hereto will be found the annual reports of the superintending engineers of the several canals, the superintendent of the Trent canal, the engineer in charge of the Welland Ship Canal, the engineer in charge of the car ferry terminals at Cape Tormentine, the chief engineer of the Hudson Bay railway, the engineer in charge of the Hudson Bay railway terminus at Port Nelson, and the engineer in charge of the Dartmouth-Deans branch of the Intercolonial railway.

CANALS.

The through water route between Montreal, at the head of ocean navigation, and Fort William and Port Arthur, on the west shore of lake Superior, comprises 74 miles of canal with forty-eight locks and 1,155 miles of river and lake waters, or a total 1,229 miles. The minimum depth of water on this route is 14 feet. From Montreal to Duluth, on the southwest end of lake Superior, the total distance is 1,354 miles, and to Chicago 1,286 miles. A summary of this route will be found in part VII, together with details of the several works thereon. Connection is made with the Canadian Pacific railway for points west and south at Fort William and Port Arthur (6 miles apart). From Fort William, connection with the main line of the National Transcontinental railway is made by the branch line originally constructed by the Grand Trunk Pacific Railway, but now leased to and operated by the Canadian Government Railways.

On this through route the approaches to the canals and the channels of the intermediate river reaches are well defined and are lighted with gas buoys under the control of the Department of Marine and Fisheries, admitting of safe navigation, in the hands of competent pilots, both by day and night. The Lachine, Soulanges, Cornwall, Welland, and Sault Ste. Marie canals are lighted throughout by electricity, and electrically operated. The Farran's Point canal is lighted by acetylene gas.

Of the minor systems, the Murray, Trent, Rideau, and Ottawa River canals may be considered geographically as branches of the through east-and-west route. In operation, however, these canals serve a distinct traffic of a more local nature. Isolated from the systems just mentioned, the navigation of the Richelieu river, from its junction with the St. Lawrence at Sorel, to lake Champlain, is effected by means of the St. Ours lock and the Chambly canal; while in the extreme east the St. Peter's canal provides communication between the Bras d'Or lakes of Cape Breton island and the Atlantic ocean.

Detailed information respecting the several canals is contained in an appendix.

With the exception of the Trent canal, where the construction of an extension of the present system to an outlet on lake Ontario is still in progress, and the Welland Ship canal, fully described farther on in this report, the work executed during the past year has been almost wholly of the nature of improvements and repairs of existing works.

LACHINE CANAL.

The usual repairs incidental to the maintenance of the canal were attended to during the year. The more extensive improvements carried out include the completion of upwards of 3,000 feet of concrete wall in the upper reach of the canal, the rebuilding of the walls of the guide pier at the lower entrance to the new Lachine lock, and various improvements at lock No. 4. St. Gabriel shed No. 1 has been rebuilt in steel and is now under lease to the Canada Steamship Lines, Ltd.

SOULANGES CANAL.

Among the minor repairs of the year might be mentioned the revetting of the canal slopes with stone for a distance of over one-quarter of a mile east of the St. Ferreol bridge and the reconstruction of 3 miles of fencing. More extensive improvements carried out include the completion of the protection works at the upper entrance to the canal, and the rebuilding of the end of the lower entrance pier.

CHAMBLY CANAL.

The approaches to bridge No. 5, the reconstruction of which was completed last year, were raised to the new grade. At the electric station a small steel and reinforced concrete bridge was constructed over the tailrace of the weir. The old canal office was converted into a residence for the superintendent, and a new office erected. The upper sill and bottom of lock 3 were renewed in concrete. The work of macadamizing the road along west side of canal was commenced and more than half completed.

ST. OURS LOCK.

No repairs of special importance were required during the year.

STE ANNE'S LOCK.

This lock is now satisfactorily lighted by eight 60 c.p. lamps, current being supplied by the village of Ste. Anne de Bellevue. The upper pier between locks, which was commenced last season, was completed during the fiscal year. The eastern end of the guard pier forming the south side of the lower entrance was improved by the construction of a concrete wall all round the pier, connecting with the masonry wall already in existence.

CARRILLON AND GRENVILLE CANALS.

With the exception of the construction of a boulder retaining wall about 300 feet in length along the north side of the tow-path on the Grenville canal, and the rebuilding of three pairs of gates, no special repairs of importance were made during the year.

BEAUHARNOIS CANAL.

Two old wooden bridges which had fallen into bad repair were replaced by concrete pipe culverts to provide access by farmers to both sides of their properties. No other work beyond the usual small maintenance repairs was carried out.

CORNWALL CANAL.

During the past season a large amount of maintenance work was attended to such as repairs to retaining walls, renewals and repairs of gates, painting of canal buildings, and improvements to canal grounds. Among the more extensive works

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carried out might be mentioned the construction of a concrete dam with a reinforced concrete service bridge across the head of old lock No. 19, the reconstruction in concrete of the old wooden service bridges over weirs at locks 18, 19 and 20, the replacement by concrete structures of the old wooden bridges over the intake to regulating weir at lock 17, and the renewal in concrete of the service bridge over weir in basin between locks 15 and 17, and the replacement by a reinforced concrete bridge of the old wooden bridge over the Stormont Electric Light and Power Company's weir. During the year also the contract with the Kennedy Construction Company for improving the lower entrance to lock 20 was satisfactorily completed. This work comprised the removal of the old cribwork entrance pier and the construction in place of it of a new and much larger concrete entrance wall by which the approach to the lock has been very much improved.

FARRAN'S POINT.

Repairs of a minor nature only have been made during the year, and include the relaying of portions of the stone protection walls along the sides of the canal and the thorough overhauling of the acetylene gas lighting plant.

RAPIDE PLAT CANAL.

The more important repairs and improvements carried out on this canal during the past fiscal year include the renewal in reinforced concrete of a portion of the old timber wharf below lock 23, the completion of the improvements to the lower entrance of lock 24 which were commenced in September, 1911, and included the widening and straightening of the canal and the construction of an approach wall on the north side of the entrance, the rebuilding of the stone protection wall on the south bank of the canal above lock 25 for a distance of upwards of one mile, and the completion under contract of the construction and erection at lock 28, of a steel bridge that can be swung across the lock in emergencies to facilitate the placing of a timber bulkhead.

MURRAY CANAL.

Small repairs and improvements only were made to this canal during the fiscal year, such as the painting of bridges and lighthouses, the erection of a small blacksmith's shop, etc.

RIDEAU CANAL.

During the past year the question of an adequate supply of water for this canal has been more than ever accentuated. This matter, however, is receiving careful consideration and it is hoped that the surveys which have recently been commenced will supply such information as will enable us to cope with this difficulty in the most efficient and economical manner.

The usual minor repairs incidental to the satisfactory maintenance of the canal were carried out during the year, such as repairs to lock gates, the renewal of bridge floors, pointing of masonry walls, repairs to roadways, etc. Among the more important works carried out might be mentioned the following: A concrete retaining wall upwards of half a mile in length was constructed during the winter along the west side of the canal between Laurier Avenue bridge and the head of the deep cut. At Hogsback lock station a lay-by pier 160 feet in length was built below the locks. At Burritts' Rapids lock station a portion of the retaining dam was rebuilt and the pier on the north bank of the river was reconstructed in concrete. The old stone lock house at this point was taken down and replaced by a new frame structure. At Merrickville the north wing wall of the upper lock was rebuilt in concrete and connected with the new concrete dam now under construction. This new dam, which

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is still under contract, is nearly completed. At Smith's Falls a concrete wall, 80 feet in length, was constructed on the north side of the cut between the lock and the swing bridge. On the Perth branch of the canal the dredging and improvement of the channel between Dowscus and Perth was carried on in continuation of last year's work, which work it is expected to complete next season. At Davis's lock station, both wing walls, gate recesses, piers, and manholes were taken down and rebuilt with stone from our quarry at Westport. At Kingston Mills the circular concrete wall, the construction of which was in progress last season, has been completed.

TRENT CANAL.

The route of the Trent canal, as now in operation or under construction, lies between Trenton on the Bay of Quinte, where direct connection with lake Ontario is made, and Port Severn on Georgian bay, from which the waters of the upper Great Lakes are at once accessible. The portions of the canal now under construction lie between Trenton and Rice lake and between lake Couchiching and Georgian bay.

CANAL IN OPERATION.

In addition to minor repairs and improvements made during the fiscal year, the more extensive works carried out are as follows: The two north dams at Lovesick have been rebuilt, the canal entrance piers above Burleigh locks, the icebreaker pier at Buckhorn, and the south abutment at Bottle Lake dam. The old wooden swing bridge across the lower entrance to Lindsay lock, which failed in May, 1914, was temporarily repaired, and a steel swing span will shortly be erected to replace it. The dam at Hall's lake, which had become much dilapidated, was taken down and rebuilt in concrete, and the dam at Crab lake, which had also got past repair, was reconstructed in hewn timber. The old timber dam at Fenelon Falls was rebuilt in concrete, the work being under the supervision of the construction forces.

CANAL UNDER CONSTRUCTION.

Ontario-Rice Lake Division.—Under this division is included the portion of the canal which lies between Trenton and the easterly end of Rice lake, a total distance of 56½ miles. For construction purposes this division has been subdivided into seven sections or contracts. The line of the river Trent has been followed throughout, and this portion of the system when completed will comprise 9½ miles of canal, 13 miles of subaqueous channels, and 34 miles of deep river waterway. From the mouth of the canal at Trenton, where the waters of lake Ontario are connected with, to the normal navigation level of Rice lake, there is a total rise of 369 feet. This difference of level is to be overcome by eighteen locks. For the control of the river and canal levels, fourteen dams will be required. The locks have now all been completed and the lock gates have already been placed on the first six locks above Trenton. Work on the dams is now fully completed with the exception of five sluices in the bottom of dam 10. Of the nineteen bridges required on this division all have been completed except two. With one exception, viz., the Grand Trunk Railway high level bridge at Campbellford, they are all of either the swing or bascule type. The locks are constructed of monolithic concrete, 175 feet long and 33 feet wide, and provide for a depth of water on sills of 8 feet. The entire work on this division of the canal will, when completed, have involved the removal of about 1,500,000 cubic yards of earth and 1,250,000 cubic yards of loose and solid rock, and the placing of 400,000 cubic yards of concrete. The approximate total cost has been estimated at \$5,100,000, about 92 per cent of which amount has been expended to date. More complete details in regard to the foregoing will be found in the annual report of the superintending engineer, appended hereto.

Severn Division.—Under this division is included the portion of the canal between lake Couchiching and Port Severn on Georgian bay, a total distance of 43 miles. In this distance will be included 4 miles of canal, 5½ miles of submarine channel, and 33¾ miles of deep river and lake navigation. The rise of about 139 feet between the level of lake Huron and that of lake Couchiching will be overcome by five locks. For the regulation of the river levels, thirteen concrete dams will be required. The route will be crossed by eight steel bridges, five for highway and three for railway traffic. Five of these bridges will be fixed spans, and the remainder swing spans. For construction purposes this division has been subdivided into four sections, three of which are now under contract. On the Port Severn section, which comprises the construction of a lock 100 feet long and 25 feet wide, work is now well advanced, and it is expected that it will be fully completed early next autumn. On section No. 2, which comprises the construction of dams at Pretty channel and Swift rapids, and a lock and powerhouse at the latter point, together with the reconstruction of the Grand Trunk railway bridge at Ragged rapids, and extensive granite rock excavation, work is now well under way. Work has also been commenced on section No. 3, and when completed, will include the construction of one lock, two highway bridges, and one railway swing bridge, and the construction of several small dams.

Hydrographic Surveys.—During the past few years various surveys have been made with a view to the compilation of reliable charts covering the chain of lakes and rivers included in the Trent Canal system. So far as this work has advanced, the surveys have been plotted, and during the past year a start has been made on the final plans. With the completion of the Ontario-Rice Lake division, it is expected that more rapid progress on this work will be made, as the services of several members of the engineering staff will then become available.

WELLAND CANAL.

A number of somewhat heavy repairs were rendered necessary during the past year on account of accidents to gates from badly handled vessels; in the most serious of these, however, traffic was interrupted for only sixty-seven hours. A slide which occurred in the west bank of summit level completely blocked traffic for nearly four days. A dredging plant, which was available at Thorold, was able to render immediate assistance. Among the most important improvements carried out during the year on the new canal might be mentioned the placing of stone protection along certain portions of the summit level and the reconstruction in reinforced concrete of a number of wooden foot bridges and a road bridge. On the old canal the wooden highway bridge, over the hydraulic race at Thorold road, St. Catharines, was replaced by a reinforced concrete structure. A reinforced concrete high-level arch bridge of thirteen spans was completed at Ontario street, St. Catharines, over the old canal and raceways. At Thorold work was commenced on a concrete bridge of fixed span to replace the existing swing span over lock 24. In addition to the foregoing, a number of concrete foot bridges were constructed and a concrete highway bridge over the bypass to lock 5. On the canal feeder, extensive repairs were made at Dunnville lock. The highway bridge at the Forks Road Crossing was repaired, and the abutments and centre pier renewed in concrete.

PORT COLBORNE ELEVATOR.

During the past year the government elevator handled 38,604,140 bushels of grain as against 21,441,826 in the previous year. The net earnings for the year amounted to \$103,822.49, an increase of upwards of 100 per cent over the previous twelve months. The increase in business from year to year, ever since the elevator was erected in 1908, makes a very satisfactory showing. Construction work on the enlargement of the elevator, which when completed will give it a total capacity of 2,000,000 bushels, was carried on throughout the year.

WELLAND SHIP CANAL.

The work on the new Ship canal is divided into nine sections, numbered from the lake Ontario end of the canal. No additional sections have been placed under contract during the past year, but operations have been continuously under way on sections Nos. 1, 2, 3, 4A and 5, now under contract.

Sections Nos. 1, 2, and 3 extend over a distance of approximately 9 miles, or from the lake Ontario entrance of the canal, near Port Dalhousie, up to and through the town of Thorold, and include the construction of seven lift locks and the building of a short line of railway for the transportation of supplies during canal construction. Work on these three sections is progressing rapidly, the construction railway being completed and under operation. A rock crushing machine has been erected by the contractors for section three, and has been in operation for some time crushing stone excavated from this section for use by the contractors of sections 1 and 2 for concrete work.

The work on section 4A, consisting of the construction of a new supply weir opposite lock No. 25 on the present canal to supply water to the old canal in place of the one at Allanburg, and also the construction of two reinforced concrete culverts between the old and new canals to replace the open ditches at present existing, is now completed. Section No. 5 includes the widening and deepening of the existing canal between Allanburg and Port Robinson, or for a distance of about $2\frac{1}{2}$ miles. The work on this section has been progressing rapidly.

In the annual report of the engineer in charge, appended hereto, are given very complete and interesting details in connection with all the work now in progress. An interesting description of the ship canal route and general arrangements is given in the report of the engineer in charge for the years 1912-13.

SAULT STE. MARIE CANAL.

The principal improvements carried out on this canal during the past year include the rebuilding with concrete front and back walls, with stone filling between, of 104 feet of the lower south pier, the completion of the concrete roadway from a point 200 feet east of the movable dam to the west end of the canal grounds, the renewal of eight new floats along the north side of the canal, and the building of a new house for the lookout station at Pointe aux Pins.

ST. PETER'S CANAL.

The present canal was operated throughout the season with the exception of two months from June 8, when it was closed to navigation to enable the construction of the new lock on its revised location to be proceeded with.

The work on the new lock was limited during the past season to that part of the construction which could be carried on apart from the unwatering of the work made possible by the closing of the present lock to navigation, and consisted principally of the excavation of the foundation for the west entrance concrete wall and the construction of some 400 feet of this wall.

The revised location of the new lock, due to the unsatisfactory nature of the foundation material developed by new borings taken early in 1914, ensures a satisfactory rock foundation, and will materially improve the operating facilities at the Atlantic entrance, although necessitating the suspension of navigation through the present lock during the construction period, a proceeding which the original location of the new lock rendered unnecessary.

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RAILWAYS.

CAR FERRY TERMINALS, NORTHUMBERLAND STRAITS.

This undertaking comprises the construction of harbour works, landing piers, etc., at Cape Tormentine, N.B., and Carleton Point, P.E.I., a distance of 8 miles apart, and the building of about 3 miles of railway connecting the Cape Traverse branch of the Prince Edward Island railway with the Carleton Point terminal.

The dredging of the turning basin at Cape Tormentine has been continued during the past season, also the construction, filling and riprapping of the timber crib breakwaters, and the quarrying and placing of stone filling in the rubble mound breakwater, but the construction operations were greatly hampered by many storms, the summer season being an unusually stormy one even for the Northumberland straits. Stone for these purposes is obtained at Sackville, within 36 miles rail haul of the work.

At Carleton Point the work has progressed in the past season and a good start has been made on both the cribwork and the rubble mound breakwaters but, as at Cape Tormentine, the unprecedented stormy conditions of the construction season prevented the progress expected. Stone for filling is obtained by water transportation from two quarries distant about 40 miles from the site of the work.

Work on the Carleton branch line railway has advanced steadily, and 2½ miles of track has now been laid, while only a small amount of grading remains to be done.

HUDSON BAY RAILWAY.

The final location of the railway into Port Nelson was completed in August last, the total distance between The Pas and Port Nelson being 424 miles, which distance is only 22 miles longer than an air line between these two points.

Grading has been completed ready for tracklaying up to mile 240, and the right of way has now been cleared to within a few miles of the second crossing of the Nelson river. Track is now being laid up to mile 220, and ballasted to mile 175, and the telegraph line also is complete up to this latter point. Seven water tanks have been erected during the season, three of which have been connected with a water supply. Revisions in location which have been made during the year will result in an estimated saving of \$350,000.

HUDSON BAY TERMINUS.

Through navigation in 1914 opened late; the first arrival from sea having reached Port Nelson on August 13, the delay caused by ice conditions in Hudson strait.

The last sailing from Port Nelson took place on October 17; subsequent ice and weather conditions pointing to the feasibility of later sailings should such have been required.

Notwithstanding the short open season the shipping results may be regarded as highly satisfactory. Twenty-four passages through the strait were made by vessels under the control of this department, together with twelve other passages of which we have record, without serious accident of any kind. Many of these were made by vessels without special strengthening for navigation through ice.

Previous to the opening of navigation the working forces at Port Nelson were occupied in providing such accommodation as the circumstances permitted, for the reception of incoming freight and working forces, the shipping casualties of 1913 with resulting loss of materials and plant proving a serious obstacle. Adequate provision of wharves and trackage being ready when the steam lighters arrived, no difficulty was experienced in unloading the cargoes sent in. But little time remained for harbour construction, as practically all heavy plant was necessarily shipped knocked

down to be assembled at Port Nelson. A breakwater pier was carried out several hundred feet as an extension to wharf 3, which will give much needed shelter to the other works, before the freeze-up ended river work. Concurrently with the above work and during the winter the forces were engaged upon the assembling and construction of plant, construction of a dry dock, erection of shops, warehouses, and other buildings, together with lumbering operations on a tributary of the Nelson. The work of assembling the hydraulic dredge *Port Nelson* was completed during the season, and a test run confirmed the opinion of officials that the machinery had not been damaged when she was beached in the fall of 1913. It was, however, considered inadvisable to place her in the channel until after examination of her bottom in dry dock, particularly in view of the lateness of the season, which would render effective work impracticable.

Practically the whole of the plant required or the materials for its construction has now been forwarded to Port Nelson, though but little material for construction purposes will remain in stock when the navigation season of 1915 opens. This season's shipments will consist almost wholly of materials of construction, provisions, and commissary supplies.

DARTMOUTH TO DEANS BRANCH—I.C.R.

At the close of the fiscal year the total expenditure on this line amounted to 86½ per cent of the total estimated expenditure. The time-limit for the completion of the contract with Messrs. M. P. and J. T. Davis has been extended to 1st August, 1915. The work is now practically complete except for a small amount of finishing work on the grading, the construction of a few small culverts, the painting of some of the bridges, a small amount of ballasting, and a portion of the fencing.

SUBSIDIZED RAILWAYS.

During the past fiscal year, inspections of subsidized railways have been made by this department, aggregating in all, 2,515 miles of railway lines. Full details in regard to the lines covered by the inspecting engineer will be found in his annual report appended hereto. In addition to this, inspections for subsidy purposes have been made by other members of the engineering staff, as follows:—

August 6, 1914: Ha Ha Bay railway—La Terrière Junction to lake Kenogami.

September 24, 1914: Alberta Central railway—Red Deer to Ullin.

October 2 and 3, 1914: Esquimalt and Nanaimo railway—Parksville Junction to Courtenay, and Hayward Junction to Cowichan.

I have the honour to be, sir,

Your obedient servant,

W. A. BOWDEN.

Chief Engineer.

A. W. CAMPBELL, Esq.,

Deputy Minister.

Department of Railways and Canals,

Ottawa.

REPORT OF SUPERINTENDING ENGINEER, QUEBEC CANALS.

MONTREAL, July 27, 1915.

SIR,—I have the honour to submit herewith my annual report on the works under my charge, for the fiscal year ended March 31, 1915.

The Quebec Canals division comprises the Lachine and Soulanges canals on the St. Lawrence route, the Ste. Anne's, Carillon and Grenville canals on the Ottawa river, and the St. Ours and Chambly canals on the Richelieu river.

Of these, the Lachine canal is by far the most important owing to its immediate connection with the harbour of Montreal.

LACHINE CANAL.

Length, $8\frac{1}{2}$ miles; total rise, 45 feet; 5 locks, 270 feet by 45 feet; with 14 feet of water on sills; five old locks, 200 feet by 45 feet, with 9 feet of water on sills, still available to navigation.

OPERATION.

Navigation was carried on without interruption throughout last season, no accident of any importance having occurred between the opening, on the 27th April, and the closing, which took place on the 8th December, 1914.

REPAIRS AND RENEWALS.

There is not much to record under this head, beyond the usual maintaining in good order of the various structures: roads, banks, fences, buildings, etc., and the overhauling of all the spare gates, which must always be kept ready for an emergency.

Mooring posts.—One hundred cast-iron mooring posts, set in concrete, were placed at different points along both banks, superseding an equal number of old wooden posts.

Masonry and Concrete Work.—A number of cracked and broken coping stones on locks 2 and 4 were removed and replaced by reinforced concrete.

The top of the abutments of Wellington, Brewster and Cote St. Paul bridges, were rebuilt in reinforced concrete faced with steel plate, and the same was done for the east and west corners of the walls at the entrance to St. Gabriel basin No. 2.

New concrete foundations were built under the blacksmith shop and iron storehouse in the Mill Street yard.

Buildings.—Flour sheds Nos. 1 and 2, which had been more or less damaged by fire in April and August, 1914, were repaired and made available for use.

CAPITAL.

Concrete vertical walls.—This work, which is now completed, has been done under contract by Messrs. Quinlan and Robertson. The operations during the last fiscal year consisted in finishing some 3,000 lineal feet of concrete wall in the upper reach, the rebuilding of the walls of the guide pier forming the lower entrance to the new lock at Lachine. The projections in the rock supporting these walls, and which were a menace to vessels mooring in this entrance, were covered over with concrete.

Improvements at Lock No. 4.—This work is being done under contract by Messrs. Quinlan, Robertson and Miller. The old bank which obstructed the approach to the lock, has been dredged out, a portion of the concrete retaining wall was finished, and also the reinforced concrete arches forming the bridge over the supply weir which feeds the canal below the locks.

Vessels are now able to enter both locks without delay or fear of collision.

INCOME.

Rebuilding St. Gabriel Shed No. 1.—This shed, rebuilt in steel and concrete, was finished early in the year. It is leased to the Canada Steamship Lines, Ltd., and is sufficiently large to permit two steamers to load or unload at the same time.

DREDGING.

The dredging fleet was engaged from the 1st to the 26th May, 1914, in removing a certain quantity of clay and stone deposited in the channel during March and April, when the improvements to lock No. 4 were being rushed.

In the following month, some cleaning was done at Ste. Anne, in connection with the rebuilding of the head pier forming the upper approach to the lock, and also at the quarry wharf at Cascades Point.

During the rest of the season, up to November 14, it was engaged widening the channel at the upper entrance to the Soulanges canal, where protection works were being performed.

On the above date all the vessels started on the return journey to Montreal, where they went into winter quarters on the 30th of the same month.

Some dredging was also done in the basin located immediately south of the Central Vermont railway bridge, at St. Johns. This work was performed by the Chamby Canal dredge.

REPAIRS TO VESSELS.

The Quebec Canals dredging fleet comprises two steam tugs, the *Frank Perew* and the *Carillon*, one steam spoon dredge, one floating steam derrick, three dump scows, thirteen flat scows, and a floating storehouse.

All these vessels were carefully repaired after the close of navigation in 1914, and were in very good condition when work was resumed in May last.

During last winter, a new hull was built for our steam derrick, the old one being past repairing. The present one is 80 feet long, 30 feet wide, 7 feet deep. The machinery was overhauled and placed into it in April last.

SOULANGES CANAL.

Length, 14 miles; five locks, 270 by 45 feet; 15 feet of water on the sills; total rise, 84 feet.

OPERATION.

This canal was opened on the 27th April and closed on the 5th December, 1914, navigation being conducted without interruption throughout the season.

REPAIRS AND RENEWALS.

Locks.—Lock No. 1 was pumped dry during the winter for the purpose of renewing the two lower valves, which were leaking badly, and of replacing the gate pivot of the northeast leaf of the lower gate, which had been shattered.

A spare gate was also installed in place of the southwest leaf, which required repairs.

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Mooring posts.—The enlarging of the concrete bases of the original cast-iron mooring posts was continued last year, twenty-five of them being so repaired.

Canal slopes.—A considerable quantity of stone, taken out of the canal quarry at Cascades Point, was deposited on the canal slopes for a distance of over 1,500 feet, east of the St. Ferréol bridge, and the top of the slope reformed and sodded.

Fences.—Three miles of fences have been renewed.

Buildings.—The canal timber store which had been pretty seriously damaged during a wind storm on the 31st May, 1914, was put in good repair as soon after as possible.

Machinery.—An 8-inch centrifugal pump was added to the canal equipment during the winter, and was used in pumping lock No. 1 for repairs to the valves, etc., as stated above.

CAPITAL.

Protection works at upper entrance.—The piers and breakwater embraced in this contract, which were being constructed by Messrs. Haney, Quinlan and Robertson, were completed early in the summer. The widening of the new channel was continued by our dredging fleet, except on a small area where rock was encountered.

The removal of this rock was done under contract by the General Improvement and Contracting Co., Ltd.

Mooring posts.—Forty-two new cast-iron mooring posts, with concrete bases, have been set in the canal banks, in the vicinity of locks and bridges.

INCOME.

Rebuilding end of lower entrance pier.—As reported last year, the contract for this work was awarded to Messrs. Quinlan and Robertson, on the 26th September, 1913; and the contractors could only perform preparatory work before the closing of the season.

Operations were resumed early in the spring of 1914, and the contract completed early in the fall.

STE ANNE'S LOCK.

Length, half mile; one lock, 240 by 45 feet; with 9 feet of water on the sills. Old lock still available, 200 by 45 feet, with 6 feet of water on the sills; total rise, 3 feet.

OPERATION.

This lock was opened on the 27th April, and closed on the 3rd December, 1914, navigation being conducted without interruption during that whole season.

REPAIRS.

The chief items of repairs executed during the year were as follows:—

The masonry wall on both sides of lower entrance was repointed.

The upper guard pier, which had been damaged by fire, was repaired; 600 lineal feet of booms were overhauled.

The residences of the overseer and statistical officer were given two coats of paint.

Several large boulders, which had drifted into the channel above the lock, were removed.

Electric lighting.—This lock is now electrically lighted by means of eight 60 c.p. lamps, so placed as to satisfactorily light both sides of each pair of gates.

The current is supplied by the corporation of Ste. Anne de Bellevue.

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INCOME.

Upper pier between locks.—This work, commenced in the fall of 1913, was completed during the summer of 1914, by the Montreal General Contracting Company.

The same firm were also awarded a contract for the renewing of the eastern end of the guard pier forming the south side of the lower entrance.

The old cribwork was removed from the top to 1 foot below low-water line, and replaced by a concrete wall all around the pier, which was joined with the masonry wall already existing.

The work was completed at the same time as the contract for the upper pier.

Mooring posts.—The old wooden mooring posts on the lower entrance guard pier, eighteen in number, were replaced during the summer of 1914 by cast-iron nigger heads set in concrete bases.

CARILLON AND GRENVILLE CANALS.

Carillon canal: Length, three-quarter mile; two locks, 200 by 45 feet; with 9 feet of water on the sills; total rise, 16 feet.

Grenville canal: Length, 5 $\frac{3}{4}$ miles; five locks, 200 by 45 feet, with 9 feet of water on the sills; total rise, 45 $\frac{3}{4}$ feet.

OPERATION.

These canals were opened on April 29, and closed on November 28, 1914. No interruption to navigation has occurred during the season.

REPAIRS.

The only items of work worth mentioning which were performed here during the year, were the rebuilding of three pairs of gates for locks Nos. 2, 4 and 7, and the construction of a boulder retaining wall, some 300 feet in length, along the north side of the towing path on the Grenville canal.

All the structures, buildings, fences, roads, etc., on both canals have been kept in good repair throughout the year.

ST. OURS LOCK.

Length, one-eighth mile; one lock, 200 by 45 feet; with 6 $\frac{1}{2}$ feet of water on the sills; rise, 5 feet.

OPERATION.

This lock was opened to navigation on the 1st May, and closed on the 30th November, 1914. No accidents or interruption of the traffic occurred during the season.

REPAIRS.

Besides the work of general maintenance, there is nothing to record here, except the rebuilding of one pair of spare gates, and the putting of them in position on the lock.

CHAMBLY CANAL.

Length, 12 miles; nine locks, 118 by 22 $\frac{1}{2}$ feet; with 8 $\frac{1}{2}$ feet of water on the sills; total rise, 74 feet.

OPERATION.

This canal was opened on the 1st May, and closed on the 1st December, 1914; no interruption to navigation occurred between these two dates.

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REPAIRS.

The most important works performed under this heading, during the fiscal year, were the following:—

Bridge No. 5.—This bridge had been renewed in 1912-13, and placed at a higher elevation than the old one. It was therefore necessary to raise its approaches, which was done early in the spring of 1914.

Bridge at Electric Station.—A small steel and reinforced concrete bridge was built over the tail-race of the weir here.

Dredging.—Considerable dredging was done in the entrance of the canal along the main pier and also along a small wharf on the west side, where the depth of water is now 8 feet, which permits tows to make the entrance locks with ease.

Buildings.—The lock houses at locks Nos. 4, 5, 6, 7, 8 and 9, and the bridge houses at bridges 7 and 8, were overhauled and painted.

The old canal office was converted into a residence for the superintendent, and a new office provided both for the superintendent and his staff and the statistical officers.

Another old building, formerly used as an electric power-house, was repaired, and is now being used as a lodging by the assistant electrician.

Locks.—The upper sill and bottom of lock No. 3, which were in very bad condition, were renewed in concrete. A serious leak which had developed through the western side wall of lock No. 8 was stopped by removing part of the old masonry and replacing it with concrete.

The upper sill of this lock, as well as that of lock No. 7, was also repaired in the same manner.

Considerable work was done in rebuilding the wharf at lock No. 2, and in repairing the portion of the wharf in the upper entrance, which has not yet been rebuilt.

INCOME.

Lock-gates.—Under the head of income, a pair of lock gates was built during the year, and put in position at lock No. 6.

Road along west side of the canal.—The contract for the supply of crushed stone for the macadamizing of the northern section of this road was awarded to Mr. Marcel Bessette, on July 9, 1914.

The contractor having experienced considerable difficulty in procuring and installing his crushing plant, the first delivery of stone took place towards the end of August, and, as a consequence, only two-thirds of the work could be done before the close of the season; the balance will be completed during 1915-16.

BEAUHARNOIS CANAL.

This canal has been under lease to the Canadian Light and Power Company since 1907, and is no longer under the direct control of the department. Some works connected with it are, however, still maintained by us.

REPAIRS.

Hunger Bay Dyke.—The usual work of maintenance, such as cutting the weeds, cleaning the side ditches, filling up the ruts in the roadway, repairing the shore protection walls, etc., was performed during the year. In addition, two large concrete pipe culverts were provided to give farmers access to their farms. These concrete pipes replaced old wooden bridges which were decayed.

INCOME.

Surveys and Inspections.—During the last fiscal year, a number of surveys were made in connection with claims for damages, applications for leases, power plants on the Lachine canal, etc.

The plotting on paper of the Soulanges canal survey notes was completed.

The works under the heads of Capital and Income, on the Lachine canal, are under the immediate supervision of Lt.-Col. H. R. Lordly, C.E.; and Mr. L. S. Parisau, C.E., is in charge of Capital and Income work on the other canals of this division.

I have much pleasure in stating that both of these gentlemen and the staffs under them have discharged the duties entrusted to them during the last year in a manner very creditable to themselves.

I have the honour to be, sir,

Your obedient servant,

ERNEST MARCEAU,

Superintending Engineer, Quebec Canals.

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REPORT OF SUPERINTENDING ENGINEER, ONTARIO-ST. LAWRENCE CANALS.

CORNWALL, April 1, 1915.

SIR,—I have the honour to submit my annual report on the maintenance and operation of the Ontario-St. Lawrence canals for the fiscal year ending March 31, 1915.

The Ontario-St. Lawrence canals comprise the Cornwall canal, the Farran's Point, Rapide Plat and Galops canals, known collectively as the Williamsburg canals, the north channel below Prescott on the river St. Lawrence, and the Murray canal between the head of the bay Quinté and Brighton bay on the north shore of lake Ontario.

CORNWALL CANAL.

Length, $11\frac{1}{2}$ miles; total rise, 48 feet; six locks, 270 feet by 45 feet, with 14 feet of water on sills; and one pair of guard gates above lock No. 20 at the foot of the summit level.

OPERATION.

The Cornwall canal was opened for the season's navigation on April 27, and closed on December 12, and was operated throughout the season without any serious accident or damage to locks, and without any delay to navigation.

The first boat for Montreal to pass through the canal was the *Senator Derbyshire* on April 27, carrying 1,720 tons coal; and the last boat for Montreal was the *Port Dalhousie* on December 12, carrying 75,000 bushels of wheat.

During October, November, and December, navigation was considerably hampered by the extreme low water in the river, and many of the large vessels were loaded to slightly less than 14 feet as a measure of safety.

Accidents.—On May 29, the steamer *Avon* downbound, struck and slightly damaged the lower gates at lock No. 15. On August 29 the steamer *Keyvive* upbound, approaching the guard gates above lock No. 20 swung out of her course and struck the timber cribwork on the north side below the gates, completely demolishing the end of pier down to the water line. On October 26 the steamer *John Lambert* downbound, struck and damaged the southwest entrance wall at lock No. 19.

In each case the damage was promptly repaired and the cost defrayed by the owners of the boat.

Renewals and Repairs.—While the canal was unwatered previous to the opening of navigation, the old gates, timber platform and mitre sills at the head of old lock No. 19 were removed, and a concrete dam, surmounted by a reinforced concrete service bridge, was constructed across the lock in the upper recess.

Extensive repairs were made to the concrete slope walls of the tail-race from waste weir south of lock No. 17.

Some 930 lineal feet of stone protection on north bank west of Cornwall bridge was rebuilt and faced with concrete, and the upper portion of bank trimmed and sodded.

On April 24 the north upper gate at lock No. 18 was taken out, a broken step removed and replaced with a new one, and gate resteped.

New upper bars and foot bridges were placed on the guard gates above lock No. 20.

The old gate in south bay of the weir at this place was removed and a new gate stepped.

Necessary pointing was done at locks Nos. 15, 18 and 19.

All of the standing lock gates on the canal received one coat of paint, and the operating machinery and valves in both lock gates and supply weirs were thoroughly overhauled and repaired, and the machinery painted.

During the season the old wooden service bridges over the weirs at locks Nos. 18, 19 and 20, as well as the timbers carrying the valve machinery, all of which were badly decayed, were removed and rebuilt in concrete. The new structures, besides being permanent, present a very neat and workmanlike appearance.

The old wooden bridges over the Stormont Electric Light and Power Company's weir, the intake to regulating weir at lock No. 17, and the regulating weir in basin between locks Nos. 15 and 17, were also removed and rebuilt with reinforced concrete.

Ten cast-iron mooring posts set in concrete bases were placed on the south bank between lock No. 17 and Cornwall bridge, five on the south bank east and ten on the south bank west of the guard gates above lock No. 20. Five of smaller size were also placed on north entrance pier below lock No. 18.

Extensive repairs were made to the stone protection on the banks; in all, about 5,000 lineal feet, was thoroughly overhauled and relaid.

About 400 lineal feet of new fence was constructed, and about 4,000 lineal feet of old fencing was thoroughly repaired and rebuilt.

The cribwork at lower entrance to lock No. 21 was rebuilt above water line, and extensive repairs made to the cribwork entrance pier below lock No. 19.

The cribwork below the guard gates on the north side, damaged by steamer *Keyrive* on August 29, was also rebuilt.

One section of the floating boom at the head of lock No. 21, 95 feet long, which had been broken during the season, was placed in the repairing basin at the close of navigation, and rebuilt during the winter.

Minor repairs were made to concrete ways in the lower level of repairing basin, and four ways on the upper level on the north side were extended a distance of 20 feet.

All of the buildings along the canal received one coat of paint.

The scows, derrick, stone-crusher and other floating plant received necessary repairs and were kept in good condition.

One pair of gates, removed from lock No. 15 in December, 1913, were placed in repairing basin and thoroughly repaired and painted.

The upper gates removed from old lock No. 19 when concrete dam was constructed across this lock, and for which there was no further use, were placed in repairing basin, taken apart, and the sound timber sawn into plank and placed in stock.

The grounds and flower beds at the various locks and parks along the line of canal were kept in first-class condition, and presented a very attractive appearance throughout the whole season.

Ordinary repairs to lock gates, fences, banks, and stone protection were promptly attended to, as well as the cleaning of ditches, cutting of weeds, etc.

The work under contract with Mr. G. R. Phillips, for the improvement of the lower entrance to lock No. 15, was finally completed in a satisfactory manner in June, 1914. The final estimate has been paid.

The work, as completed, provides a safe and easy approach to this lock from the river, and also provides increased harbour room for vessels waiting to pass through the canal.

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The contract entered into with the Kennedy Construction Company for improving the lower entrance to lock No. 20, work on which was commenced in December, 1913, was satisfactorily completed in May, 1914, and the final estimate paid.

This work, which provided for the removal of an old cribwork entrance pier and the construction of a new and much longer concrete entrance wall, has greatly improved the lower entrance to this lock.

The survey work for the purpose of obtaining elevations of the ground along the north side of the St Lawrence river, to determine the feasibility of constructing a ship canal between the deep water below Prescott and a point at or near the mouth of the Ottawa river, was continued till August 31, when the field work being completed, the survey party engaged on this work was disbanded. Much valuable information has been obtained, and although since the above date, owing to the press of other work, nothing further has been done, it is proposed, when possible, to continue the work of making general plans, profiles, and approximate estimates.

THE WILLIAMSBURG CANALS.

Farran's Point Canal: Length, $1\frac{1}{2}$ miles; total rise, 4 feet; one lock, 800 feet by 50 feet.

Rapide Plat canal: Length, $3\frac{1}{2}$ miles; total rise, $11\frac{1}{2}$ feet; one lift and one guard lock, each 270 feet by 45 feet.

Galops Canal: Length, $7\frac{1}{2}$ miles; total rise, from 15 feet in high water periods to $18\frac{1}{2}$ feet in low-water periods; one lift lock 800 feet by 50 feet; one guard lock 270 feet by 45 feet; and one lift lock 326 feet by 45 feet near the head of the canal for the passage of vessels around the Galops rapids.

The Farran's Point and Rapide Plat canals were opened for the season's navigation on April 27, the Galops canal on April 23, and all were closed on December 14. They were operated throughout the season without serious damage and without any delay to navigation.

Accidents.—On May 1, the steamer *Canobia*, owned by the Wilson-Patterson Co., entering lock No. 24 at too high a rate of speed, collided with and slightly damaged the upper gates.

On May 30, the steamer *Keywest*, owned by the Keystone Transportation Co., entering lock No. 27 at too high a rate of speed, struck and slightly damaged the south lower gates.

On July 19, the steamer *Robert R. Rhodes*, owned by F. E. Hall & Co., entering lock No. 22, Farran's Point, in an extremely careless manner, struck the upper gates, partially unmitred them, and broke a suspension rod. This was a very narrow escape from a most serious accident, there being only one lock in this canal, with no guard gates.

Fines were imposed in each of the above cases, and these, as well as the cost of repairing damages, were promptly paid by the owners of the vessels.

RENEWALS AND REPAIRS.

Farran's Point Canal.—Portions of the stone protection on both sides of the canal were relaid. About 500 lineal feet of stone protection on the river side of canal was placed. A new coal and oil house was placed in position near the lock-house. The acetylene gas lighting plant was thoroughly overhauled and necessary repairs made.

Rapide Plat Canal.—The water in this canal was lowered before the opening of navigation, and the bottom portion of the stone protection on the south bank for a distance of about 1 mile was rebuilt, and the upper portion completed during the season. The stone protection on the north side of canal was also relaid for a considerable distance.

The coping of the masonry entrance wall below lock No. 23 on the north side was lifted, broken stones redressed, and the whole relaid and reinforced behind with concrete.

The coping stones on the high-level wing wall at the foot of this lock on the north side, displaced and broken by the steamer *Toiler* the previous season, were lifted, redressed and reset, and reinforced behind with concrete. Several broken stones in coping of the south entrance wall at the head of this lock were taken out and replaced with new stones. The repairs to these walls were all made before the opening of navigation.

New sills and concrete foundations were placed under lockhouse at this lock, and a new oil house was taken from Cornwall and placed in position on concrete piers, the old one, which was past repair, being torn down.

Some 95 lineal feet of the old timber wharf immediately below old lock No. 23, which was badly decayed and unsafe for use, was removed to low-water level and rebuilt in reinforced concrete.

An addition, 14 feet by 26 feet, was added to the north end of the carpenter shop at Morrisburg, to be used as a storehouse, and the offices on the upper floor of this building were rearranged to suit.

A pair of spare gates for the upper recess of lock No. 23 were built in the repairing basin at Cornwall, and will be taken to place after the opening of navigation, and held in reserve. Spare gates had never before been provided for the upper recess of this lock.

The work of improving lower entrance to lock No. 24, under contract with Messrs. Roger Miller & Sons, and which was commenced in September, 1911, was finally completed in a satisfactory manner on August 1. The work as completed has greatly improved the approach to this lock from below.

Galops Canal.—The stone protection on the south bank above lock No. 25, for a distance of about 1 mile, was completely rebuilt.

A concrete sidewalk, 200 feet in length, was constructed in front of the lockmen's houses south of lock No. 25.

The two large valves on the north side of lock No. 25, used in filling the 500-foot chamber of this lock, and which had been removed and repaired in the machine shop at Cornwall, were restopped in position before the opening of navigation, and are working in a satisfactory manner.

A pile bent foot bridge, 135 feet in length, was constructed over the old canal at the west end of the village of Cardinal, giving access to the south bank between old lock No. 26 and locks Nos. 27 and 28 at the head of the canal.

A tile drain, 600 feet in length, was laid from the catch-water ditch on the south side of the deep cut west of the Cardinal bridge to carry drainage to the old canal.

The work of pointing the lock and wing walls at locks Nos. 27 and 28 was continued throughout the season.

Six cast-iron mooring posts, set in concrete bases, were placed on the north side of lock No. 27.

A pair of spare gates for lock No. 27 were thoroughly overhauled and repaired, and the design of the hanging gear changed to conform to the standard now in use. These gates will be placed in position before the opening of navigation.

On December 31, 1913, a contract was entered into with the Dickson Bridge Company for the construction and erection of a steel bridge to be swung across the lock for the purpose of lowering the lattice steel girders designed to be placed in case of emergency, in the stop-log checks at head of lock No. 28, furnishing support for a timber bulkhead across the lock.

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The contract with the Bridge Company was completed in a satisfactory manner on June 11, 1914, and the final estimate has been paid.

The bridge rests on a small flat car, supported by a steel turntable, on a concrete base, and is connected with the north coping of lock by a short section of track. Winches for lifting and lowering the girders have been placed on small cars on the swing bridge, and the girders have been placed on the south side of the lock and rest on concrete ways connecting with the south coping, on which the girders can be rolled out to a position under the lifting winches. The timbers for the bulkhead have been provided, as well as tools and other accessories, all of which are stored in a building erected for the purpose south of the lock, and the whole is now complete and ready for operation, should it be required. With the exception of the construction of the swing bridge and the three lattice steel girders, all of the work has been done by the repair staff.

GENERAL.

All of the buildings and standing gates along the canals received one coat of paint.

Ordinary repairs to gates, buildings, bridges, weirs, and banks were promptly attended to, as well as the cleaning of ditches, cutting of grass, weeds, etc.

The grounds around all of the locks are being gradually levelled up and seeded. The flower beds were neatly kept, and a large number of small trees and shrubs were planted at various places along these canals.

A new scow, 18 feet by 44 feet, was built at the Cornwall shops to replace the old one carrying the boarding-house used by the regular repair staff on these canals. The old scow, after the boarding-house was transferred, received some repairs and is now being used for light repair work on the Galops canal.

At the request of the officer in command of the troops guarding the canals, temporary electric lights were placed along the north side of lock No. 23 at Morrisburg, and on both sides of lock No. 25 at Iroquois in August last.

These lights, while proving of great assistance to the military guard at night, are also of great value to vessels using these locks, and I would earnestly recommend that these be made permanent, and that these two locks, as well as the locks at the head of the Galops canal, be fitted with electric power for the opening and closing of the gates. The cost of doing this would be comparatively small, since the machinery removed from the old locks on the Cornwall canal, now closed permanently, could be readily adapted to these locks.

Owing to the extreme low water in the river during the latter part of the season it was necessary at times for downbound vessels, drawing more than 13½ feet of water, to make use of the Rapide Plat canal.

The upper entrance to this canal, in its present condition, is not safe for the approach of vessels of the larger class, as I have frequently reported, and should receive immediate attention.

Vessels entering this canal from above are obliged to make a wide turn into the bay above the entrance, and come to a full stop alongside of the shore, and headed up stream. After putting out lines they are again obliged to turn around before they can approach the lock. The whole manœuvre, to be successfully accomplished, depends largely on the good judgment of the pilot in charge, and vessels are sometimes carried around the head of the entrance pier, and have difficulty in getting back to the entrance.

On October 25, the steamer *Beaverton*, while attempting the entrance, was carried around the pier, but succeeded in coming to anchor on the outside of the canal bank just above the rapids. She was released three days after with the assistance of two tugs sent from Montreal for the purpose, and towed up the river and into the canal.

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The day before the accident to the *Beaverton*, the steamer *MacTier* made the same miss, but fortunately had power enough to get back up the current, and made the entrance successfully on the second attempt.

Surveys and estimates for the improving of this entrance have been made and sent to the department.

MURRAY CANAL.

Length of canal proper, 5½ miles, including dredged entrances, 10 miles. Depth of water, 11 feet at low-water stage, lake Ontario.

The canal was opened for navigation April 21, and closed December 8, and was operated throughout the season without accident or delay to navigation.

RENEWALS AND REPAIRS.

All of the bridges on this canal (4) and the lighthouses on the entrance piers, received one coat of paint.

Some necessary papering and painting was done to the inside of bridgeworker's house at the Canadian Northern railway bridge.

A new cistern was built at the Overseer's house at Smithfield road bridge.

A blacksmith shop, 12 feet by 12 feet, was erected on the rear of the storeroom and carpenter shop.

All necessary repairs were made to bridges, stone protection, banks, and roads, and all catch-water ditches were kept clean and in good repair, grass and weeds kept cut, and banks generally were kept clean and neat.

Attached to this report are statements of fines and damages collected during the year, and record of highest and lowest water in river at each of the canals.

I have the honour to be, sir,

Your obedient servant,

C. D. SARGENT,

Superintending Engineer.

*STATEMENT of Fines and Damages in connection with "Ontario-St. Lawrence Canals" for the Year ending March 31, 1915.
CORNWALL CANAL.

Lock.	Date.	Name of Vessel.	Damage.	Fine.	Name of Owner.	Remarks.
			\$ cts.	\$ cts.		
	May 19	Steamer Avon	12 07		John Hannan	Paid June 15.
	Aug. 23	Steamer Simla	179 68	25 00	Montreal Transportation Co.	" Sept. 12.
	" 29	Steamer Keyvive	74 87		Keystone Transportation Co.	" Nov. 4.
G. Gates.	Oct. 26	Steamer John Lambert			Great Lakes & St. Law. T. Co.	" Nov. 29.
WILLIAMSBURG CANALS.						
	May 1	Steamer Canobia	14 85	15 00	Wilson-Patterson Co.	Paid May 7.
	" 30	Steamer Keywest	18 33	10 00	Keystone Transportation Co.	" July 13.
	July 19	Steamer Robert R. Rhodes	22 35	15 00	F. E. Hall & Co.	" Aug. 27.

RECORD of Highest and Lowest Levels of Water on the "Ontario-St. Lawrence Canals" for the Year ending March 31, 1915.

Months.	CORNWALL CANAL.		FARRAN'S POINT CANAL.		RAIDÉ PLAT CANAL.		GALOPS CANAL.		LIFT LOCK.	MURRAY CANAL.									
	Lock 21.		Lower Lock 22. Upper Lock 22.		Lock 23. Lock 24.		Lock 25. Lock 27.												
	High.	Low.	High.	Low.	High.	Low.	High.	Low.	High.	Low.									
1914.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.									
	18-9	16-1	16-7	15-7	18-8	18-1	18-5	17-1	17-8	16-4	22-9	20-0	17-3	15-4	18-2	16-0	14-2	13-5	
	16-3	15-8	16-7	16-0	19-0	18-4	18-7	17-8	18-2	17-2	17-2	18-0	20-0	17-7	16-3	17-9	16-5	13-7	
	16-2	15-7	16-6	16-0	19-0	18-3	18-6	18-0	18-1	16-6	21-5	20-4	16-9	16-0	18-0	16-7	14-3	13-8	
	16-1	15-6	16-4	15-9	18-8	18-4	18-5	17-0	17-8	16-6	21-2	20-4	16-8	16-2	17-8	17-2	14-2	13-9	
	15-8	15-4	16-3	15-5	18-6	17-9	18-8	18-0	17-4	16-7	20-7	19-8	16-9	15-9	17-6	16-6	13-9	13-5	
	15-6	15-0	16-2	15-4	18-4	17-6	18-6	16-9	17-4	16-2	20-8	19-5	16-3	15-6	17-1	15-6	13-7	13-0	
	15-8	14-6	15-6	15-0	17-8	17-1	18-0	17-3	17-1	16-4	16-8	15-8	16-4	14-7	17-0	15-6	13-1	12-3	
	15-1	14-4	15-8	14-8	17-8	16-8	18-0	17-0	17-6	15-2	20-4	18-3	17-3	14-5	17-2	14-9	12-8	12-0	
	19-4	14-0	16-0	13-7	17-2	15-6	17-6	15-9	14-7	17-0	13-6	19-7	17-4	17-7	14-0	17-5	14-0	12-5	12-0
	1915.	20-9	16-5	15-1	14-0	17-2	16-3	16-9	15-2	15-5	14-7	18-6	17-8	15-0	14-1	15-4	14-2	12-5	12-0
		23-7	18-3	15-9	14-1	17-3	16-3	17-7	16-7	15-6	13-2	18-3	16-2	14-8	13-8	15-3	13-8	12-5	12-3
18-9		14-9	16-7	15-0	18-6	17-1	18-9	17-3	17-0	16-0	15-0	18-4	15-5	14-0	15-8	15-0	12-6	12-3	

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REPORT OF SUPERINTENDING ENGINEER, ST. PETER'S CANAL.

CORNWALL, April 1, 1915.

SIR,—I have the honour to submit my annual report on the St. Peter's canal for the fiscal year ending March 31, 1915.

The canal was opened for the season's navigation on April 29, and closed on December 26.

The total number of vessels of all classes which passed through the canal was 1,648, of which 1,138 were registered and 510 unregistered.

The unregistered vessels were chiefly fishing boats and other small craft measuring from 2 to 10 tons burden.

On November 10 the steamer *Douglas H. Thomas*, while entering the lock from St. Peter's bay, collided with and slightly damaged one of the gates. The cost of repairs, amounting to \$10.80, was paid by the master of the vessel.

In June, a diver was employed for several days removing, repairing and replacing toe rollers, cleaning out lock bottom, and generally overhauling the valves, etc.

Some repairs were made to the circle of the swing bridge.

The swing bridge over the canal near the north end is a wooden structure, and has been in operation, I believe, nearly forty years. It is in very bad condition and will certainly have to be replaced with a new bridge very shortly.

IMPROVEMENTS.

The works of improvement, as designed, consist of the construction of a new lock and entrance at the Atlantic end of the canal.

This work, which is under contract with Mr. W. H. Weller, of St. Catharines, Ont., was commenced on May 4, 1912, and was carried on throughout the seasons of 1912 and 1913. Operations for the season of 1914 were resumed on June 8, and carried on till December 19, when the works were closed down for the season.

As a result of new borings taken in February, 1914, to more accurately determine the surface of the rock, it was found that by far the greater part of the new lock, as designed, would not rest on solid rock.

In view of this fact it was considered advisable by the department to adopt a new location for the lock and make a radical change in the location of the entrance. The change, however, will materially improve the Atlantic entrance, from an operating point of view. A supplemental agreement to the contract was accordingly drawn up embodying these changes, and signed by the contractor on June 17, 1914, authority for this having been given by Order in Council dated June 5, 1914.

The changes decided upon necessitated the closing of the canal to navigation for one year, and work under the new conditions was resumed, as above stated, on June 8, and the contractor immediately commenced making preparations for the unwatering of the canal.

On the outbreak of the present European war it was considered advisable by the department to keep the canal open for navigation, and orders to this effect were issued on August 11, 1914, and the contractor stopped all work in connection with the unwatering of the canal.

The work of excavating for a portion of the west entrance wall was continued, however, with the result that, when the works were closed down for the season, 400

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lineal feet of this wall, containing 4,200 cubic yards of concrete, had been constructed. The excavation for this wall, amounting to about 36,000 cubic yards, was carried on under adverse conditions owing to the lack of room to successfully operate the plant, and excessive leakage from the canal after the excavation had reached a considerable depth.

Considerable time also was lost in procuring suitable gravel in sufficient quantity for the concrete work, and one after another of the lake beaches were abandoned, good gravel being finally located in quantity in St. Peter's bay.

Confidently expecting that a sufficient quantity of suitable gravel could be obtained in the Bras d'Or lake, the contractor erected a large plant for the handling of gravel and the mixing of concrete at the north or lake entrance to the canal. This plant worked very satisfactorily, but in view of the fact that the remainder of the gravel will be obtained in St. Peter's bay, this plant is now being dismantled and transferred to the Atlantic entrance to the canal.

On the whole, a fair amount of work was accomplished under the existing conditions.

Until such time as the canal may be closed to navigation and unwatered, the only works of consequence which can be carried on are the trimming of the high upper slope and berm on the west side of canal and the placing of a quantity of back-filling in rear of concrete wall constructed.

I have the honour to be, sir,

Your obedient servant,

C. D. SARGENT,

Superintending Engineer, Ontario-St. Lawrence Canals.

REPORT OF SUPERINTENDING ENGINEER, RIDEAU CANAL.

OTTAWA, April 1, 1915.

SIR,—I have the honour to submit herewith, my report on the Rideau canal for the fiscal year ending March 31, 1915.

Navigation opened at Ottawa on May 1, 1914.

Navigation opened at Kingston Mills on May 1, 1914.

Navigation closed at Ottawa November 30, 1914.

Navigation closed at Kingston Mills November 17, 1914.

The unusually dry season last year was the cause of Lower Rideau lake falling below standard navigation depth, about the middle of October, navigation being thus partially interrupted for the last six or seven weeks of the season.

The question of water supply for dry seasons is getting to be more serious year by year, as the rain and snowfall for the past two years has been far below normal; and I trust that the department will shortly make arrangements to reconstruct some of the old reservoir dams that have for many years past been disused, in order to retain water to feed Rideau lake in dry seasons.

This will, of course, revive many claims for drowned lands; but if the canal is to be maintained, it appears to me that this situation must be considered.

The spring freshet has not yet commenced this year; but nearly all the snow has gone and the water has been gradually running away without the ice moving, so that, from present indications, there should be no flood at all this year.

I am, however, concerned at the present prospects for filling up Rideau lake by May 1, as the water is 4 feet below the required spring height at the present time; and, as above stated, the snow is nearly all gone, so that unless we have heavy rain or snow during the month, it is difficult to see where enough water is coming from to fill this lake (which is the sole reservoir from Smith's Falls to Ottawa). I have, of course, cautioned our officials at each storage point, to put in stoplogs and save all the water possible; but the conditions at the present time, added to those of last summer, are abnormal, so that we are faced, with a situation of exceptionally low water everywhere, together with no snowfall worth mentioning last winter to fill up our levels for the spring. However, I trust matters will mend in this respect soon.

The total number of lockages throughout the whole canal at all the lock stations was 41,487, as against 38,190 in 1913, an increase of 3,297; but this increase occurred between Ottawa and Long Island, and also at Poonamalie Lock station, and is largely due to the ever-increasing number of motor-boats. At Poonamalie lock, particularly, the number of lockages in 1914 amounted to 6,861, an increase of 1,259 over 1913. Throughout the rest of the line of the canal the number of lockages at the various stations was about the same as last year.

The principal works and repairs carried out along the line of the canal during the past fiscal year were as follows:—

Ottawa Lock Station (eight locks, one basin).—A new pair of lock gates was framed and hung in lock No. 1. New swing beams were placed on the upper gates of lock No. 8, and four new sluice frames were put in. A new upper mitre sill of concrete faced with steel plate, was put in lock No. 2. About 450 feet of wharf on the north side of the basin was rebuilt; and repairs were made to portions of the roadway round the basin. A new sidewalk was built in front of some of the wharf lots on Canal street. Repairs were made to the upper lock flats, which were regraded and sodded,

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and new concrete beds were laid for the crabs. A new hardwood floor was laid in the mens' room in the lock house. Sundry small repairs were made to the sluices and lock machinery.

A new concrete retaining wall, 2,475 feet long, was built last winter on the site of the old timber piling extending from Laurier bridge to the head of the Deep Cut, along the west bank of the canal; and a substantial iron railing was erected along its coping, throughout its entire length.

Ottawa East Bridge.—The swing span was refloored and some extra joists put in. The fixed spans were also reinforced, and repairs made to the rest piers and approaches to the bridge.

Bronson Avenue Bridge.—The roadway known as Echo Drive, on the south side of the canal between Bank street and Bronson avenue, a distance of about 3,000 feet, was raised, macadamized, and graded. The roadway across the dam from Bronson Avenue bridge to the Canadian Pacific Railway bridge was also gravelled and repaired. Some iron-pipe railing was erected at the north end of the bridge, and small repairs were made to the bridge-keeper's house.

Hartwell's Lock Station (two locks).—The roadway along the canal from the Canadian Pacific Railway swing bridge to the locks, a distance of about 2,250 feet, was raised, macadamized, and graded. The upper mitre sill of the lower lock was rebuilt in concrete with steel facing. Two new sluice frames were put in. Small repairs were made to the dry walling above the locks, also to one of the lock labourer's houses, and to the station in general.

Hogsback Lock Station (two locks, one swing bridge).—A lay-by pier, 160 feet long, was built below the locks. The east wing, gate recess and recess pier of the lower lock were taken down and rebuilt with cut stone. A new traveller, with stoplog lifting machinery, was built and placed on the east bulkhead.

Some dry walling was built on the edge of the cut below the locks. Some clay was placed on the dam, and small repairs were made to the machinery of the lower gates, to the swing-bridge approaches, and to the station in general.

Black Rapids Lock Station (one lock).—The retaining dam was reinforced with stone and clay; the latter being deposited by our dredge *Tay*. A crib was built on the east side of the river to brace the main wing dam; the former being filled with stone. Sundry small repairs were made to the station generally.

Long Island Lock Station (three locks, one bridge).—The head gates of the upper lock were taken out and new gates framed and hung in place. Two new swing beams were framed and placed on the middle lock gates. Two new sluice frames were also framed and put in place. The old stone lock house was taken down, and a new frame house built in its stead. The approaches on each side of the swing bridge were rebuilt with stone. Some gravel was placed in front of the waste weirs, both at the locks and also at Manotick bulkhead, and summary small repairs were made to the station in general.

Manotick Bridge.—The planking, joists, and guard rails of the three fixed spans of the bridge were renewed.

Wellington Bridge.—The planking, joists, and guard rails of the five fixed spans of the bridge were renewed, and the upper portion of the toe rest pier of the swing bridge was repaired.

Beckett's Landing Bridge.—The upper five courses of three of the timber piers were rebuilt and a new floor was laid on the swing span.

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Burrill's Rapids Lock Station (one lock, one bridge).—Portion of the retaining dam was rebuilt, and the pier on the north bank of the river was rebuilt in cement. A considerable quantity of clay was deposited by the dredge *Tay* in front of the above-mentioned dam. The old stone lock house was taken down and a new frame building was erected on the same site. Some of the coping on the lower wing walls of the lock was taken up and relaid in its proper place. The upper mitre sill was grouted with cement. The stone filling of the long wing crib below the dam was completed under contract with Mr. Z. Percival. Three new chain blocks were put in. The old wooden sidewalk between the bridge-keeper's house and the swing bridge was taken up and replaced with a granolithic sidewalk. Sundry small repairs were made to the station in general.

Nicholson's Lock Station (two locks, one bridge).—A new core wall of concrete was put in at the face of the stone retaining dam to staunch the leakage. Two new sluice frames were provided at the locks. The flooring of the swing bridge was renewed. The embankments were reinforced with clay. Some new wire fencing was erected round the station and sundry small repairs made generally.

Clowes Lock Station (one lock).—A new covering was placed on the waste weir, including new carriage and machinery for lifting stoplogs. Sundry small repairs were made to the station in general.

Merrickville Lock Station (three locks, two basins, two bridges).—One pair of gates was framed and put in at the head of the upper lock. The timber stoplog sill of the north weir was carried away about a week ago, but has been relaid with new timber bolted to the rock. The north wing wall of the upper lock was taken down and rebuilt in concrete and connected with the new concrete dam at present being built here.

A quantity of clay was placed in front of the retaining dam by the dredge *Tay* to staunch the leakage. The flooring of the Snye bridge was renewed.

The new concrete dam being built here under contract with Mr. John O'Toole, of Ottawa, is nearly completed, and is a fine structure which will answer admirably the purpose for which it is intended. This structure would have been completed much earlier had it not been for the delays occasioned by the power company in their work of building their power-house and installing the wheels and generators, which delays kept our work back, as the derricks and mixers used by the contractor for the Power Company occupied sites which prevented our work being completed until they were removed. However, I hope our work will be all finished by the middle or end of April at the latest.

Kilmarnock Lock Station (one lock, one bridge).—Sundry small repairs were made to the sluice machinery of the lock and to the station generally.

Edmonds Lock Station (one lock).—One new swing beam was placed on the lock gates. New crab bearers were framed, as well as five new stoplogs for the weir. A new working punt was purchased for the station.

Old Slys Lock Station (one lock, one bridge).—Some clay filling was placed on the upper lock flat on the north side. The stone retaining dam was repaired and pointed up with cement. Five new icebreaker cribs, filled with stone, were built above the waste weir. Sundry small repairs were made to the station generally.

Smith's Falls Combined Lock Station (three locks, one basin, two bridges).—The old wooden fence between the lock-house grounds and the park was taken down and a new wire fence erected. A new floor was laid on the swing bridge, and two new 9-inch by 13½ pound channel beams, reinforced with ½-inch plates, were put in to carry the turntable machinery, one of the old ones having cracked. New flooring and joists

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were laid on both fixed spans of the bridge below the basin. The roof of the storehouse was reshingled. A new flagpole was erected and a new Union Jack furnished. A new lay-by pier, 150 feet long, was built on the south side at the foot of the locks. Some more filling was put in on the south side of the basin, and small repairs made to the station generally.

Smith's Falls Detached Lock Station (one lock, one bridge).—A small concrete wall, 80 feet long, was built on the north side of the cut between the lock and the swing bridge, to hold up the filling which is being placed behind it. New joists and planking were laid on the swing bridge. Small repairs were made to the flooring of the fixed bridge. A new flagpole and Union Jack were furnished for the station, and sundry small repairs made generally.

Poonamalie Lock Station (one lock).—The old log fence below the lock house was taken down and replaced with wire fencing. A well, 21 feet deep, was dug here and lined with 24-inch cement pipe, thus furnishing this station and the public with good water, which had hitherto not been obtainable. A new concrete foundation was built under the lock-labourer's house, the old posts and sills having rotted away. Portion of the masonry wall on the north side of the upper cut was pointed, and the bank behind it levelled and graded. About 200 feet of dry-stone walling was built on the north side of the lower cut below the lock, between the lock itself and the wharf. A new bridge platform was built from the north weir to the north bank of the river, along the top of the dam. A new flagpole and Union Jack were furnished for the station.

Beveridge's Lock Station (two locks, one bridge).—The flooring of the swing bridge was replanked. Repairs were made to the entrance piers in the lake which had been lifted by ice. Some new fencing was erected round the station. Repairs were made to the lock sluices, a broken flange being replaced; and sundry small repairs were made to the station in general. A number of floating barrel buoys were placed at the lower entrance, and also along the river, between this station and the town of Perth.

Perth Branch (one basin, four bridges).—The work of improving the channel from Dowsens to Perth was continued last season. The rock shoals in the channel being drilled and blasted ahead of the dredge *Rideau*, which vessel followed up and removed the rock. Next season will finish this work. The new sidewalk on Drummond Street bridge was completed, but the town has made a very poor junction between their concrete sidewalk and our bridge, the former being badly out of line. About 40 feet of wall was rebuilt near Drummond Street bridge. The masonry piers of all four bridges were pointed. About 225 feet of the wharf in the basin was rebuilt. The usual repairs were made to the banks and tow-path roads, and Drummond and Beekwith Street bridges were replanked. About 800 feet of new fencing was erected, and the two storehouses were painted.

Oliver's Ferry Bridge.—The flooring, joists, guard rails, etc., of all the fixed spans of this long bridge were renewed.

The Narrows Lock Station (one lock, one bridge).—Some gravel was placed on the roadway across the dam, and sundry small repairs were made to the station in general. A new flagpole and Union Jack were furnished for the station.

Newboro Lock Station (one lock, one bridge).—Some new stoplogs were supplied for the cut, and sundry small repairs were made to the station in general. A new flagpole and Union Jack were furnished for the station.

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Chaffey's Lock Station (one lock, one bridge).—The lock was pumped out last winter, and extensive repairs were made to the masonry of the chamber walls, and both upper and lower mitre sills. A new flagpole and Union Jack were furnished for the station; and sundry small repairs made in general.

Davis's Lock Station (one lock).—Heavy repairs to the lock masonry were made last winter, the lock being pumped out for this purpose. The entire floor of the lock chamber was cleaned out and conereted. The lower mitre sill was repaired and re-conereted and bolted to the rock. At the upper end of the lock, both wing walls, gate recesses, piers, and manholes were taken down and rebuilt with new stone quarried and cut by our own men in our quarry at Westport last summer. A new flagpole and Union Jack were furnished for the station. Two new sluice frames were put in, and some new stoplogs framed for the upper wings of the lock. Sundry small repairs were made to the station in general.

Jones's Falls Lock Station (four locks, one basin, two bridges).—Extensive repairs were made to the lock masonry here last winter. Both the long upper wing walls, recesses, gate piers, manholes, and upper mitre sill of the upper combined lock were taken down and rebuilt of cut stone. The upper sill of the detached lock above the basin was repaired. Small repairs were made to the masonry of the lower and middle locks. Three pairs of lock gates were framed and hung in position, and two new sluice frames were also put in. Some clay and gravel was placed on the big dam. A new flagpole and Union Jack were furnished for the station. Small repairs were made to Morton dam and to the station generally.

Brass's Point Bridge.—The swing span was damaged last summer by being struck by the steamer *Waffle* before it had been opened. The damage was temporarily repaired immediately after the accident, and permanently during the winter, the cost of all the above mentioned repairs being paid to the department by the owners of the steamer, who were entirely responsible for the accident.

Brewers Upper Mills Lock Station (two locks, one basin, one bridge).—A new pair of gates was framed and hung in the lower lock. A new storehouse, 20 feet by 28 feet was built on the lower flat. A new concrete foundation was placed under one of the lock-labourer's houses. A new flag-pole and Union Jack were furnished for the station. Small repairs were made to the lock house and to the station generally.

Brewer's Lower Mills Lock Station (one lock, one bridge).—The flooring of the swing bridge was replanked. A new hardwood floor was laid in the kitchen of the lock house. A new flagpole and Union Jack were furnished for the station, and sundry small repairs were made to the station in general.

Kingston Mills Lock Station (four locks, one basin, two bridges).—The circular concrete wall on the south side of the basin which was in progress when I wrote my last report, has been completed. One new pair of lock gates was framed and hung in position, and two new sluice frames were framed. Repairs were made to the interior of the block house, under contract with Messrs. Kish & Caverly, of Cataragui, Ont. Four hundred and fifty cubic yards of stone were placed on the embankments; and repairs were made to the roadway below the dam. A new flagpole and Union Jack were furnished for the station. Small repairs were made to the masonry of the upper lock, to the sluices and to the station in general.

Bob's Lake Reservoir Dam.—No repairs were made to this dam last year.

Wolf Lake Reservoir Dam.—No repairs were made here last year. Since I wrote my last report, I am glad to state that the department purchased the mill dam below ours, from Mr. Derbyshire, so that now we have the absolute control of the discharge of water from Wolf lake.

General.—The usual spring repairs, consisting of pointing and grouting of the lock and bridge masonry, painting of lock gates, bridges, fences, etc., were made by our own lock labourers, as usual, after they came on duty for the season last April.

The heavy dimension stone for lock repairs was quarried by our own men last summer in Westport quarry, at which place it was also cut ready for building in the winter. It was freighted from Westport wharf to its various points of destination, partly by our own tugs and scows, and partly by boats chartered by us for the purpose.

The materials required for the year, such as cement, timber, paint, oil, etc., were procured for us by the purchasing agent of the department, after which we delivered them where required with our own tugs and scows.

A new Wettlaufer concrete mixer, mounted on steel frame, with engine and boiler, was purchased and added to our plant, and has given great satisfaction whilst working.

Dredging Plant.—The dredge *Rideau* continued the work last season, of clearing out the earth and rock shoals in the Tay branch of this canal, and did a good season's work. She wintered in the lower lock at Smith's Falls, where repairs were made to the mast, crane, and jack plank. Her hull is getting old, and is to be rebuilt next winter.

The tug *Loretta* was employed last season on her usual work of buoying out the channel, towing scows, delivering timber, stone, cement and other stores; and also on inspection work. She wintered in the Ottawa basin, and is now being fitted out for the coming season.

The dredge *Tay* was employed last season on the work for which she was specially built, i.e., the stauching of leakage through the retaining dams at the various lock stations. She did this work at Hogsback, Black rapids, Long island, Burritt's rapids, and Merrickville lock stations, and the results have been most satisfactory. She wintered in the Ottawa basin, with her scows, and is now being fitted out for the season.

The tug *Agnes* was employed last season in attendance on the dredge *Tay*, towing the dump scows, etc., and also at times towing scows laden with stores from point to point. She also wintered in the Ottawa basin, and is now being fitted out for the season. Our dredging plant, consisting of two tugs, two dredges, two side dumping and five flat scows, and one gasoline launch, is in good order, with the exception of the hull of the dredge *Rideau* which, as above stated, is to be rebuilt next winter.

A distressing accident occurred on the morning of the 7th September last, when Wm. Kelly, one of the deckhands on the tug *Loretta*, slipped off a raft of timber which the boat was towing; and being unable to swim, was drowned before assistance could reach him. His body was not recovered until the next day, although we had seven boats dragging the river-bed, as soon as grappling irons could be procured.

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The following is a statement of the highest and lowest water on the lower mitre sills of locks Nos. 1 and 47, at Ottawa and Kingston Mills lock stations respectively.

Ottawa, Lock No. 1.				Kingston Mills, Lock No. 47.			
Highest.		Lowest.		Highest.		Lowest.	
ft.	in.	ft.	in.	ft.	in.	ft.	in.
April 30.....	14 0	April 17.....	9 5	April 25-30.....	8 8	April 1.....	8 1
May 11-12.....	15 7	May 31.....	11 11	May 18-22.....	9 2	May 2.....	8 8
June 1.....	11 9	June 18.....	9 11	June 24-30.....	9 1	June 1-23.....	9 0
July 1-2.....	10 9	July 31.....	7 8	July 1-4.....	9 1	July 31.....	8 7
August 1.....	7 7	August 31.....	5 8	August 1-10.....	8 7	August 27-31.....	8 3
September 1.....	5 9	September 27-29.....	5 2	September 1-5.....	8 3	September 25-28	8 0
October 22-23.....	5 6	October 11-12.....	4 7	October 1.....	8 1	October 24-25.....	7 9
November 24.....	6 11	November 1.....	5 2	November 1-3.....	7 10	November 29-30	7 6
December 16.....	7 6	December 30-31.....	6 6	December 1-3.....	7 6	December 27-28	7 0
January 18.....	7 4	January 6.....	6 5	January 1-8.....	7 1	January 27-31.....	6 8
February 26-27.....	7 10	February 1.....	6 7	February 27-28.....	7 2	February 1-4.....	6 8
March.....27.....	8 6	March 15-16.....	6 5	March 31.....	7 7	March 1-4.....	7 2

I have the honour to be, sir,

Your obedient servant,

A. T. PHILLIPS, M. Can. Soc. C.E.,

Superintending Engineer.

REPORT OF THE SUPERINTENDING ENGINEER, TRENT CANAL.

PETERBOROUGH, June 14, 1915.

SIR,—I have the honour to submit my annual report for the fiscal year ended March 31, 1915, covering the work of construction chargeable to "Capital," Trent canal.

ONTARIO-RICE LAKE DIVISION.

This division extends from Trenton, on lake Ontario, to Rice lake, a distance of 56½ miles, a detailed description of which has been given in former reports.

For construction purposes the division has been divided into seven sections or contracts, the estimated value of which, as revised to date, is about \$5,100,000, on which there has been expended for work done and materials delivered up to the 31st March, 1915, the sum of \$4,640,118.47, or about 92 per cent of the estimated value of the seven contracts at their respective contract rates.

There are on the division eighteen locks, fourteen dams, and nineteen bridges. The locks are all finished and ready for the lock gates. The latter have been stepped in the first six locks above Trenton. The dams are fully completed with the exception of five sluices in the bottom of dam 10, Campbellford, which will not likely be completed until the high-level G.T.R. bridge immediately above the dam is built.

There are nineteen bridges on the division, one of which is across dam No. 10. They are built and in commission with the exception of two. The substructure of the Gilmour Siding bridge below lock 1 is only partly built, and the high-level bridge for the Grand Trunk at Campbellford has not yet been begun.

Section No. 1.—The contractors for this section, Messrs. Larkin & Sangster, fully completed the works embraced in their contract in December, 1913, and a final estimate for the contract, amounting to \$1,106,883.45, was sent in to the department in February, 1915.

Section No. 2.—This section extends from Glen Miller to Frankford, and the contractors, Messrs. Dennon & Rogers, have completed the work with the exception of about 20,000 cubic yards above grade of submarine excavation, which they should easily finish early this fall.

Section No. 3.—This section extends from Frankford to a point 3 miles west of Glen Ross. The work was let to the Canadian General Development Co., Ltd., who, on the 9th February, 1914, assigned the work to Fred. A. Robertson & Co. The latter, in the spring of 1914, built a small dredging fleet at Glen Ross for the purpose of completing the excavation on the section.

During the past season the contractors only excavated 6,770 cubic yards of earth, 104 cubic yards of loose rock, and 5,620 cubic yards of solid rock. As there is yet to be excavated above grade about 86,000 cubic yards of earth and 9,000 yards of rock it will take many years to complete the work unless the contractors bring in this season much heavier dredges, as their present machine is much too light to dig the material on the section.

Section No. 4.—This section extends from Adam's landing, a point 3 miles west of Glen Ross, to Campbellford. The contractors for the work, Messrs. Haney, Quinlan & Robertson, have practically completed the work on the section, with the exception of the dredging in Bradley bay.

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All the locks, dams, and bridges between Bradley bay and Campbellford are finished, with the exception of the bottom of several sluices in dam No. 10, which will not likely be completed until the Grand Trunk Railway high-level bridge is built.

No work has yet been done towards the construction of a high-level bridge for carrying the Grand Trunk railway across the river. The contract calls for the placing of a bascule span in the present bridge, but as this was objected to by the railway company, it has finally been decided to raise the bridge and track on each side of it so as to give for the present a clear head-room for navigation of 29 feet between normal water level and the lowest steel.

There has yet to be excavated about 190,000 cubic yards of dredging above grade in Bradley bay. As the gates are now stepped in the locks between Trenton and Frankford, the contractors are arranging to bring in dredges this summer to proceed with the work.

Section No. 5.—This section extends from Campbellford to Crow bay. The contractors for the work, Messrs. Brown & Aylmer, practically completed their work last year except a little dredging in the river channel below lock 13, which they were unable to do until we raised the water to normal navigation level in the Campbellford reach on the 24th March this spring, when the contractors immediately began dredging the balance of the excavation, which they hope to fully complete next month.

Section No. 6.—This section extends from Crow bay to Heeley Falls bridge. The contractors for the work, Messrs. Hancy, Quinlan & Robertson, have practically completed the work with the exception of about 28,000 yards of dredging, most of which is in the lower entrance of lock 15. They cannot do this work until dredges can be brought up the river. No boat or other large vessel can pass Campbellford until the Grand Trunk high-level bridge is built.

The Eastern Power Company's hydro-electric plant at Heeley Falls has been shut down since last fall, the reason given being that the plant was not required to carry the present small load on the company's system.

Section No. 7.—This section extends from Heeley Falls to Rice lake. The contractors, Messrs. Randolph Macdonald Co., Ltd., will fully complete the works embraced in their contract about the end of July this year.

BRIDGES.

Highway Bascule Bridge, Campbellford.—The superstructure of the bridge was manufactured and erected by the Hamilton Bridge Works Co., Ltd., and placed in commission on the 21st March, 1913. The Canadian General Electric Company manufactured and erected the electrical equipment for the bridge, and completed the same in July, 1914.

Railway Bascule Bridge, Campbellford.—This bridge is for carrying the Northumberland Paper Mills railway siding over the canal at Campbellford. The superstructure was manufactured and erected by the Hamilton Bridge Works Co., Ltd., and completed in May, 1914. The electrical equipment for operating the bridge was manufactured and erected by the Canadian General Electric Company, who completed their work at the end of May, 1914.

Bridges for Severn Division.—In May, 1915, a contract was awarded to the Hamilton Bridge Works Co., Ltd., for the manufacture and erection of highway swing bridges over the Port Severn lock and at the Muskoka road crossing near Washago, and also for a single-track swing bridge for the Canadian Northern Railway crossing near Washago. These bridges will be manufactured and erected this summer.

VALVES FOR LOCKS.

The Dominion Bridge Co., Ltd., completed their contract for the wagon valves required for the Ontario-Rice lake division and the Rosedale lock in July, 1914. A final estimate for the work, amounting to \$105,490, was returned to the department on the 27th July, 1914.

On the 1st June, 1915, a contract was entered into with the Dominion Bridge Company for the manufacture and erection of the wagon and cylindrical valves required for the locks of the Severn division, and the new lock to be built at Bobcaygeon.

LOCK GATE OPERATING MACHINES.

On the 21st May, 1915, a contract was entered into with the Wm. Hamilton Company for the manufacture and erection of the lock gate operating machines, anchorage fittings, and pivots required for the lock gates of the Severn Division locks, and the Bobcaygeon lock.

LOCK GATES.

On the 8th August, 1913, a contract was entered into with Messrs. Roger Miller & Sons, Ltd., for the manufacture and erection of the lock gates for the Ontario-Rice lake division.

The contract calls for the construction and erection in the locks of thirty-two pairs of gates, and the construction and storing of eight pairs of spare gates. The total value of work done and materials delivered up to the 31st March, 1915, amounted to \$230,277.93.

All the gates have been manufactured and launched, and those for the first six locks above Frankford have been stepped, painted, and finished, and those for the locks between Glen Ross and Heeley Falls are now lying in the upper entrance of lock 6 at Frankford ready to be towed up the river and stepped in their respective locks as soon as the dredging of the shoals in the river between Frankford and Glen Ross permit doing so. It is the intention to step the gates in locks 7 to 12, both inclusive, as soon as it is possible to get up the river with them, but the gates for locks 13 to 17, inclusive, cannot be stepped in the locks until the Grand Trunk Railway high-level bridge is built at Campbellford, as the gate pontoon cannot pass the present low-level bridge.

The lower gates of lock 1 were stepped in position on the 14th August, 1914; and the lower gates of lock 6 on the 1st September, and the upper gates on the 9th November, three days after the canal between lock and dam 6 was filled with water.

The spare gates have all been completed and sunk in a berth prepared last summer for them above dam No. 2 at Trenton.

PONTOON GATE LIFTER.

On the 2nd September, 1913, a contract was entered into with Messrs. M. Beatty & Sons, Ltd., for the manufacture and erection, complete, of a steel pontoon gate lifter for stepping the lock gates of the Ontario-Rice lake division.

A description of the machine was given in last year's annual report. It was completed at a cost of \$25,580 and delivered at Trenton on the 19th July, 1914. Its operation has met all expectations, the total time for stepping a gate leaf from picking it up in the water to releasing it in the gate recess varies from twenty minutes for an upper leaf, to forty minutes for a lower one.

FENELON FALLS DAM.

A contract for the construction of a new concrete dam at Fenelon Falls to replace the old wooden one at that point was entered into on the 12th June, 1913, with Messrs. McPhee & Kehoe. The work was satisfactorily completed in September, 1914, and a final estimate amounting to \$35,095.68 was returned to the department on the 28th October, 1914.

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BOBCAYGEON.

In the fall of 1913 a survey was completed at Bobcaygeon for the purpose of preparing plans and specifications for the construction of a new lock at this point to the same dimensions as those of the Ontario-Rice lake division. Tenders for the work were received by the department on the 17th August, 1914, but owing to the European war the execution of the work has been indefinitely delayed.

SEVERN DIVISION.

A description of the division was given in last year's report. For construction purposes it has been divided into four sections, three of which are under contract, and the plans and specifications for section No. 1 will be completed this month.

Port Severn Section.—This section comprises the construction at Port Severn of a lock of 14½ feet lift, 100 feet long between hollow quoins, and 25 feet wide, with 6 feet depth of water on the mitre sills, and the main regulating dams at the mouth of the river, together with several smaller dams in the immediate vicinity of Port Severn and the necessary excavation at the upper and lower entrances of the lock for providing a channel 6 feet deep at normal water level.

A contract for the work was entered into with the York Construction Co., Ltd., on the 24th September, 1913. The total value of work done and materials delivered up to the 31st March, 1915, was \$104,615.65, or 72 per cent of the total value of the work.

It is expected that the Port Severn lock will be ready to be placed in commission next month, and that the works embraced in the contract will be fully completed early this fall.

Section No. 2.—This section extends from the upper end of section 1 at Big Chute to a point about one-half mile above Macdonald's rapids, a distance of about 11½ miles. The work includes a dam on Pretty channel, north of the Big Chute; a dam about 70 feet high, with a lock of 47 feet lift, and power-house at Swift rapids; and the reconstruction of the Canadian Northern Railway bridge at Ragged rapids, together with a lot of granite rock excavation.

A contract for the work was entered into with the Inland Construction Co., Ltd., on the 23rd April, 1914. The total value of work done and materials delivered up to the 31st March, 1915, was \$228,119.84, or 32 per cent of the total value of the contract. The principal work done to date is excavation, the whole of which is practically finished for the foundations of the structures at Swift rapids. The concrete in the foundation of Swift rapids dam has also been built, and part of the upper entrance piers of the lock. It is expected that the greater part of the structures at Swift rapids will be built this summer.

Section No. 3.—This section extends from the upper end of section 2 to deep water in Couchiching lake, a distance of about 15½ miles. The contract includes a lock of 20 feet lift, two highway swing bridges, one railway swing bridge, and several small dams at the head of the river in the vicinity of Washago, together with a large quantity of earth and rock excavation.

A contract for the work was entered into with the Randolph Macdonald Company on the 4th August, 1914. The total value of work done and materials delivered up to the 31st March, 1915, was \$37,212, or .04 per cent of the total value of the work.

Since the commencement of operations this spring the contractors have materially increased their excavation plant, and it is now expected that a large quantity of material will be taken out this season. The Muskoka road and the Canadian Northern Railway swing bridges will be built this summer, and it is also expected that the foundation of the Couchiching lock will be laid this fall.

STREAM MEASUREMENT.

In last year's annual report a short description of the Trent watershed was given, and also the results of the stream measurement for the Trent and Crow rivers over sharp-crested weirs built at Heeley Falls on the Trent in November, 1911, and at the mouth of the Crow river in October, 1910.

Attached to this report are tables showing the discharge over the weirs for the calendar year 1914. A table is also given representing the discharge over the Heeley Falls and Crow weirs jointly, this being the discharge or flow of the Trent river at Campbellford.

There is also attached a table giving the total actual monthly discharge in cubic feet from the weir measurements, and the deduced flow in cubic feet per second at each of the three foregoing places.

For the year 1914 the Peterborough rainfall was 24.18 inches, or equal to 1.75 cubic feet per second per square mile.

The Heeley Falls watershed, with an area of 3,705 square miles, thus shows a total rainfall for the year of $3,705 \times 1.75 = 6,595$ cubic feet per second.

The Crow River watershed, with an area of 620 square miles, thus shows a total rainfall for the year of 620×1.75 , or 1,104 cubic feet per second.

These two results show a total of 7,699 cubic feet per second.

From the figures given in this report for the year 1914 the ratio of "run-off" to "rainfall" for the Heeley Falls watershed is equal to 28.4 per cent, for the Crow River watershed, 33.2 per cent, and for the flow past Campbellford, 29.1 per cent.

The average rainfall at Peterborough for the past fifteen years is about 31.4 inches. It will thus be seen that the rainfall for 1914 is below the average.

LAKE SURVEYS.

Very little work was done last year on the hydrographic survey begun several years ago of the chain of lakes which form the Trent waterway. The field work done to date has, however, been fully plotted, and tracings of the plans begun. With the completion of the preparation of the plans and specifications for the Severn division, and also the approaching completion of several sections on the Ontario-Rice lake division, the services of several members of the engineering staff will soon be available for this work, when it is the intention to proceed more energetically with the survey of the lakes.

Five photographs of the work on section 2, Severn division, are enclosed herewith.

I am, sir,

Your obedient servant,

ALEX. J. GRANT,

Superintending Engineer.

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DAILY Discharge of the Trent River at Heeley Falls for 1914. Flow per Second.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	2,225	2,122	1,852	5,890	1,853	2,959	1,438	1,629	1,318	1,143	1,105	1,117
2.....	2,062	2,032	1,894	6,306	1,990	2,673	1,324	906	1,162	1,129	1,094	1,117
3.....	2,062	2,096	2,018	6,504	2,179	2,652	1,027	1,143	1,019	1,128	1,403	1,117
4.....	1,879	2,133	1,919	6,504	2,078	2,473	1,206	1,329	1,296	1,336	1,027	1,098
5.....	2,039	1,982	1,873	6,496	1,963	2,408	1,501	650	1,151	1,670	1,444	1,045
6.....	2,081	1,959	1,653	6,397	1,937	2,169	1,440	729	940	1,365	1,786	973
7.....	2,081	1,767	1,666	5,896	1,877	2,176	1,379	755	1,270	1,410	1,101	1,171
8.....	2,081	2,354	1,478	5,740	2,120	2,332	1,484	952	1,325	1,222	1,067	1,446
9.....	2,001	2,278	1,639	5,613	2,139	2,201	1,399	579	1,274	1,202	1,153	484
10.....	2,081	1,719	1,871	5,491	2,303	2,036	1,294	954	978	1,051	979	639
11.....	1,720	1,691	1,917	5,552	2,208	1,967	1,265	751	960	871	1,139	954
12.....	1,811	2,390	1,959	5,454	2,208	1,998	1,470	859	986	696	1,028	804
13.....	1,925	2,383	1,894	5,398	2,303	2,053	1,382	967	1,581	1,596	1,114	771
14.....	1,967	2,381	2,001	4,282	2,512	1,906	1,767	726	1,534	1,275	1,195	1,059
15.....	2,526	2,253	2,089	3,733	2,538	1,942	1,807	1,121	1,490	1,115	1,165	1,211
16.....	3,331	2,280	2,276	3,866	2,611	1,683	1,229	842	1,155	775	1,270	999
17.....	2,932	2,230	2,323	3,418	2,584	1,516	1,243	1,142	1,155	1,158	1,539	1,071
18.....	2,460	2,639	2,369	3,345	2,611	1,390	1,391	1,123	1,152	1,133	1,473	1,098
19.....	2,460	2,010	2,567	4,652	2,611	1,398	1,456	1,095	1,112	1,351	1,098	904
20.....	2,460	2,074	2,764	4,511	2,611	1,326	1,452	1,086	960	1,140	1,045	904
21.....	2,419	2,051	2,813	4,110	2,656	1,257	1,380	989	1,261	1,130	1,020	1,033
22.....	2,327	2,132	2,627	4,357	2,755	1,229	1,294	688	1,900	1,054	1,098	1,059
23.....	2,468	2,095	2,514	2,946	2,782	1,214	1,281	1,063	1,536	1,496	1,136	1,448
24.....	2,419	2,421	2,460	2,960	2,776	1,232	1,257	1,180	1,296	1,322	1,919	1,035
25.....	2,441	2,329	2,454	2,283	2,681	1,278	1,227	990	1,221	1,173	1,459	904
26.....	2,308	2,329	2,528	2,498	3,178	1,224	939	1,213	1,213	1,479	1,440	1,045
27.....	2,139	2,003	2,813	2,653	3,228	1,235	1,187	956	1,253	1,293	1,246	1,011
28.....	2,116	1,879	3,311	2,522	3,125	1,064	1,263	996	1,292	1,224	1,189	1,063
29.....	2,115	.....	4,197	2,209	3,026	1,185	1,594	1,053	1,718	1,224	1,098	984
30.....	2,198	.....	4,710	1,453	3,073	1,199	901	594	1,583	1,145	1,045	973
31.....	2,024	.....	5,093	.....	2,979	.....	1,105	1,399	.....	1,234	.....	1,273
	69,078	60,014	75,534	133,041	77,397	53,475	41,394	29,850	37,815	37,541	36,918	31,410
Mean.....	2,228	2,143	2,437	4,435	2,497	1,782	1,335	963	1,260	1,211	1,231	1,013
Highest.....	2,331	2,639	5,093	6,504	3,228	2,959	1,807	1,399	1,718	1,670	1,786	1,446
Lowest.....	1,720	1,691	1,478	1,453	1,877	1,064	901	579	960	696	979	484

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DAILY DISCHARGE of the Crow River for 1914. Flow in Cubic Feet per Second.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	242	288	288	1,402	1,588	536	206	155	160	117	99	86
2.....	217	280	288	1,575	1,563	520	235	155	160	113	99	93
3.....	223	280	280	1,740	1,524	486	268	150	165	113	99	93
4.....	235	281	280	1,740	1,501	453	248	150	171	109	99	99
5.....	242	280	275	1,728	1,464	413	235	150	171	106	102	99
6.....	248	280	261	1,715	1,464	382	217	155	171	106	102	96
7.....	248	302	255	1,715	1,464	396	206	155	171	106	99	93
8.....	255	316	248	1,626	1,464	405	206	155	171	106	96	93
9.....	255	338	242	1,525	1,297	421	199	150	171	106	89	96
10.....	255	352	242	1,428	1,158	429	193	150	165	106	86	102
11.....	260	352	242	1,331	1,024	437	193	150	165	102	89	106
12.....	275	360	242	1,215	889	453	176	150	160	99	96	106
13.....	288	367	242	1,114	857	461	160	165	155	99	99	106
14.....	294	367	242	1,015	836	469	146	171	150	99	99	106
15.....	316	344	235	909	808	477	155	171	144	99	96	106
16.....	338	316	235	982	817	486	165	171	140	99	93	102
17.....	360	294	229	1,067	826	477	182	171	144	99	93	102
18.....	383	302	229	1,158	836	461	176	171	144	99	93	99
19.....	405	309	242	1,181	846	453	171	165	150	96	93	99
20.....	429	309	255	1,193	777	390	165	165	144	96	93	99
21.....	453	302	268	1,215	690	345	160	160	135	93	93	99
22.....	453	294	261	1,226	617	294	165	155	131	93	93	99
23.....	453	294	255	1,272	554	254	163	155	131	89	93	99
24.....	421	294	248	1,308	563	229	171	150	131	89	93	96
25.....	405	294	242	1,355	581	211	171	150	131	89	93	96
26.....	383	294	288	1,367	595	188	165	150	131	93	89	93
27.....	367	294	330	1,391	607	171	160	155	126	93	86	93
28.....	344	294	333	1,403	595	171	155	155	122	96	86	96
29.....	323	.....	589	1,476	589	176	155	155	122	96	86	99
30.....	294	.....	836	1,537	573	176	155	160	117	99	86	99
31.....	294	.....	1,102	.....	554	.....	155	160	.....	99	.....	99
Mean.....	9,959	8,677	9,864	40,909	29,521	11,220	5,679	4,880	4,449	3,104	2,812	3,049
Highest.....	453	367	1,102	1,740	1,588	536	268	171	171	117	102	106
Lowest.....	217	280	229	909	554	171	146	150	117	89	86	86

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DAILY DISCHARGE for the Trent River at Campbellford for 1914. Flow in Cubic Feet per Second.

Days.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	2,467	2,410	2,140	7,292	3,441	3,495	1,644	1,184	1,478	1,260	1,204	1,203
2.....	2,279	2,312	2,182	7,881	3,553	3,193	1,559	1,061	1,322	1,242	1,193	1,210
3.....	2,285	2,376	2,268	8,244	3,703	3,138	1,305	1,293	1,184	1,241	1,502	1,210
4.....	2,114	2,414	2,199	8,244	3,579	2,926	1,454	1,479	1,467	1,445	1,126	1,197
5.....	2,281	2,262	2,148	8,224	3,429	2,821	1,736	800	1,322	1,776	1,546	1,144
6.....	2,249	2,239	1,916	8,112	3,401	2,551	1,657	875	1,111	1,471	1,888	1,069
7.....	2,329	2,069	1,921	7,611	3,341	2,572	1,585	910	1,441	1,516	1,209	1,264
8.....	2,336	2,670	1,726	7,366	3,584	2,737	1,690	1,107	1,496	1,328	1,193	1,539
9.....	2,256	2,616	1,881	7,138	3,436	2,622	1,598	729	1,445	1,308	1,244	580
10.....	2,336	2,071	2,113	6,919	3,461	2,465	1,487	1,104	1,143	1,157	1,065	741
11.....	1,981	2,043	2,159	6,883	3,232	2,404	1,458	901	1,125	973	1,228	1,060
12.....	2,086	2,750	2,201	6,669	3,097	2,451	1,646	1,009	1,146	795	1,124	910
13.....	2,213	2,752	2,136	6,512	3,160	2,514	1,542	1,132	1,736	1,695	1,213	877
14.....	2,261	2,748	2,243	5,297	3,348	2,375	1,913	897	1,684	1,374	1,294	1,165
15.....	2,842	2,597	2,394	4,642	3,346	2,419	1,962	1,292	1,634	1,214	1,261	1,317
16.....	3,669	2,596	2,511	4,848	3,428	2,169	1,394	1,013	1,295	874	1,363	1,173
17.....	3,292	2,524	2,552	4,485	3,410	1,993	1,427	1,313	1,299	1,257	1,632	1,173
18.....	2,843	2,941	2,598	4,503	3,447	1,851	1,567	1,294	1,296	1,232	1,571	1,197
19.....	2,865	2,319	2,809	5,833	3,457	1,851	1,627	1,260	1,262	1,447	1,191	1,003
20.....	2,889	2,383	3,019	5,704	3,388	1,716	1,617	1,251	1,104	1,236	1,138	1,003
21.....	2,872	2,353	3,081	5,325	3,346	1,602	1,540	1,149	1,426	1,223	1,119	1,132
22.....	2,780	2,426	2,888	5,583	3,372	1,523	1,459	843	1,731	1,147	1,191	1,158
23.....	2,921	2,389	2,769	4,218	3,336	1,568	1,446	1,218	1,661	1,586	1,229	1,147
24.....	2,840	2,715	2,708	4,268	3,339	1,461	1,428	1,330	1,427	1,411	2,012	1,131
25.....	2,846	2,623	2,696	3,640	3,262	1,489	1,398	1,140	1,352	1,262	1,552	1,000
26.....	2,691	2,623	2,816	3,865	3,773	1,412	1,104	1,363	1,344	1,572	1,529	1,138
27.....	2,596	2,297	3,143	4,044	3,835	1,406	1,347	1,111	1,379	1,386	1,332	1,104
28.....	2,460	2,173	3,694	3,925	3,720	1,235	1,418	1,151	1,414	1,326	1,275	1,150
29.....	2,438	.....	4,786	3,685	3,615	1,361	1,749	1,208	1,840	1,320	1,184	1,083
30.....	2,492	.....	5,546	2,990	3,546	1,375	1,056	754	1,700	1,244	1,131	1,072
31.....	2,318	.....	6,195	.....	3,523	.....	1,260	1,559	.....	1,333	.....	1,372
Total.....	79,037	68,691	85,398	173,950	106,918	64,695	47,673	34,730	42,264	40,645	39,730	34,459
Mean.....	2,549	2,453	2,755	5,799	3,449	2,150	1,518	1,120	1,408	1,311	1,325	1,111
Highest.....	3,669	2,941	6,195	8,244	3,835	3,495	1,962	1,559	1,840	1,776	2,012	1,539
Lowest.....	1,981	2,043	1,726	2,990	3,097	1,235	1,056	729	1,104	795	1,065	580

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TOTAL FLOW of the Crow River and the Trent River at Heeley Falls and Campbellford for 1914.

Month.	CROW RIVER.	HEELEY FALLS.	CAMPBELLFORD.	Remarks.
	Millions of Cubic feet.	Millions of Cubic feet.	Millions of Cubic feet.	
January.....	859-77	5,967-47	6,827-24	
February.....	748-23	5,172-42	5,920-65	
March.....	851-73	6,527-26	7,378-99	
April.....	3,535-50	11,495-50	15,031-00	
May.....	2,549-84	6,687-97	9,237-81	
June.....	969-41	4,618-95	5,588-36	
July.....	490-15	3,575-66	4,065-81	
August.....	420-51	2,579-30	2,999-81	
September.....	383-62	3,265-92	3,649-54	
October.....	267-84	3,243-54	3,511-38	
November.....	243-65	3,190-75	3,434-40	
December.....	262-48	2,713-22	2,975-70	
Totals.....	11,582-73	59,037-96	70,620-69	Millions of cubic feet.
Average rate of flow for the year.....	367-29	1,872-07	2,239-36	Cubic feet per second.

The above figures are from weir measurements.

REPORT OF THE SUPERINTENDENT, TRENT CANAL.

PETERBOROUGH, June 4, 1915.

SIR,—I have the honour to submit the annual report on the maintenance and operation of the Trent canal, for the year ending on the 31st March, 1915.

The extent of waterway open to navigation is the same as last year, namely, 160 miles from Trent Bridge to Washago, in addition to which other channels are maintained, approximating 90 miles.

OPENING AND CLOSING OF NAVIGATION.

	Opened.	Closed.
Hastings to Rice Lake.....	April 7	November 28
Rice Lake to Peterborough.....	April 25	December 5
Peterborough to Lakefield.....	May 13	November 19
Peterborough Lift Lock.....	May 13	November 7
Lakefield to Bobcaygeon.....	April 29	November 19
Bobcaygeon to Rosedale.....	May 12	November 19
Kirkfield Lift Lock.....	May 11	October 29
Kirkfield to Lake Simcoe.....	May 11	November 10
Lake Simcoe to Orillia.....	May 1	November 17
Seugog River and Lindsay Lock.....	April 15	November 18

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The following work was performed on the several divisions of the canal, during the year:—

HEELEY FALLS TO BOBCAYGEON.

REPAIRS.

Peterborough Lift Lock.—The cut-off devices which automatically retard the descent of the chambers during the last twelve feet of their travel had been in disuse for some years owing to their failure to work satisfactorily. These devices were improved and are now working satisfactorily.

The gratings of the penstocks becoming blocked with floating weeds prevented the pumps from automatically maintaining the accumulator. A device to indicate the position of the piston in the accumulator was placed upon the east tower in full view to the operator.

The interior of the west chamber was thoroughly cleaned and painted. Nine different kinds of paint were used to determine the paint best suited to stand this extraordinary service.

Locks and Lockgates.—Some of the face stones in the lock wall at Young's point, which had become loosened in their beds, and protruded beyond the face of the wall, were jacked back to place, shimmed, and grouted. A large quantity of gravel was removed from the lock chamber.

In order to dry that portion of the canal prism at Lakefield which is used as a dry dock, a drain was cut in the bottom of the prism and through the breast wall above the lock.

Concrete armpits were built at locks Nos. 2 and 5, and the arm pits at Burleigh repaired.

A number of boulders were removed from the upper entrance to the lock at Buckhorn.

Lockgates at locks Nos. 2, 3, 4, and 5 were painted.

Watch houses at lock No. 6 and Peterborough lift lock were painted.

Booms, Slides and Dams, Navigation Waters.—Two of the north dams at Lovesick were rebuilt, and the deck repaired upon the third.

The deck of the dam at lock No. 7 was renewed, and repairs made to the east abutment.

Stoplog gains were repaired, and other minor repairs made to dams at locks Nos. 1, 2, 3, 4, 5, and Nassau. New stoplogs were provided and dam piers filled with stone where required.

Glance booms were placed above the upper entrance piers at lock No. 2. Other booms were maintained in repair.

An examination, by diver, revealed the fact that the foundations of the dams on the Otonabee river are slowly becoming undermined.

Entrance Piers.—Canal entrance piers above the Burleigh locks were rebuilt, and the pier above the lock at Lovesick was replanked. The icebreaker pier above the canal at Buckhorn was rebuilt.

Banks.—A slip on the face of the high east embankment at Peterborough lift lock was repaired by placing stone slope drains to collect the seepage, and by benching, filling, and sodding. Other stone drains were placed on the bermes, in places leading to pipe drains to carry the seepage down the lower slope.

A quantity of stone was placed on the embankment forming the approach to the bridge at Perry's creek, Burleigh.

Riprapping and rubble walls at several points were repaired.

A sand shoal, formed in the canal prism below the Peterborough lift lock, was removed.

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Bridges.—The highway bridge at Burleigh was replanked, and other repairs made to the tower posts. Two-inch top planking was placed on the highway bridges at Trent river, and lock No. 7, Peterborough. Minor repairs were made to bridges at Maria street, Peterborough, Norwood, Warsaw, Nassau, Lakefield, and Bridgenorth.

Steel bridges at the following places were repainted: Bensfort, Wallace Point, No. 7, Maria street, Norwood, Warsaw, Nassau, Lakefield, Young's Point, and Bridgenorth.

Nassau Guard Gate.—Due to the water in the reach above Nassau being drawn down on the morning of the 7th of December, the hinges of the guard gate at that place were broken. To effect repairs it was necessary to unwater the reach above Nassau, thereby shutting down the C.G.E. power-house from the 21st to the 27th. New hinges and curtain plates were placed upon the gate, and the hood casting replaced. The bottom stick of the gate, 52 feet by 12 inches by 12 inches oak, was broken, but was left in place.

The watch house at Trent Bridge was moved to government property, raised and painted.

INCOME IMPROVEMENTS.

Dredging.—Obstructions to navigation, consisting of boulders and shoals formed at the lower entrances to locks Nos. 5, 3, and 2 were removed.

A tortuous bit of channel at Henderson's narrows, between Lakefield and Young's point, is being straightened.

Booms, Slides and Dams—Reservoir Waters.—The south abutment of Rottle Lake dam was rebuilt, and the deck repaired.

A new deck was placed on Missassauga Lake dam, and other minor repairs were made. A quantity of gravel was placed above the dam.

Extensive repairs were made to Scott's Mills slide, and repairs made to the dam at the same place.

Necessary repairs were made to Squaw River dams, Nos. 1 and 2.

BOBCAYGEON TO BALSAM LAKE.

REPAIRS.

Locks and Lockgates.—Owing to the leaky condition of the Bobcaygeon lock, two auxiliary valves were placed in the upper gates to permit of the lock being operated. This lock is in such a state of repair that it is not advisable to attempt any further repairs.

The walls of the lower chamber of the lock at Fenelon Falls were pointed between the high and low-water levels. The lower sill of this lock was repaired by diver.

Bridges.—The old wooden swing bridge across the lower entrance to the lock at Lindsay, which failed on the 28th of May, 1914, was temporarily repaired, replanked, and supported by timber bents. A new steel swing span will shortly be erected to replace this bridge.

The bascule bridge on Wellington street, Lindsay, was replanked with 2-inch oak.

The Op bridge, Lindsay, was repaired, replanked, and a watch house built.

INCOME IMPROVEMENTS.

Dredging.—The turning basin at the town wharf, immediately below the lock at Lindsay, was drilled, blasted, and dredged to a depth equal to the depth on the sills of the Lindsay lock. A rock point projecting into the channel in the Scugog river, near the box factory, which had been drilled and blasted in 1913, was removed by the dredge.

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A shoal in Cameron lake, near the lower entrance to the canal at Rosedale, was partly removed. Seventy feet were taken off the southerly end of this shoal, thereby considerably straightening the approach to the canal at Rosedale.

Drilling and Blasting.—The drill boat was engaged in drilling and blasting at the upper entrance to the canal at Bobcaygeon during the month of August. This work, though confined to the area within the 6-foot contour, was done with a view to being excavated to 9-foot depth, and will form part of the upper entrance to the proposed new canal at that point.

Booms, Slides and Dams—Reservoir Waters.—Provision was made in the estimates for 1914-15 for the reconstruction of dams at Hall's lake, Crab lake, and Percy lake.

Hall's Lake Dam.—This dam is one which this department undertook by the terms of an Order in Council, dated 16th of February, 1906, to maintain for all time. As this dam was in a dilapidated condition, it was torn down, and a new concrete structure built. Work was started on the 22nd of August, and completed on the 19th of November. The timber slide below this dam was also repaired and improved.

The dam at Crab lake, which was also in a dilapidated condition, was torn down and rebuilt of timber hewn on the ground. Work on this dam was started on the 20th of November, and completed on the 23rd of February.

Percy Lake dam was not rebuilt.

Extensive repairs were made to the following dams: Norland, Elliotts, Grace lake, and Farquhar lake.

Minor repairs were made to the following: Kushog, Workmans, Hawk lake on Gull river, Little Bear lake, Stormy lake, and to Devil's lake on Burnt river.

BALSAM LAKE TO LAKE SIMCOE.

REPAIRS.

Kirkfield Lift Lock.—The machinery room in the centre pier of this lock, which has been exposed to the weather since the construction of the lock, was inclosed with wooden and glass partitions.

In order to confine the seepage through the rock cutting forming the walls of the lower levels of the lock, concrete drain walls were constructed on either side of the lock, which carry this water to the walls about the presses.

Dams.—The dam at Victoria road was re-gravelled.

Entrance Piers.—A quantity of stone was placed on the slopes of the entrance piers in lake Simcoe.

Bridges.—Bridges at the following places were re-planked: Portage road (Kanes), lock No. 5, and Lake Shore road. Two-inch top planking was placed upon the bridge across the Grass river, east of Kirkfield.

Bridges at the following places were painted: Victoria road, high-level (Portage road) Balsover, Boundary road, Portage road (Kanes), lock No. 5, and Lake Shore road.

Balsam Lake Guard Gate.—A dam was placed across the canal near Balsam lake, and the canal unwatered from there to Kirkfield, in order to make necessary repairs to the Balsam guard gate. The broken hinges on these gates were repaired, and additional hinges put on. New valves were also placed in the gate, and the gate was equipped with arms and winches. Curtain plates were also placed upon this gate.

While the canal was unwatered, stoplog gain abutments, with sill and post holes, were placed immediately east of the guard gate to facilitate unwatering in the future.

Obstructions were removed from the canal bottom near the high-level bridge on the Portage road.

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A quantity of stone protection was placed on the exposed parts of the Fourth Concession road, through the drowned lands.

Fences were built on a short piece of raised road through drowned land at Fry's mill, and all bridge approach fences were painted.

INCOME IMPROVEMENTS.

Building Woodsheds.—Woodsheds were built at the lockmasters' houses at locks Nos. 2, 3, and 4.

Cleaning Drowned Lands.—Two crews were engaged in the months of January and February in clearing the dead timber off the drowned lands near the high-level Portage Road bridge, and near the Fourth bridge.

HOLLAND RIVER DIVISION.

The approaches to the Queensville bridge were repaired and the bridge replanked.

GENERAL.

Bridge guards.—Guards to protect highway traffic against open bridges were placed upon all bridges on the system, with the exception of bridges at the lake Simcoe Lake Shore, and Thorah-Eldon Boundary road. These bridges will be equipped at once.

Buildings.—Lockmasters' houses, watch houses, and other buildings were maintained in repair.

Aids to Navigation.—Lighthouses and buoys were painted and maintained as usual. New buoys were placed in the Otonabee river below Peterborough.

Other work, such as cleaning ditches, repairing fences, cutting grass and weeds, etc., was done where necessary.

Floating Plant.—Ordinary repairs were made to maintain the plant in good condition. Two flat scows were rebuilt, and extensive repairs made to the hull of the tug *J. B. McColl*. A new steel boom was built for the dredge *Fenelon*. Materials were delivered for the construction of two dump scows of a capacity of 120 cubic yards.

The water conditions on the Trent watershed were much below the average during the summer and fall of 1914, and although the flow in the Otonabee river was not maintained at more than 1,100 second feet from August to December, the available depth for navigation fell to about 4 feet by the 10th of November. In order to maintain the navigation levels as late as possible in the season, the flow in the Otonabee should be held at a minimum after the log drives are done.

Attached will be found a statement of fines and damages collected during the year.

I have the honour to be, sir

Your obedient servant,

A. L. KILLALY,

Superintendent.

Locality.	Date.	Name of Vessel.	Damage.	Fine.	Name of Owner.	Remarks.
			\$ cts.	\$ cts.		
Gannon's Narrows.	June 24.	Stoney Lake.	7 50		Stoney Lake Nav. Co.	Paid, July 27.
Lock No. 5 Peterboro.	Oct. 26.	Handy Boy.		5 00	Claude H. Rogers.	" Nov. 3.
Lock No. 5 Peterboro.	Sept. 17.	Ajaz.		5 00	J. E. A. Fitzgerald.	" " 21

REPORT OF ENGINEER IN CHARGE, WELLAND SHIP CANAL.

ST. CATHARINES, June 30, 1915.

SIR,—I beg to submit my annual report on the progress of construction on the Welland Ship Canal.

For a complete description of the proposed work, reference should be made to the annual report for 1913-1914.

The work under contract at the present date consists of sections Nos. 1, 2, 3, 4a, and 5, no additional sections having been placed under contract during the past year.

Since the date of my last annual report, operations have been continuously under way on the sections under contract, with the exception of an interval of about six weeks during January and February, due to weather conditions, when some of the contractors closed down, but spent the time advantageously in a general overhauling of plant.

Section No. 1.

This section, which is under contract to the Dominion Dredging Company, Limited, and consists principally of the construction of the new harbour at the Lake Ontario entrance to the canal, which covers $1\frac{1}{2}$ miles of dredging in the lake, and considerable pier work; $1\frac{1}{2}$ miles of canal excavation inland, and the construction of lock No. 1, with its weirs and entrance wall, is progressing satisfactorily, and a very good showing has been made during the past year on the various works comprised within the contract.

Dredging in the harbour for the season of 1914 was continued until December 25, when work was closed down for the winter.

The dipper dredges *Dominion* and *Fundy* worked steadily all season. The dredge *Delver*, however, while being towed to Port Dalhousie for shelter during a storm in June capsized outside the Port Dalhousie harbour, and was not available for the balance of the season.

The *Fundy* commenced operations for 1915 on April 20, excavating in the harbour and for the crib seats at the outer entrance, and the *Delver*, which was raised and overhauled during the fall and winter, resumed work on May 6. The *Dominion* is not being utilized as a dredge this season, on account of the unsatisfactory nature of her work during 1914, but has been rigged up and is being used in connection with the floating plant which is engaged in placing the reinforced concrete cribs in the harbour.

The C. S. Boone Dredging Company, sub-contractors for that portion of the dredging between stations 59 and 75, started a dredge and a drill boat during the latter part of May, 1915.

The dredge area to date is practically all included between stations 48 and 75. The total amount of class II excavation (earth) removed from the harbour to June 30, 1915, is 525,000 cubic yards, which material has been deposited as underwater embankments along the lines of the trestles on the east and west side of the entrance channel, from which trestles the dry excavation from sections 1, 2, and 3 is being dumped to form the harbour embankments.

The harbour embankments are now assuming fairly large proportions, the outer end of the west dump extending approximately 1 mile into the lake, and varying in width from 500 feet at the shore line to 30 feet at the outer extremity. The east dump

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is only slightly less advanced than the west, and in the two embankments a total of 3,500,000 cubic yards of material has been deposited to date, or approximately one-half of the total available quantity. The contractors for section No. 2 have been dumping on the west side, and section No. 1 contractors on the east side, but as the dry excavation on section No. 1 is now practically completed, a cross-over is being built from the construction railway to the east side of the harbour at the lake shore in order that access may be obtained to the east dump by the contractors for sections Nos. 2 and 3.

The contractors for section No. 1 are obliged, under their contract, to build both of the trestles extending from the shore line out into the lake, one on the site of the east embankment and one on the site of the west embankment, from which the cars of excavated material are dumped in order to start the respective embankments. These trestles consist of pile bents spaced 15 feet apart, each bent containing four piles. Until a depth of 10 or 12 feet of water is reached the piles are driven directly into the lake bottom, after which they are capped and braced. The stringers are then laid upon them at an elevation of about 10 feet above water, and the contractor who is to use these trestles lays his own track upon these stringers, and commences his dump. The earth is dumped up to the level of the bottom of the ties, when the "spreader" is brought into service, by means of which the earth dumped is gradually widened out for a distance of about 15 feet on each side of the trestle. The track is then shifted off the trestle on to one of the side dumps, and then by continuous dumping, spreading and moving of track the embankment is widened out to required dimensions. As soon as the track has been moved off the trestle the contractor for section No. 1 removes the stringers from that portion of the trestle and uses them on a new portion which has been driven farther out in the lake; the remainder of the trestle is left buried in the embankment. Beyond a depth of 10 or 12 feet an under-water embankment is built on the lake bottom on the line of the trestle by bringing the scowful of excavated material from the dredging in the harbour and dumping them, after they have been carefully pushed as close as possible to the previous dump. In this way an under-water embankment is built up to within about 9 or 10 feet of the surface of the water, and through this embankment the piles forming the bents are driven, extending 2 or 3 feet into the lake bottom below. By the use of this under-water embankment the trestle is stiffened considerably in the deep water.

The whole system of forming the embankment in the lake in this manner has proven very satisfactory, and while there have been a few cases where the material, after being built up to the level of the track, has slid away, carrying portions of the trestle with it, these instances have not been of a very serious nature; and while undoubtedly more trouble will be experienced as the outer end of the embankments are being reached, I am satisfied that the whole scheme will turn out very successful. The embankments so far have held up splendidly, and very little loss has been caused by the action of the water.

The excavating machines in use on this section for dry work, namely, one drag-line excavator and two steam shovels with their quota of locomotives, dump cars, etc., have completed all the dry excavation possible on the section, and the plant has been laid up or rented to other contractors along the canal. A small amount of excavation south of the Lake Shore road has been left to be used later on as back-fill in rear of the walls; and a strip of material along the east side of the lock pit has been left to carry the Ten-mile creek during the construction of the lock. A heavy bank of material has been left to keep the lake water out of the lock pit. This excavation north of the lock will be removed by dredging when the time comes to allow the water into the pit. Although this pit is now over 30 feet below the lake level adjacent, and covers quite a large area, very little water enters it, and a small pump working intermittently keeps it perfectly dry. It is satisfactory to be able to state that the surface of the rock and the nature of the material underlying the rock in the pit have turned out exactly as shown by the borings and as outlined on the contract drawings.

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Fair progress has been made on the construction of cribs for the entrance piers and inside docking, but owing to the unusual low water in lake Ontario this season, some delay has been experienced in getting the cribs out of the harbour at Port Dalhousie, where they are being constructed, and the contractors have been obliged to deepen this harbour by dredging, in order to give sufficient draught to permit of the cribs being towed out.

The first of the cribs was completed last fall and towed to Port Weller, but the dredging in the entrance up to that date did not give sufficient depth of water to allow of the crib being floated to its proper position. Consequently, water was allowed to flow into the crib until it rested on the bottom, and owing to unusual low water in the lake this season, no steps have been taken up to the present to float it. The temporary removable wooden bottoms were tested sufficiently in this crib to show that they would be a decided success.

Four completed cribs are now in the harbour at Port Dalhousie ready to be towed to Port Weller for sinking, and another crib is in course of construction.

In August last, Lane Bros., who are sub-contractors for the concrete work on section No. 1, commenced work on the construction of the lower west entrance wall to lock No. 1. This is a reinforced concrete retaining wall of the buttress type, 42 feet high. It is founded on rock, and extends from near the present shoreline to the foot of lock No. 1, a distance of 1,640 feet. It is being constructed in monoliths of 100 feet in length each. In the construction of this wall, triangular steel frames 4½ feet in height have been utilized, and erected at 12-foot intervals, one in each buttress, their purpose being mainly as a support for the reinforcing bars, and for the contractors' forms. The frames are provided to correspond with the system of reinforcing in the wall, and the rods threaded through the holes. This method ensures the rods being placed exactly where they are required, and that none are omitted. It is not considered that the frames themselves, with the exception of the back legs, bear any material part in the reinforcing of the wall, but experience has shown that their use was amply justified for the purpose for which they were designed.

The erection of frames and placing of the floor slab for this wall was completed during the latter part of the season of 1914, and completion of the walls was pursued on intermittently during the fall and early winter, as weather permitted. Work has been carried on continuously this summer, and now, commencing at the north end, monoliths 1 to 4 are completed, monoliths 5 to 9 complete with the exception of the top lift of 53 inches, monoliths 10 to 16 have as yet only received their first lift of 53 inches above the floor slab. The 100-foot gravity section of wall between the upper end of the retaining wall and the first monolith of the lock wall was completed during the winter.

On April 1st last the contractors commenced commencing on the west lock wall of lock No. 1, and have been continuously engaged on this to date. Work was started at the lower end of the chamber wall on the 4th monolith, and to date monoliths 4, 5, 6, and 7 are up 35 feet, monoliths 8 and 9, 20 feet, and three monoliths have received only the floor slab. The main filling culvert, which is 14 feet wide by 16½ feet high, is being built into the wall by means of a collapsible steel form, 60 feet in length, which is also the length of most of the lock monoliths. On the completion of a monolith to a height of 5 feet above the culvert, and after allowing a couple of days for setting of the concrete, the form is slightly collapsed by means of turn-buckles and moved forward on rails into position for the next monolith. Wooden forms are used for the 3 foot by 4 foot laterals connecting the main culvert with the lock. Steel panel forms are being used for the face of the lock wall.

Pile-driving for the foundation of the upper entrance walls of the lock has been completed.

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The watertight embankment on the east side of the pond at the head of lock No. 1 was built during the summer of 1914. A row of triple lap sheet piling was driven along the centre line of this bank through some pervious material, and into the clay beneath. The tops of the piles were left a couple of feet above the ground to form a cut-off into the bank above. The back ditch in the rear of this bank was carried under the Lake Shore road and into the basin between the supply and regulating weirs by means of a reinforced concrete culvert.

Excavation and pile-driving for the foundation of bridge No. 2, a highway bridge located at the south end of the section, was carried on during the winter, and concreting in the west abutment commenced on April 22 last, and is now nearing completion.

Section No. 2.

This section, which is under contract to Messrs. Baldry, Yerburgh & Hutchinson, includes, in addition to the excavation of the canal prism, the construction of locks Nos. 2 and 3, with their regulating and waste weirs; the substructure of four bridges in addition to the one over the head of lock No. 2, and a large amount of watertight embankments, and the contractors have been prosecuting the work vigorously during the past season. Their operations, in the main, have consisted of prism excavation, building watertight embankments, and the construction of the breast wall and upper west entrance wall of lock No. 2.

There is practically no rock excavation on this section, and all of the excavated material from the canal prism not required for watertight embankments has been hauled to lake Ontario and deposited in the west harbour embankment. To date, a total of 3,000,000 cubic yards of class II (earth) excavation has been removed, 1,500,000 cubic yards being for watertight embankments, and the balance, 1,500,000 cubic yards, having been placed in west harbour embankments. All of the plant mentioned in my last report is in operation, and in addition a drag-line excavator, and some rolling stock rented from the contractors for section No. 1, the excavating equipment now comprising five steam shovels, three drag-line excavators, and five grading machines. This plant is distributed over the full length of the section, and has worked steadily during the year, with the exception of a short interval during the winter, which was taken advantage of for a general overhauling of plant.

At present, drag-line excavator No. 1 is operating in the pit for lock No. 2, excavated material going to west lake fill.

Yale & Reagan steam shovel is also working in the lock No. 2 pit, material going to west lake fill.

Yale & Reagan small shovel is excavating channel for regulating weir, lock No. 2, material going into watertight embankments.

The drag-line rented from section No. 1 is completing prism excavation along the west slope from station 215 south, material going to west lake fill.

The five grading machines building east and west watertight embankments for pondage above lock No. 2.

Stein & Reid's shovel in prism excavation between stations 245 and 286, material going into storage for east watertight embankment, pond No. 2.

B. J. & H. J. drag-line, excavating to grade for Queenston Road bridge foundations, material going to west lake fill.

Shovel No. 7 in prism excavation, east side between stations 302 and 320. The output of this machine has been going to storage for east watertight embankment, but is now being disposed of in west lake fill. This shovel's record for the past three months is interesting. Working ten hours a day, the output, place measurement, was as follows: April, 59,000 cubic yards; May, 68,000 cubic yards; June, 81,000 cubic yards; total, 208,000 cubic yards.

Hill & Leonard's shovel, excavating lock pit, lock No. 3, output going to west lake fill.

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Work on the construction of the breast wall of lock No. 2 was commenced in August last. The method adopted in excavating the pit was to drive a wall of steel sheet piling, 45 feet long, to refusal around the site, the piling being braced with heavy wooden timbers as the excavating proceeded. The steel piling was driven to an average penetration of 33 feet, until excavation in the pit had been carried on to a considerable depth, when the piles were redriven to their full length.

The excavation of the pit, which was largely done by hand, owing to the confined working area due to the interior bracing, was completed early in December, and concreting started on December 20. This was carried on intermittently during the winter, and to date the concrete has reached elevation 295.50 (ground level) where it has been stopped until the bearing piles in the forebay foundation have been driven, which work is now under way.

This method of building the breast wall was adopted in order to conserve the ground above the breast wall in its natural state, as, had the lock pit been excavated in the usual manner it would have been open for several months, during which time slides would undoubtedly have occurred, which would have prevented a satisfactory treatment of that portion above the breast wall, whereas the method adopted will leave the material above the breast wall intact.

Pile driving for the foundation of the upper west entrance wall to lock No. 2 was commenced in January, 1915, and completed the latter part of April, when driving for the upper east wall was commenced and is still in progress. Both walls will be founded on piles driven through stiff red clay into variable sandy strata. During May, tests were made of the bearing power of this clay. An initial load of 3,500 pounds per square foot was placed and allowed to stand for a week, with no appreciable settlement. The load was then increased to 8,000 pounds per square foot, resulting in a settlement of three-eighths of an inch directly after applying the load, but with no subsequent settlement. While this was very satisfactory, it was thought advisable to drive piles to support the heavy retaining walls.

Concreting in the upper west wall commenced on May 14 last, and to date one 49-foot monolith has been brought up 37 feet, two monoliths 31 feet, one 19 feet, and one 13 feet from the foundation.

The method of sinking the breast wall pit of lock No. 3 will be similar to that adopted for lock No. 2, and the work of driving the steel sheet piling was started on the 26th instant. The material not being of a very hard nature, the piles are being driven to their full penetration, and good progress is being made.

Five grading machines drawn by traction engines have been employed on this section building the watertight embankments where the canal is above the natural ground level. To date the west embankment of pond No. 2 is completed between stations 210 and 214 and stations 242 and 250; and the east embankment completed between station 230 and the south end of the pondage, opposite station 290.

Work on the substructure for pond bridge "A," which will carry the Homer road over the pondage at the head of lock No. 3, was commenced on the 8th instant. The substructure is designed and is being built to accommodate the present swing bridge over the canal at Port Robinson, which will be replaced next year by a new structure. The use of this bridge will allow access to the pond by tugs, etc., which may be of considerable value in the future.

Some work has been done on the building of concrete protection to the canal banks. This protection consists of a 6-inch slab of concrete laid on a layer of broken stone, and will extend from 5 feet below water to 5 feet above water. The foot of the slab will rest on a horizontal 5-foot berm, and will have a $1\frac{1}{4}$ to 1 slope. To date, 5,000 square yards of concrete protection (2,900 lineal feet) have been completed on the east bank.

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All the excavated slopes above water level have been sodded, as it is a cheap and efficient method of protecting the slopes after trimming. In order to hold the sods in places, pegs are driven through them into the slope, and the results obtained have been very successful. Slopes of embankments are allowed to settle for a year before trimming and sodding.

Section No. 3.

This section is under contract to Messrs. O'Brien & Doheny and Quinlan & Robertson, and comprises a very large amount of work aggregating about \$10,000,000 in value and consisting principally of the excavation of 2,700,000 cubic yards of rock and 3,400,000 cubic yards of earth; the diversion of the Grand Trunk railway, Welland division, which was rendered necessary in order to obtain satisfactory location for the canal; the building of a large earth dam with concrete core wall; the building of twin locks Nos. 4, 5 and 6 in flight, and single lock No. 7, which, together with their entrance walls, etc., will contain about 1,200,000 cubic yards of concrete. The contract also comprises the crushing and furnishing of about one and a quarter million tons of stone for concrete for sections Nos. 1 and 2.

The relocation of that part of the Welland division of the Grand Trunk railway located on section No. 3 was completed in December, 1914, and traffic turned over the new line on the 14th of that month. As the line here climbs the Niagara escarpment on a 1.7 per cent grade, the work has been very heavy, having involved the removal, in all, of 48,000 cubic yards of rock and 43,300 cubic yards of earth excavation, within a distance of 2 miles.

The Hamilton Bridge Works Company, Limited, completed work on the four truss spans for the temporary diversion of the main line of the Grand Trunk railway in October last, and the railway company commenced operation over the diverted line on October 29. This diversion, which consists in moving a portion of the double-track main line about 50 feet to the north, where it crosses the site of twin locks No. 4, was rendered necessary, in the manner in which it has been done, in order to carry the double-track main line of the Grand Trunk railway over the works during construction and to allow free passage beneath the railway for the excavated material from the lock pits to the stone crusher, located just north of the main line, and to lake Ontario. In order that this diversion might be finally disposed of and cause no further trouble to the Grand Trunk railway or to the contractors, the centre pier upon which one end of these steel spans rest has been sunk through earth and rock, a depth of 90 feet, to the level of the foundation of the locks, and it will be eventually incorporated in the centre wall of the locks. The side piers have been sunk to about two-thirds of this depth, to the surface of the rock below. This will allow the contractors to excavate the lock pit completely without interfering with the bridge, and allow the lock walls to be built. When the locks are completed, two bascule lift bridges will be placed on the original line of the Grand Trunk railway and the line replaced in its former position. The temporary spans will then be removed. Instead of building double-track spans four single-track spans have been constructed, the idea being that they will be easier to sell upon the completion of the work than a double-track structure.

Work on the dam for pondage at the head of lock No. 6 was continued up to November 16, 1914, when operations were discontinued for the winter, owing to frost. Work was resumed again the latter part of April, 1915.

The concrete core-wall of the dam was built in a trench excavated to rock at depths varying from 5 feet to 35 feet and extends from the rock surface to about 30 feet below the top of the dam.

Earth excavation suitable for watertight material from the site of lock No. 7 and the Grand Trunk Railway relocation was placed in storage on either side of the site of the dam, and two powerful long-boom clam shell machines have been at work rehandling this material into the dam.

The seat of the dam was carefully prepared by removing all loam and other loose material, and by benching all sloping surfaces. A toe trench was then excavated along the full length of the dam for a few feet in depth into the solid material, and the dam has been built up in layers of approximately 8 to 12 inches, each layer being carefully watered, spread and rolled. The dam at present is being built only from the head of lock No. 6 to the west bank of the present canal, but it will eventually, after the operation of the ship canal has been fully tested, be extended over the present canal to the high ground on the other side. Present elevation of dam, 500; ultimate elevation, 530.5.

During the summer of 1914 the sites of twin locks 5 and 6 were stripped to rock of the overlying earth, and actual rock excavation commenced on the site of lock 5 on November 21. Since that date the work has proceeded vigorously, day and night shifts being employed, and the rock has been opened up right through to the head of lock No. 6. At present there are five steam shovels at this work, and to date a total of 384,000 cubic yards of rock has been removed, the bulk of this material going to the crushing plant or to a stock pile which is being formed adjacent to the crusher. A considerable quantity, however, has been taken to spoil.

The drilling of blast holes is being carried on by three Keystone and three Cycloping well drills, all operated by electricity. Holes 20 to 40 feet in depth are drilled in rows at intervals of 18 feet parallel to and 18 feet at right angles to the centre line of the canal. As many as fifty-seven of these holes have been fired at one time, and as each hole contains several cases of dynamite, the total charge fired has amounted on several occasions to about 13 tons. The firing of these heavy charges caused considerable complaint in the town of Thorold and vicinity, as many of the inhabitants were very much afraid that damage would be done to their buildings, etc., and the city engineers were instructed to reduce their charges materially. I have not been able to learn, however, of any very serious damage having been done either in the town of Thorold or elsewhere.

In order that the rock may not be disturbed beyond the contemplated lines of excavation, the contractors have adopted the optional method of channelling the rock along the final line to be excavated, and there are now four channelling machines on the work, operating on the site of locks Nos. 5 and 6. The other optional method of close drilling has been resorted to to a small extent, but it does not make a good face.

The rock-crushing plant on this section, erected by the contractors under the terms of their contract, to crush stone excavated from the section and supply same for concrete to the contractors for sections Nos. 1 and 2, was completed and placed in operation in November last. This plant now consists of one large No. 42 gyratory crusher, which takes the rock direct from the cars, and a battery of two No. 7½, four No. 6, and two No. 5 gyratory crushers.

Rock, as excavated by the steam shovels and loaded into cars, is brought direct to the crushing plant, the cars being dumped into the No. 42 crusher, which reduces it so that the largest pieces passing through are not more than 6 or 7 inches in thickness. The output of this crusher is elevated to the top of the building, where it is dumped on a grid consisting of a series of steel bars with 1½-inch spaces between them. The stone passing over the bars falls into a bin and thence into one or other of the No. 7½ or No. 6 crushers. The material passing through the grid is spouted outside the building and taken to waste. The stone passing through the No. 7½ and No. 6 crushers comes out crushed to small sizes, and is elevated to three rotary screens at the top of the building. These screens are designed to take out the dust from the

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stone and, where necessary, separate the stone into the two different sizes required on the work, namely, stone which will pass a 1½-inch ring, and stone which will pass a 2½-inch ring. Any oversize stone which will not pass through the screens falls on a return belt which carries it to the two No. 5 crushers for recrushing, after which it is again conveyed to the screens.

The rock which has been excavated so far is sandstone of a very variable quality, and the strata are interspersed by varying thicknesses of shale. The method of blasting adopted by the contractors, and previously explained, mixes this rock and shale, and the excavation by steam shovel completes the process of mixing, so that the product going to the crusher consists of a very large percentage of shale and dirt, so much so that it has been a very serious problem to eliminate a sufficient quantity of it from the finished product of the crusher to make good concrete material.

The crushing plant was originally designed and built without any idea of such separation, and a good deal of adjusting and changing in the equipment has been necessary in order to bring it up to the required capacity in quality and quantity of stone produced, and some improvement in these aspects has been effected. The product however, is not yet entirely satisfactory, especially when the shovels are working in rock containing more shale than usual, and during wet weather. A large blast fan is now being used, which helps to some extent to remove dust.

In an endeavour to better the product of the crusher the contractors have been taking to spoil the excavation from such shovels as contain a large percentage of poor rock or shale; therefore, a considerable quantity of good rock must necessarily be wasted, and the consequence is that there will probably be a deficiency of good rock for concrete on the section, and the contractors will have to bring in, from elsewhere, stone or gravel with which to build a considerable portion of their concrete.

The question of washing the stone is being considered, and if a good system can be devised I think it will be advisable to adopt this method.

Track scales, capable of weighing a train 110 feet in length, have been placed at the south end of the construction railway near the crusher, and all stone supplied by the contractors for section No. 3 to sections Nos. 1 and 2 is weighed as it passes over these scales, and payment is made to the contractors for section No. 3 on such weights at their contract prices.

Stone has been supplied to the contractors for sections Nos. 1 and 2 since the plant was placed in operation, and in addition a stock pile of approximately 100,000 tons has been formed at one end of the crusher from which to furnish stone when the crusher is idle or when the demand for same becomes very heavy.

During periods of temporary breakdowns of the crushing plant, and when its capacity was not sufficient, rock from the excavation has been dumped in a storage pile just north of the crusher to be rehandled later to the crusher as required.

The contractors have been excavating rock on the site of lock No. 7, by hand and derricks, and supplying same to sections Nos. 1 and 2 to be used as "plums" for concrete, as required by their contract.

Work was commenced in November, 1914, on the construction of the upper west entrance wall to lock No. 6. This wall is founded on very compact clay but under the toe a trench 6 feet in width was excavated to rock and filled with concrete, the remainder of the wall resting on the natural clay foundation. The bearing power of this clay was tested in two places, with loads of 4½ and 5½ tons per square foot, no settlement resulting. Concreting operations on the wall were discontinued on December 14, 1914, and resumed again on April 14, 1915, and the wall completed on May 31. The contractors then commenced work on the adjoining monolith of the west lock wall, which contains half of the upper gate recess, and this is now nearing completion.

Pile-driving for the foundation of the upper east entrance wall to lock 6 was started on June 8. As the rock surface is quite deep, and the overlying material not very hard, it was deemed advisable to build this wall on a pile foundation.

The Niagara, St. Catharines and Toronto railway, an electric road, crossed the present canal, the proposed Ship canal, and the Welland division of the Grand Trunk railway at the southerly limit of the town of Thorold, and it has been necessary to effect a diversion of this line and to provide two steel bridges, one for the crossing of the Grand Trunk railway and the other to carry the line over the proposed Ship canal. The former consists of two deck-plate girder spans, each 51 feet 6 inches long, and one through plate girder span, 58 feet long, and the contract for the superstructure was placed with the Hamilton Bridge Works Company, Limited, Hamilton, on July 23, 1914, and erection completed on October 17. The latter, a single-track through swing span, is at present under contract to the same company, and steel erection is expected to commence in the near future. The substructures for these bridges were constructed by the contractors for section No. 3.

A reinforced concrete bridge, to carry Peter street, in the town of Thorold, over the relocation of the Grand Trunk railway, was built during the fall of 1914. This is a highway bridge consisting of three spans of 36½ feet each. Peter street will eventually be carried over the head of lock No. 7 on a bascule lift bridge in continuation of the above. In the meantime, the traffic is taken care of by means of temporary wooden trestles over the excavation.

Work on pond bridge "C," one of two reinforced concrete bridges to carry the existing roadways over the pondage at the head of lock No. 7, was started during the present month. It will consist of two 31-foot 6-inch end spans and one 36-foot centre span. Pond bridge "D" will be identical, except that it will comprise an extra 36-foot span. Some of the excavation for the piers of pond bridge "C" was done in the fall of 1914, and the roadway embankment leading to the bridge from either side was also built up. This roadway was macadamized as far as possible during the months of May and June, 1915.

None of the excavated material from this section has as yet been hauled to Port Weller for disposal in the harbour embankments, all of the earth so far excavated being required for the construction of the dam at the head of lock No. 6 and for backfill, but the contractors have now brought in some additional rolling stock, and have placed a shovel in the canal prism at the north end of the section where there will be approximately 1,000,000 cubic yards of clay excavation available for hauling to the lake.

Clay excavated between lock No. 7 and the guard gates is being used for back-filling behind the lately built west entrance wall to lock No. 6.

Section No. 4A.

This was a small contract for certain portions of work which were to have been included in section No. 4, but which could not be deferred when it was decided to postpone the letting of the larger contract, and is now completed. The work consisted of the construction of a new supply weir opposite lock No. 25 on the present canal to supply water to the old canal, in place of the one at Allanburg, which is being discontinued as the old canal between Allanburg and the new weir is being filled in with excavated material from section No. 5; also the construction of two reinforced concrete culverts to take the place of open ditches across the area between the present and the old canal, which is also being used as a dumping ground for excavated material from section No. 5.

The old weir at Allanburg was closed and the new supply weir placed in operation on April 12. Advantage was taken of the unwatering of the old canal in June to extend the lower apron, and line with concrete a small pit at the foot of the weir formed by scouring.

This contract involved 78,560 cubic yards of excavation and the placing of 3,076 cubic yards of concrete and some smaller items.

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The usefulness of the small steel swing bridge over the old canal at Marlatt's crossing having been done away with by filling the old canal, the roadway was placed on solid embankment and the bridge removed and handed over to the superintending engineer of the canal for use in a crossing he is building at Thorold.

Section No. 5.

This section is under contract to the Canadian Dredging Company, Limited, and consists of the deepening and widening of the "Deep Cut" in the present canal between Allanburg and Port Robinson, to the new dimensions. Dry excavation above water line in canal has progressed continuously during the past year, with the exception of a short interval during the late winter. Five steam shovels worked all season of 1914, one on the east side at Allanburg and the balance on the west side. The east side dry excavation was completed in the fall of 1914, and during the season of 1915 only four shovels are at work. These are operating day and night, however, and approximately one and a half million cubic yards of earth excavation have been removed to date. This material has mostly been disposed of on the dumping ground on section No. 4 between the present and old canal. A long embankment dumped from a trestle has been formed which, with the present canal tow-path, encloses a large area of low ground, which is to be filled to canal tow-path level by the hydraulic suction dredge, thus reclaiming and making it valuable. The balance has been used to fill in low ground near Port Robinson.

The dredging plant which is to operate on this section arrived on the work during the late fall and early spring, and the work necessary to place it in readiness for the season's operations has been carried on. This plant at present consists of three dipper dredges, one clam shell dredge, and one hydraulic suction dredge, with the necessary complement of scows, tugs, etc.

The contractors have excavated a basin in the west bank of the present canal about three-quarters of a mile north of Allanburg, in which material dredged from the canal prism will be dumped in front of the hydraulic dredge, then pumped into the pondage area already formed between the present and old canals by the dumping of dry material. The hydraulic dredge *Primrose*, which is to be used for this purpose, was installed in the pumping basin on the 16th instant, and is now in active operation.

The dipper dredge *Sydenham* commenced work on May 18 excavating the pumping basin, and is now operating in the canal prism.

The dipper dredge *Chief* was started on June 16 excavating on the west side of the canal at Port Robinson.

The clam dredge *Leland* commenced work in May and has been operating in the pumping basin and canal prism to date.

During the time the hydraulic dredge has not been in operation, the dredged material has been towed to lake Erie and dumped, but when this dredge is in continuous operation it is the intention to dispose of all this material by means of the hydraulic dredge.

Trimming and sodding of the excavated slopes has been carried on during the year as excavation proceeded.

Bridge No. 13. This will be a bascule lift bridge to take the place of the present swing bridge at Port Robinson, and the contractors are now assembling plant and erecting buildings preparatory to commencing work on the substructure.

An old stone building belonging to the department at Allanburg was fitted up in the fall of 1914 as an engineer's office, and the section was placed under the charge of Mr. J. J. Aldred, C.E. The office building was burned down on June 2, the fire, in all probability, having been caused by a spark from a passing locomotive. As the

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fire occurred in the daytime several of the staff were on hand, and all the papers and records were saved and moved into a temporary office in another government building farther north. The old office is now being rebuilt.

CONSTRUCTION RAILWAY.

Grading and tracklaying on the construction railway was completed between lake Ontario and the crossing of the present canal during the early part of July, 1914, and brought into use by the contractors for section No. 2. The entire line to Merritton was finished by October 1, and has been in continuous operation since that date, hauling excavated material to the lake and crushed stone and plums from section No. 3 to sections Nos. 1 and 2.

The entire line was ballasted by the contractors for section No. 2, under the terms of their contract, with gravel obtained from a pit in the canal prism at the village of Homer. As, however, the railway is principally on embankments, which settled considerably during the winter, this ballast has since been supplemented by crushed stone from section No. 3.

The superstructure for the double-track swing bridge carrying the railway over the present canal below lock No. 11, was under contract to the Hamilton Bridge Works Company, Limited, and erection completed July 2.

During the year the line was equipped with a complete interlocking and block signal system and a telephone train despatching system, and the operation placed in charge of a superintendent, Mr. A. G. Harris, late of the Grand Trunk Railway, Stratford, Ont., with the necessary staff under him.

A 50-ton locomotive wrecking crane was purchased by the department for the use of the railway; also a locomotive and two flat cars for general purposes, and the necessary buildings erected at Port Weller to accommodate this plant.

A two-story building has also been erected at Homer for the accommodation of the operating staff.

There have been no accidents on the railway worthy of report during the year.

During the coming year the railway will be exceedingly busy, and it will be necessary to run trains at very close intervals.

SAND.

The problem of obtaining first-class sand in sufficient quantity for the large amount of concrete to be placed on this work is an exceedingly difficult one to solve, as all of the sand pits within reasonable distances of the canal are of a very variable quality. The sand so far used has been furnished by a sand company operating a pit near the village of St. Davids. This company has spent a large amount of money in opening up their pit, but the results so far have not been satisfactory on account of the variable quality of the sand and the fact that seams of clay or dead sand are interspersed very irregularly through what would otherwise be very fair material. A new pit is being opened up alongside the one now in use, and hopes are entertained that, between the two, sufficient sand of good quality may be obtained. All of the pit sand in this vicinity contains loam in small quantities, and great care, therefore, is required to thoroughly strip the pit of all overlying unsuitable material, as any addition to the natural quantity contained in the sand would be quite serious. The sand also is impregnated with oxide of iron, which gives it a reddish appearance and often slightly tints the concrete in the finished work. No deposits of lake sand of sufficient quantity to warrant its use have as yet been located.

EXCAVATING PLANT.

A great variety of excavating plant is in use along the canal on the sections now under contract. The submarine excavation entails the use of one three-drill floating

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drill boat, six modern dipper dredges handling dippers of from 3 to 5 cubic yards capacity, one floating clam shell dredge handling a 5-yard clam shell bucket, and one 20-inch hydraulic suction dredge. These dredges are tended by a fleet of powerful tugs and dump scows, the majority of the latter being of 500 cubic yards capacity.

The dry excavation is being handled principally by steam shovels, there being twenty-one of these in the different sections, varying in size from the small 20-ton to the large 90-ton, having buckets of from $1\frac{1}{2}$ to $4\frac{1}{2}$ cubic yards capacity. A considerable amount of excavation has been done by means of modern drag-line excavating machines, there being three of these on the work, and they have given splendid satisfaction. These shovels and drag-line machines are tended by a very efficient train service, consisting of a large number of locomotives of all sizes and styles, and many different varieties of dump cars from the 4-yard narrow gauge car to the 20-yard modern steel air dump cars. There are also trains of flat cars unloaded by means of "Lidgerwood" unloaders. On the dumps in the lake and elsewhere there are miles of trackage to take care of the enormous output of all these machines, and "spreaders" of several varieties are in constant use pushing the excavated material over the site of the fills and levelling off the dumps. More than eleven hundred cars have been placed in the west embankment of the harbour in one day.

As much of the material excavated is clay of the consistency of soft putty, which often drops out of the cars in solid lumps of 10 or 12 yards each, the spreaders have a most interesting time in tearing this to pieces and getting it out of the way.

The next and not the least important of the excavating machinery is the grading machine, of which there are five at work on section No. 2. Four of these machines are hauled by traction engines, and one by a team of, usually, seventeen mules, or horses when mules cannot be obtained. These machines plough up a furrow which is turned from the plough share on to a belt running at right angles to the machine and operated from the wheels of the latter. The belt is at an angle of about 30 degrees with the horizontal, and elevates the material to such a height that when it falls over the roller at the top of the belt it will drop into dump wagons which follow alongside the machine. When one wagon is full the machine stops, the wagon keeps driving on and another takes its place, and as soon as the wagon box arrives under the end of the belt the machine is started and the operation continued with very little delay to the actual loading. The wagons hold $1\frac{1}{2}$ cubic yards, are self dumping and are easily hauled by a team of three mules. On this work all the material so excavated has been used to make water-tight embankments, the earth being dumped into the embankment in layers of about 8 inches, which are thoroughly watered and compactly rolled by the wagons driving over them. These machines have been averaging nearly 10,000 cubic yards per month each.

Near the end of lock No. 2 a small 20-ton steam shovel is at work loading earth into wagons for a similar purpose.

Some excavation has been done by locomotive cranes handling clam shell buckets.

The large earth dam at the head of lock No. 6 is being built by two large drag-line machines, one of them having a boom 115 feet in length. These machines are equipped with large clam shell buckets instead of the ordinary drag-line bucket, and are rehandling the earth which has been dumped on either side of the dam site, into the dam. These machines travel on the dam itself, building it up in layers of about 8 inches, which are spread as much as possible by opening the clam shell while the boom is still swinging. After a section has been spread in this way it is levelled off by teams and scrapers and then watered and rolled by large traction engines having wide tread wheels.

CONCRETING METHODS.

The concreting methods so far adopted by the different contractors on sections Nos. 1, 2, and 3 are not in any way remarkable, and do not seem to me to be designed

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on a scale commensurate with the importance of the work to be done, nor in keeping with the time-limit or low prices which were tendered for the placing of concrete. Concreting operations, however, are only in their initial stages, and it is probable that more appropriate methods will be employed before this phase of the work gets into full swing.

HOUSES.

In expropriating the land required for the canal between lake Ontario and Allouburg, a large number of houses came into possession of the department, and while it was necessary to destroy several of these, an endeavour was made to save as many as possible, and several of those situated on land to be excavated were moved to nearby sites on government property. Half-a-dozen houses in Thorold were moved on to lots purchased specially to accommodate them, and these have been put into good shape and turned over to the superintending engineer of the present canal for rental purposes. The balance of the houses are being utilized by the contractors and the engineering staff as dwellings, offices, and boarding-houses.

Along the line of sections Nos. 1, 2, and 3 there was no available accommodation for any of our staff when the canal work started, and, although it was made a condition of employment that employees should live in the vicinity of their work, they were unable to do so under the existing circumstances; consequently, all the spare houses along the line were fitted up for the use of the staff, with the exception of a few which were handed over to the contractors.

PIPE LINE FOR WATER SUPPLY.

No actual work has been done in connection with the proposed pipe line to carry water from lake Erie to the reservoirs of the municipalities of Welland, Merritton, Thorold, and St. Catharines to supply pure water in place of the polluted water which will enter the canal through the Welland river, when that river is absorbed in the canal system, but a tentative agreement has been entered into between the department and the different municipalities under which the department is to assume the cost of building the pipe line, the municipalities paying a fixed annual rental for same.

Experiments are now being made on a 300-foot section of 48-inch pipe-line, which is being built at Port Colborne of reinforced concrete, and should these experiments turn out as successful as anticipated, this system of construction will be recommended for adoption.

It will take about two years to complete the pipe-line after active operations on it are undertaken. Consequently it will be necessary to have all preparation for construction completed during the winter of 1915-16.

MISCELLANEOUS CONTRACTS.

The following are the only important miscellaneous contracts which have been awarded since the date of my last report:—

July 21, 1914.—Northern Electric Company, Limited, Montreal, supply and installation, complete, of selective train despatching and blocking systems for Welland Ship Canal construction railway.

July 23, 1914.—The Hamilton Bridge Works Company, Limited, Hamilton, construction and erection, complete, of single-track railway bridge, consisting of two deck plate girder spans and one through plate girder span, to carry the N. S. & T. Ry. over the relocated Welland division of the Grand Trunk railway at Thorold.

August 7, 1914.—Saxby & Farmer, Limited, Montreal, supply and installation, complete, of mechanical interlocking plants and block signal system for the Welland Ship Canal construction railway.

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August 12, 1914.—Gurney Scale Company, Hamilton, supply and installation of one 150-ton railway track scale for the Welland Ship Canal construction railway at a point approximately one mile east of Merritton.

February 12, 1915.—Hamilton Bridge Works Company, Limited, Hamilton, construction and erection, complete, of single-track railway swing bridge to carry the N. S. & T. Ry. over canal at site of guard gates, south of Thorold.

April 14, 1915.—Canada Cement Company, for the supply and delivery of 2,500,000 barrels of Portland cement, to be delivered during the years 1915, 1916, and 1917, as required.

CEMENT.

In view of the large quantity of cement which will be required for the concrete to be built, amounting to approximately 2,500,000 barrels, it was considered advisable that a contract to cover the complete requirements during the life of the work should be entered into, rather than to let yearly contracts, in order that the cement company, or companies, furnishing cement would be in a position to make their arrangements well in advance for the supply and delivery of the large quantities which will be required during the years 1915, 1916, and 1917 without interfering with their regular business. Accordingly, tenders were invited by the department, and a contract has been entered into with the Canada Cement Company for the supply and delivery of 2,500,000 barrels of cement, more or less, to be delivered as required until the final completion of the work.

GENERAL PROGRESS OF WORK.

A comparison of the actual work done to date on sections Nos. 1, 2, and 3 with the theoretical progress that would be required to complete these contracts on the dates specified, namely, April 1, 1917, shows that sections Nos. 1 and 2 are about six months behind the theoretical line, and section No. 3, about twelve months behind, but now that the work on these sections is in full swing they are all gaining somewhat, and it appears to me that section No. 1 will be so near completion by the spring of 1917 that any work remaining to be done will not interfere with the opening of the canal. Section No. 2 should be very nearly as far advanced as section No. 1, but section No. 3 can hardly expect to place the enormous amount of concrete necessary to complete their work within the contract time, but there is no reason that I can see which should delay the completion of this section for more than one year, namely, until the spring of 1918, and as, under my latest plan I propose that the lock gates shall be built at some convenient point on lake Ontario and floated into position ready to be set up in the locks, I can see no reason why the canal should not be opened for navigation, as originally contemplated, in the year 1918.

There are five sections on the upper level of the canal yet to be placed under contract, and in order that the above prediction may be fulfilled it will be necessary to place these sections under contract as early as possible in the coming year, and it would be much better if two of these sections Nos. 4 and 8, could be placed under contract not later than January, 1916.

Since the first shovelful of earth was taken out in October, 1913, an enormous amount of work has been done and great obstacles overcome. This has only been possible through the earnest efforts and active co-operation of all concerned. The contractors and their staffs and my assistants with their staffs have been working at high tension during all this period in an earnest endeavour to push on the work and at the same time make it a credit to all concerned.

It is very satisfactory for me to be able to report that already a majority of the rather unusual methods which were specified for the carrying out of the work have

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been successfully accomplished to such an extent as makes it certain that they are entirely practicable and economical.

I may mention the building and operation of the construction railway for the use of the contractors of sections Nos. 1, 2, and 3 for hauling excavated material to the harbour embankments in lake Ontario and for the hauling of crushed stone from section No. 3 to the works on sections Nos. 1 and 2, and the supplying of this stone by section No. 3 to the other contractors, all of which are working out very satisfactorily.

The following members of the staff have been granted leave-of-absence in order that they might enlist for active service abroad, and several of them are now on the firing line:—

J. C. Ball, Assistant Engineer, Section No. 3.
H. S. Clark, Instrumentman, Section No. 2.
R. C. Morgan, Transitman, Head Office.
C. J. Swift, Instrumentman, Section No. 1.
D. Clark, Timekeeper, Section No. 3.
H. M. Campbell, Draughtsman, Head Office.
W. W. Wallace, Leveller, Section No. 1.
R. Raynor, Timekeeper, Section No. 3.
E. O. Holt, Rodman, Section No. 1.
S. Dicks, Rodman, Section No. 2.
D. C. Spears, Rodman, Section No. 3.
F. Ellis, Axeman, Section No. 1.
E. C. Harris, Switchman, Con. Railway.
T. E. Jones, Switchman, Con. Railway.
Phillip Brett, Switchman, Con. Railway.

I am, sir, your obedient servant,

J. L. WELLER,

Engineer in charge.

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REPORT OF SUPERINTENDING ENGINEER, WELLAND CANAL.

St. CATHARINES, June 30, 1915.

SIR,—I have the honour to submit my annual report on the maintenance and operation of the Welland canal and its branches for the fiscal year ended March 31, 1915.

NAVIGATION SEASON.

The canal opened for navigation on the 15th April, and closed 18th December, 1914.

ACCIDENTS.

An unusually large number of breaks occurred.

On the 30th April, 1914, the steamer *Compton*, upbound, light, carried away the two headgates and the westerly foot gate of lock 4. Repairs were carried out quickly, spare gates stepped and navigation resumed in seventeen hours.

A very serious accident happened on the 10th June, when the steamer *Pueblo*, downbound and loaded, struck and carried out the foot gates of lock 9. The rush of water from lock 9 reach also carried out the head gates, and the vessel being swept by the current was carried on down lock 8 level, a short one, and struck the head gates of lock 8, carrying out one and badly damaging the other. The gates at the head of lock 9 were jammed together and wedged between the lock walls near the upper end of the lock. In addition, the large stones forming the top course of masonry of the breast wall of lock 9 were lifted bodily by the rush of water and deposited in the upper recess, the removal of which necessitated the complete unwatering of the level by means of a sheet pile dam. All this added to the difficulty in making repairs. Five spare gates were stepped, the damaged one repaired and navigation resumed on the 13th June, having been interrupted for sixty-seven hours.

A minor accident, due to the breaking of a through rod of the heel path foot gate at lock 18, on the 22nd June, which necessitated the removal of the damaged gate and the placing of a spare one, caused delay to half a dozen vessels, varying from one to three hours.

On the 27th June, another lesser accident occurred at lock 8 due to surge action. The steamer *Meaford*, upbound, had left the lock and had not yet entered lock 9, when the locktenders unlocked the head gates and began to close them. The tow-path head gate was mitred when a surge from the *Meaford* caught the other gates, the locktender losing control of it. It struck and threw the tow-path gate over the mitre sill, badly breaking the gate. On the heel path gate the hood was broken. A spare gate was placed in position and damaged hood replaced in eleven hours.

The steamer *Sarnor*, light, upbound, on the 27th July, struck and carried out the two head gates of lock 8. Repairs were quickly made, spare gates placed and navigation resumed after ten hours interruption. Her owners failing to put up the necessary security deposit to cover cost of making the repairs, abandoned the boat to the Government. She is still being held at Port Colborne.

On August 9, the steamer *Windsor* upbound and light, had safely entered lock 12. The vessel's helpers hoisted the valves in the head gates while the foot gates were being closed. The current set up in the lock forced the foot gates shut, mitring very imperfectly. This caused a heavy back surge, which carried the *Windsor* into the head gates, carrying them out. The vessel and the rush of water from the reach above

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also carried out the foot gates. Four spare gates were placed and traffic resumed in the canal, having been interrupted twenty-seven hours. Difficulty was experienced in removing the broken gates, all of which were jammed and wedged one on top of the other between the lock walls in the lower recess.

A minor accident occurred on the 16th of August, when the steamer *Turret Crown*, upbound, struck the tow-path foot gate of lock 15 and broke the hood. Repairs were made and spare hood placed with a delay to vessels of about six hours.

Another break happened on the 23rd August. The steamer *John B. Ketcham* 2nd, upbound, light, carried away three gates at lock 6. Spare gates were placed and traffic resumed in 16½ hours.

Another minor accident occurred on the 10th November. A piece of steel plate from the fender streak of the barge *Ungava*, broke off and fell on the upper recess floor of lock 18. In closing the gate, this obstruction threw the tow-path gate off its step. The level had to be drawn and the gate lifter brought up from Port Dalhousie to restep the gate. Navigation was interrupted about eight hours.

SLIDES.

A bad slide, due to low water, occurred on the 4th December in the westerly bank of the summit level, about one-half mile north of the Air Line Railway bridge, completely blocking traffic. Fortunately, a dredging plant was available at Thorold, and arrangements were made with the Windsor Dredging Company for the immediate removal of enough material to give a safe channel for vessels, it being proposed to remove the remainder and greater portion of the slide in April, 1915, before navigation opened.

Navigation was delayed about four days for loaded boats and three days for light vessels.

IMPROVEMENTS—NEW CANAL.

A contract was entered into with Messrs. T. Bradley and David Walker for the furnishing and placing of stone protection along certain portions of the summit level, between Thorold and Port Colborne. The contract was satisfactorily completed during the summer.

At the opening of the 1915 season of navigation the Gowan lock gate safety device had been installed on the head gates at locks 5, 7, 9, 10, 17, 18, 19, 21, and 24.

During the winter of 1914-15, the foot gates at all of the locks were equipped with a locking device with a view to prevent foot gates being carried out by the rush of water when head gates are knocked out of mitre by vessels, and carried away.

Protection gates of the hinged lift type were installed at the approaches to Welland bridge, and have been satisfactory.

PORT COLBORNE.

The government grain elevator, in 1914, did a remarkably good business, almost doubling that of the previous year. The elevator received 38,604,140 bushels of grain, as against 21,441,826 bushels in 1913, and 9,839,310 bushels in 1912. The net earnings were \$103,822.49, as compared with \$53,047.06, the previous year. The business of this elevator since its erection in 1908 has increased most steadily and satisfactorily.

Construction work on the enlargement, giving the elevator a total storage capacity of 2,000,000 bushels, was still in progress during the year, and hampered and inconvenienced the operation of the elevator.

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REPAIRS—NEW CANAL.

Ordinary repairs to the structures on the new canal were carried out as usual during the year. Owing to the war, and as a precautionary measure, the new lock at Port Colborne, which had hitherto for some years not been operated, was put in operation. The gates, which were in a decayed condition, were repaired, and the lock floor cleared by divers of large quantities of stones. Foot bridges over the weirs at locks Nos. 8, 9, 10, 11, 18, 20 and 24, and a road bridge over lock No. 12 weir, which were badly decayed and unsafe, were renewed by reinforced concrete bridges during the year.

REPAIRS—OLD CANAL.

The old canal was unwatered for two weeks, beginning the last week in May, and repairs were made to the underwater structures. The aprons of weirs at locks Nos. 4 and 9, which were badly undermined, were repaired in concrete. Mill owners took advantage of the unwatering, and made the necessary repairs.

Ordinary repairs were carried out throughout the year.

Foot bridges over the weirs at locks Nos. 12, 14, 15, and 20, which were in an unsafe condition, were replaced by reinforced concrete bridges.

A reinforced concrete highway bridge was built over the hydraulic race at Thorold road, near Hennessy's corner, St. Catharines, to replace the wooden structure, which was badly decayed and dangerous to those using it.

Over the by-pass at lock 5, St. Catharines, the wooden highway bridge, which was in a rotten condition, was replaced by a reinforced concrete bridge.

Work was begun on a new reinforced concrete bridge of fixed span to replace the highway swing bridge over lock 24, old canal, at Thorold, which was very unsafe for traffic. A temporary wooden bridge was thrown across the lock to allow work on the new bridge, and so that the heavy traffic at this crossing could be maintained.

The city of St. Catharines completed the Ontario street high level bridge over the old canal and raceways. It is a reinforced concrete arch bridge of thirteen spans.

WELLAND CANAL FEEDER.

There was no freshet on the Grand river this spring (1915), the run-off passing down very uniformly and gradually.

Extensive work was done at Dunnville lock. The old wooden lock was unserviceable and badly decayed; the foundation undermined and leaking badly, and the gates broken. Both upper and lower ends of the lock were renewed in concrete. The gates were renewed and built to old canal dimensions. The old wooden highway swing bridge across the upper end of the lock was torn down and has been replaced by a temporary wooden bridge of fixed span. It is proposed to build next year, a new steel single-leaf lift bridge at this point.

The highway swing bridge at the Forks Road crossing of the feeder was repaired, and the centre pier and abutments renewed in concrete. The grade of this bridge was lowered 2 feet.

The back ditch on the southerly side of the feeder, from the concrete culvert east of Marshville to the Pettit Road bridge, the back ditch on the northerly side of the feeder from Sunfish creek culvert to the Inman Road bridge, and the back ditch on the northerly side of the feeder, from the Hutchinson Road sluiceway to the Grand Trunk Stromness station, were deepened and cleaned out, as they were badly filled in and undergrown.

An old wooden highway bridge over the back ditch on the northerly side of the feeder between lots Nos. 29 and 30, township of Wainfleet, was in a dangerous and decayed condition, and was rebuilt in reinforced concrete.

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A 24-inch concrete tile overflow culvert was built through the northerly bank at the Bird road crossing to carry off surplus water from the back ditch during the spring freshets.

Owing to the rebuilding of the lock at Dunnville, the whole feeder was completely unwatered, and navigation thereon closed from the 22nd July, 1914, until the 11th January, 1915.

GENERAL.

The water in lake Ontario during the 1914 navigation season averaged eleven inches, and that in lake Erie 8 inches, lower than during the 1913 season of navigation.

GENERAL.

On August 5, 1914, after war was declared, military forces were placed on the Canal to guard its banks, structures, etc.

The following employee was superannuated: Mr. Cornelius O'Gorman, on 15th December, 1914.

The following superannuated employee died during the year: Mr. Arthur W. Bradley, on 15th August, 1914.

Attached is a statement of moneys collected for damages to canal property by different vessels, etc.; also a statement showing the highest and lowest recorded depths of water on the mitre sills of the locks for each month of the year at Port Dalhousie and Port Colborne.

Respectfully submitted,

L. D. HARA,

Acting Superintending Engineer.

Statement showing the highest and lowest depths of water on the lower mitre sill, lock No. 1, new Welland canal, Port Dalhousie, for the fiscal year ended March 31, 1915:—

Months.	Lower Sill.				Months.	Lower Sill.			
	Highest.		Lowest.			Highest.		Lowest.	
1914.	Ft.	In.	Ft.	In.	1914.	Ft.	In.	Ft.	In.
April.....	16	9	16	0	October.....	16	1	15	6
May.....	17	0	16	8	November.....	15	5	15	1
June.....	17	0	16	10	December.....	15	3	14	7
July.....	17	0	16	9	1915.				
August.....	16	10	16	4	January.....	14	8	14	6
September.....	16	5	16	1	February.....	15	1	14	8
					March.....	15	3	15	0

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Statement showing the highest and lowest depths of water on the upper mitre sill, lock No. 26, new Welland canal, Port Colborne, for the fiscal year ended March 31, 1915.

Months.	Upper Sill.				Months.	Upper Sill.			
	Highest.		Lowest.			Highest.		Lowest.	
	Ft.	In.	Ft.	In.		Ft.	In.	Ft.	In.
1914.					1914.				
April.....	15	9	13	5	October.....	15	10	13	1
May.....	15	11	13	11	November.....	15	7	13	6
June.....	15	6	14	10	December.....	15	6	12	3
July.....	15	7	14	6	1915.				
August.....	15	3	14	5	January.....	14	4	12	2
September..	15	8	13	7	February.....	13	10	10	2
					March.....	13	6	12	9

Statement of moneys collected for fines and damages caused to Welland canal property by vessels, etc., during the fiscal year ended March 31, 1915:—

Date of fine or damage.	Name of Vessel.	Amount of fine or damage.	Amount paid.	Date paid.	Where paid.
1914.		\$ cts.	\$ cts.	1914.	
April 30.....	Str. Compton.....	3,650 51	3,650 51		Department.
May 15.....	" Fordonian.....	13 60	13 60	June 27-14.	Pt. Dalhousie.
" 20.....	Brg. Ungava.....	136 45	136 45	" 6-15.	"
" 26.....	Str. Saskatoon.....	156 16	156 16	Sept. 24-14.	"
" 30.....	" Stormount.....	185 37	185 37	June 6-15.	"
June 6.....	" Corunna.....	10 25	10 25	Aug. 25-14.	"
" 10.....	" Pueblo.....	7,834 47	7,834 47		Department.
" 23.....	" Chas. Beatty.....	13 46	13 46	Aug. 22-14.	Pt. Dalhousie.
" 30.....	Tug Meteor and Derrick Scow.....	18 46	18 46	Sept. 25-14.	"
July 7.....	Str. Wm. A. Haskell.....	32 82	32 82	Aug. 25-14.	"
" 8.....	" St. Joseph.....	13 15	13 15	July 24-14.	"
" 21.....	" Key West (fine).....	10 00	10 00	Aug. 3-14.	"
" 23.....	Drdg. C. M. Hall.....	8 68	8 68	May 13-15.	"
" 27.....	Str. Sarnor.....	2,180 98	Vessel abandoned to Government.		
Aug. 3.....	" Stanstead.....	10 09	10 09	Aug. 31-14.	Pt. Dalhousie.
" 5.....	" A. E. McKinstry.....	17 74	17 74	Sept. 16-14.	"
" 5.....	" Stratheona.....	14 20	14 20	" 24-14.	"
" 9.....	" Windsor.....	6,497 31	6,497 31		Department.
" 11.....	" J. W. Nicholas.....	27 91	27 91	May 13-15.	Pt. Dalhousie.
" 11.....	" J. W. Nicholas (fine).....	15 00	15 00	Aug. 17-14.	"
" 16.....	" Turret Crown.....	39 32	39 32	Aug. 26-14.	"
" 19.....	" J. B. Ketcham 2nd.....	51 27	51 27	Sept. 15-14.	"
" 21.....	" Keyport (fine).....	15 00	15 00	" 27-14.	"
" 22.....	" Rosemount.....	17 43	17 43	Oct. 1-14.	"
" 23.....	" J. B. Ketcham 2nd.....	4,107 48	4,107 48		Department.
" 30.....	" E. L. Fisher.....	15 60	15 60	Jan. 14-15.	Pt. Dalhousie.
" 25.....	" J. B. Ketcham 2nd.....	12 16	12 16	May 13-15.	"
" 30.....	" Beaverton (fine).....	15 00	15 00	Sept. 5-14.	"
" 31.....	" J. W. Nicholas (fine).....	15 00	15 00	Nov. 1-14.	"
Sept. 3.....	" Canadian (fine).....	15 00	15 00	Sept. 22-14.	"
" 3.....	" H. E. Packer (fine).....	15 00	15 00	" 9-14.	"
" 3.....	" Donnacona (fine).....	15 00	15 00	" 22-14.	"
" 4.....	" Acadian (fine).....	15 00	15 00	Oct. 6-14.	"
" 10.....	" A. E. Ames (fine).....	15 00	15 00	" 9-14.	"
Oct. 4.....	" Rock Ferry.....	14 07	14 07	June 23-15.	"
Sept. 19.....	" Toiler.....	196 95	196 95	Oct. 14-14.	"
Oct. 4.....	Brg. Hamilton.....	14 09	14 09	Jan. 8-15.	"
" 4.....	" Ungava.....	63 00	63 00	" 8-15.	"
Nov. 10.....	" Ungava.....	162 13	162 13	Feb. 9-15.	"
1915.					
Feb.	Jas. H. Corbett.....	77 80	77 80	April 19-15.	St. Catharines.

REPORT OF THE SUPERINTENDING ENGINEER, SAULT STE. MARIE CANAL.

SAULT STE. MARIE, April 1, 1915.

SIR,—I have the honour to report upon the maintenance and operation of the Sault Ste. Marie canal for the fiscal year ending March 31, 1915.

The canal was opened for traffic on April 20, and closed on December 14, having been in operation for 239 days.

The traffic passing Sault Ste. Marie shows a heavy decline over the preceding year. The freight traffic through the Canadian and United States canals, during the season of 1914, amounted to 55,369,934 tons, a decrease of 30.5 per cent; the passengers numbered 59,801, a decrease of 22.5 per cent, and the registered tonnage of vessels amounted to 41,986,339, a decrease of 27.6 per cent.

The Canadian registered tonnage through both canals amounted to 4,270,624, a decrease of 1.3 per cent, and the freight tonnage carried in Canadian vessels amounted to 4,911,705, a decrease of 1.1 per cent. These latter figures show a very small percentage of decrease as compared with the total decreases of 27.6 per cent and 30.5 per cent, respectively, mentioned above.

The freight tonnage through the Canadian canal amounted to 27,600,489 tons, a decrease of 35.3 per cent; the passengers numbered 30,502, a decrease of 17.2 per cent; and the registered tonnage amounted to 17,295,963, a decrease 33.3 per cent.

The falling-off in traffic of the Canadian canal was caused partly by the depression in business during last season and partly by the opening of the new "third lock" of the United States canal.

The new "Davis Lock" or "Third Lock" as it is popularly called, on the United States canal, was opened for traffic on October 21, 1914. The lock is 80 feet wide, 1,350 feet long between gates, or 1,300 feet available for locking, and has 24.5 feet of water on the sills at low water. While this depth is much greater than that in either the Poe lock or Canadian lock, the increased depth cannot be used until the depth in the river reaches is made to correspond. At present the depth of water in the Canadian lock governs the loading draught of vessels.

As the largest vessel on the lakes at the present time is 625 feet long, the new lock will just accommodate two such vessels, making allowance for the necessary safe clearance between vessels.

ACCIDENTS AND DAMAGES.

On April 25, when closing the auxiliary gates, a small quantity of ice behind the heel of the north gate caused the gate to bind, owing to the eccentricity in the pivot of the gate, and broke both 4-inch steel anchor bars. These bars were replaced by similar bars on the lower guard gates, and new bars were made to replace the latter.

On July 11 last, while the steamer *Geo. A. Graham* was entering the lock, down-bound, she struck the steel channel on the face of the north upper main gate, bending the top of the channel about a foot out of line. The channel was not repaired at the time, as the damage was not sufficiently great to interfere with the operation of the gate, and it would have caused considerable delay to traffic to do so. The necessary repairs will be made before the opening of navigation.

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On August 25, while the steamer *Jos. S. Morrow*, which had just left the lock downbound, was passing an upbound steamer, she was crowded to the north side of the channel on to a combing left by a dredge which had been working in that neighbourhood. She was released the next day without serious damage.

On November 19, a gear on the gate machine of the south lower main gate was broken and the motor turned over by a broom, which had been left standing near by, falling into the gear. The break was repaired without delay to traffic.

IMPROVEMENTS.

The timber top of the lower south pier, which was much in need of repairs, was torn out to an elevation below the water line for a distance of 104 feet in length of the pier and rebuilt with concrete front and back walls filled between with stone. Three iron snubbing posts were placed in these walls to replace the old wooden posts.

There still remains a considerable length of this pier to be renewed.

Eleven iron snubbing posts in concrete blocks were placed immediately above the lock, five on the north side and six on the south side, to replace the old wooden posts which were worn out.

The concrete roadway and sidewalk which had been commenced the year before was completed last season from a point about 200 feet east of the movable dam to the west end of the grounds. This completes all of the work to be done west of Huron street.

That portion of the grounds east of Huron street still remains to be improved.

The work of renewing the floats along the north side of the canal and increasing their width was carried on, and eight new floats 6 feet wide by one hundred feet in length were built.

A new house was built on Point Aux Pins for the lookout station, the old one being no longer habitable.

Upon the outbreak of war on August 4 last, a guard was placed on the canal property to protect it from damage. Also, at the request of the military authorities, additional linemen were placed on duty to handle the lines, so that it would be unnecessary for the vessels to put their own linemen ashore.

I have the honour to be, sir,

Your obedient servant,

J. W. LeB. ROSS,

Superintending Engineer.

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SAULT STE. MARIE CANAL.—Comparative Statement since Opening of Lock,
September 9, 1895.

	Season.	Increase or decrease over previous season.	Season.	Increase or decrease over previous season.	Season.	Increase or decrease over previous season.
	1895		1896		1897	
Period Open.....	{Sept. 9 Dec. 6		{May 7 Dec. 10		{April 27 Dec. 14	
Can. registered tonnage.....	125,240		586,571	461,331	398,343	-188,228
U. S. registered tonnage.....	623,131		3,810,794	3,187,663	3,406,018	-404,776
Total tonnage.....	748,371		4,397,365	3,648,994	3,804,361	-593,004
Lockages.....	698		3,042	2,344	2,976	-66
Vessel passages.....	1,193		5,189	3,996	4,376	-813
Time passing lock.....	212 h. 27 m.		984 h. 22 m.	771 h. 55 m.	684 h. 11 m.	-300h. 11m.
Average time lockage.....	18-26 m.		18-42 m.		13-79 m.	
	1898		1899		1900	
Period Open.....	{April 11 Dec. 9		{April 26 Dec. 20		{April 23 Dec. 16	
Can. registered tonnage.....	403,331	4,988	561,759	158,428	579,528	17,769
U. S. registered tonnage.....	2,354,606	-1,051,412	2,388,441	33,835	1,616,139	-772,302
Total tonnage.....	2,757,937	-1,046,424	2,950,200	192,263	2,195,667	-754,533
Lockages.....	2,520	-456	2,610	90	2,205	-405
Vessel passages.....	3,712	-664	3,820	108	3,163	-657
Time passing lock.....	609 n. 30 m.	-74 h. 41 m.	643 h. 16 m.	33 h. 46 m.	541 h. 24 m.	-101h. 52m.
Average time lockage.....	14-51 m.		14-78 m.		14-73 m.	
	1901		1902		1903	
Period Open.....	{April 20 Dec. 21		{April 1 Dec. 20		{April 2 Dec. 13	
Can. registered tonnage.....	776,331	196,803	1,366,087	589,756	1,616,385	250,298
U. S. registered tonnage.....	1,672,631	56,492	3,238,069	1,565,438	3,145,020	-93,049
Total tonnage.....	2,448,963	253,295	4,604,156	2,155,194	4,761,405	157,249
Lockages.....	2,906	701	3,418	512	3,242	-176
Vessel passages.....	4,243	1,080	5,169	926	4,418	-751
Time passing lock.....	724 h. 38 m.	183 h. 14 m.	925 h. 57 m.	201 h. 19 m.	883 h. 10 m.	-42h. 47m.
Average time lockage.....	14-96 m.		16-25 m.		16-34 m.	
	1904		1905		1906	
Period Open.....	{April 30 Dec. 26		{April 10 Dec. 20		{April 14 Dec. 22	
Can. registered tonnage.....	1,557,335	-59,050	1,799,336	242,001	1,959,186	159,850
U. S. registered tonnage.....	2,673,090	-471,930	3,739,224	1,066,134	4,399,990	660,766
Total tonnage.....	4,230,425	-530,980	5,538,560	1,308,135	6,359,176	820,616
Lockages.....	3,012	-230	4,031	1,019	4,152	121
Vessel passages.....	4,092	-326	5,853	1,761	5,913	60
Time passing lock.....	811 h. 28 m.	-71h. 42 m.	1,060h. 10m.	249 h. 10 m.	1,131h. 23m.	70 h. 24 m.
Average time lockage.....	16-16 m.		15-79 m.		16-35 m.	
	1907		1908		1909	
Period Open.....	{April 22 Dec. 15		{April 21 Dec. 15		{April 21 Dec. 16	
Can. registered tonnage.....	2,288,349	329,163	2,556,552	268,203	2,912,586	356,034
U. S. registered tonnage.....	9,961,977	5,561,987	7,038,389	-2,923,588	14,899,562	7,861,173
Total tonnage.....	12,250,326	5,891,150	9,594,941	-2,655,385	17,812,148	8,217,207
Lockages.....	4,596	440	3,667	929	5,046	1,379
Vessel passages.....	6,153	240	5,344	-809	6,420	1,076
Time passing lock.....	1,362h. 08m.	230 h. 45 m.	1,258h. 35m.	-103h. 23m.	1,853h. 45m.	595 h. 10 m.
Average time lockage.....	17-78 m.		20-59 m.		17-31 m.	

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SAULT STE. MARIE CANAL.—Comparative Statement since Opening of Lock,
September 9, 1895—Concluded.

	Season.	Increase or decrease over previous season.	Season.	Increase or decrease over previous season.	Season.	Increase or decrease over previous season.
	1910		1911		1912	
Period Open.....	{ April 12		{ April 22		{ April 24	
	{ Dec. 15		{ Dec. 13		{ Dec. 19	
Can. registered tonnage....	3,122,068	209,482	3,089,863	-32,205	3,273,614	183,751
U. S. registered tonnage....	20,227,083	5,327,521	16,242,103	-3,984,980	22,516,040	6,273,937
Total tonnage.....	23,349,151	5,537,003	19,331,966	-4,017,185	25,789,654	6,457,688
Lockages.....	6,110	1,064	5,229	-881	6,200	971
Vessel passages.....	8,285	1,865	6,802	-1,483	7,866	1,064
Time passing lock.....	2327h. 40m.	473 h. 55 m.	1704 h. 25 m.	-623h. 15m.	1811 h. 45 m.	107 h. 20 m
Average time lockage.....	22' 86. m		19' 55 m.		17' 53 m.	
	1913		1914			
Period Open.....	{ April 13		{ April 20			
	{ Dec. 14		{ Dec. 14			
Can. registered tonnage....	3,746,369	472,755	3,471,713	-274,656		
U. S. registered tonnage....	22,180,727	-335,313	13,824,250	-8,356,477		
Total tonnage.....	25,927,096	137,442	17,295,963	-8,631,133		
Lockages.....	6,266	68	4,712	-1,554		
Vessel passages.....	8,197	331	6,078	-2,119		
Time passing lock.....	2145 h. 50 m.	334 h. 05 m.	1654 h. 30 m.	-491h. 20m.		
Average time lockage.....	20' 54 m.					

REPORT of Traffic Passing Sault Ste. Marie through Canadian and American Canals.

Year.	Number of vessels passed.	Registered tonnage of vessels.	Total freight tonnage.	Cost of carrying per mile ton.	Estimated value of freight carried.	Percentage of freight carried in Canadian vessels.	Number of passengers.
				Mills.	\$	Per cent.	
1855.....	193	106,296	14,503				8,295
1860.....	916	403,637	153,721				9,230
1865.....	997	409,062	181,638				19,777
1870.....	1,828	690,826	539,883				17,153
1875.....	2,023	1,259,534	833,465				19,685
1880.....	3,503	1,734,890	1,321,900				25,766
1885.....	5,380	3,035,987	3,256,628				36,147
1890.....	10,557	8,454,435	9,041,213	1-3	102,213,948	3-5	24,856
1891.....	10,191	8,409,685	8,886,759	1-35	128,178,208	4-0	26,190
1892.....	12,580	10,647,203	11,214,333	1-31	135,117,267	3-8	25,896
1893.....	12,008	8,949,754	10,796,572	1-1	145,436,957	4-1	18,869
1894.....	14,491	13,110,366	13,195,860	-99	143,114,502	3-5	27,236
1895.....	17,956	16,806,781	15,062,580	1-14	159,575,129	3-75	31,656
1896.....	18,615	17,249,418	16,239,061	-99	195,146,842	3	37,066
1897.....	17,171	17,619,923	18,982,755	-83	218,235,927	3	40,213
1898.....	17,761	18,622,764	21,234,634	-79	233,069,740	2-2	43,426
1899.....	20,235	21,958,347	25,255,810	1-05	281,364,750	3-1	49,082
1900.....	19,452	22,315,834	25,643,073	1-18	267,011,959	3	58,555
1901.....	20,041	24,626,976	28,403,065	-90	289,906,865	4	59,663
1902.....	26,650	31,955,582	35,961,146	-89	358,306,300	4	59,377
1903.....	18,596	27,736,444	34,674,437	-92	349,405,014	6	55,175
1904.....	16,120	24,364,138	31,546,106	-81	334,502,686	6	37,695
1905.....	21,679	36,617,699	44,270,680	-85	416,965,484	5	54,204
1906.....	22,155	41,098,324	51,751,080	-84	537,463,454	5	63,033
1907.....	20,437	44,087,974	58,217,214	-80	569,830,188	5	62,758
1908.....	15,181	31,091,730	41,390,557	-60	470,141,318	7	53,287
1909.....	19,204	46,751,717	57,895,149	-78	626,104,173	6	59,948
1910.....	20,899	49,856,123	62,363,218	-74	654,110,844	6	66,933
1911.....	18,673	41,653,488	53,477,216	-67	595,019,844	6	79,951
1912.....	22,778	56,736,807	72,472,676	-67	791,167,591	6	66,877
1913.....	23,795	57,989,715	79,718,344	-68	865,957,838	6	77,194
1914.....	18,717	41,986,339	55,369,934	-6	634,800,268	9	59,801

CAR FERRY TERMINALS.

CAPE TORMENTINE, N.B., July 21, 1915.

SIR,—I have the honour to submit my annual report on the construction of the Car Ferry Terminals on the straits of Northumberland at Cape Tormentine, N.B., and Carleton Point, P.E.I.

TERMINAL AT CAPE TORMENTINE.

A contract was entered into with Mr. A. T. Mackie, April 28, 1913, which includes the construction of a timber pier approach to the ferry landing, extending out from the present pier 727 feet on the sea side and 235 feet on the harbour side, providing a berth for the ferry at the landing stage; the construction of a rubble mound breakwater, 700 feet in length, to provide a protection for the turning basin, and the dredging out of a turning basin and approach thereto from deep water to a depth of 20 feet at L.W.O.S.T.

The principal items of work done are: the dredging out of 49,343 cubic yards of material in the turning basin; the building of 500 feet of cribwork within the present pier; the filling-in of 9,358 cubic yards of earth to provide the required space for track layout to the landing; the building of 327 feet of cribwork on the sea side, and 234 feet on the harbour side for the ferry landing; the providing and putting in place of 30,500 tons of crib fill, 17,200 tons of quarry run, and 3,500 tons of small rubble stone at the breakwater; and the materials, including timber and iron delivered for raising the pier at Cape Tormentine.

The contractor's quarry is situated at Sackville, 36 miles from the works, and connected therewith by the New Brunswick and Prince Edward Island railway.

The progress on this contract has been much retarded on account of exposed location of the works, the short season possible to work in, and the lost time caused by stormy weather.

TERMINAL AT CARLETON POINT.

A contract was entered into with Roger Miller & Sons, September 2, 1913, which includes the construction of a rubble mound approach extending 1,600 feet from the shore, followed by 637 feet of pier on the sea side, and 230 feet on the harbour side, providing a protected berth for the ferry at the landing stage; the construction of a rubble mound breakwater, 700 feet in length, to provide a protection for the turning basin; and the dredging out of a turning basin and approach thereto from deep water to a depth of 20 feet at L.W.O.S.T.

Owing to the exposed location of the terminal works at Carleton, and the distance from a harbour, the first work undertaken was the providing of a protection from storms and a temporary mooring for the contractor's plant. This was accomplished by building the breakwater to L.W.O.S.T. along its entire length, and the construction of a crib face of 200 feet backed up with stone within the line of the rubble mound approach 1,500 feet from the shore, and forming part of the approach. A cableway was erected between a tower built on the temporary landing and one on the shore end, and the work of constructing the rubble mound approach was started. During the season, 111,000 tons of stone were transported and put in place.

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The principal item in the contract is the providing and putting in place of about 300,000 tons of stone. This is being procured from the Scoudac River quarry, situated $3\frac{1}{2}$ miles from Point du Chêne, and the Wallace quarry; in each case the water transportation to Carleton Point being about 40 miles. For this purpose the contractor has provided an adequate floating plant, which will assure the delivery of the stone.

The necessary plant and equipment has been provided by the contractor to make an early start in the construction of cribs at Point du Chêne for the ferry landing at Carleton.

The unfavourable weather conditions, and the short season for work, prevented further progress being made, the contractors' plant and organization being all that could be desired.

CARLETON BRANCH LINE RAILWAY.

The construction of the branch line of railway, connecting the Cape Traverse branch of the Prince Edward Island railway with the terminal at Carleton Point, was started on December 1, 1913, and a distance of 3 miles has been undertaken by day's labour. The clearing, grading, ditching, and construction of culverts have been advanced, leaving an estimated quantity of 25,000 cubic yards to complete the grading.

The track has been laid for $2\frac{1}{4}$ miles, and all materials and equipment necessary to complete this work have been provided.

I have the honour to be, sir,

Your obedient servant,

F. B. FRIPP,
Engineer-in-charge.

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HUDSON BAY RAILWAY.

WINNIPEG, July 24, 1915.

SIR,—I have the honour to submit my report for the fiscal year ending March 31, 1915, on the progress of the work on the Hudson Bay railway.

GRADING.

Right of way has been cleared to within a few miles of the second crossing of the Nelson river (mile No. 332), and grading operations have been carried on between mile 130 and 293; 110 miles of this stretch is now ready for tracklaying, but there are, however, a number of depressed grades and sags which will have to be made up with train-fill material to complete the grading.

Contractors have put in supplies during the last two months to within 40 miles of Port Nelson (mile No. 383) for the prosecution of the work during the coming season.

TRACKLAYING.

A total of 118 miles of main-line track and 12 miles of sidings have been laid during the year, bringing the end of steel up to mile No. 220; 500,000 ties have been delivered on the right of way.

TELEGRAPH LINE.

Some 155 miles of telegraph line have been built this season, which brings it up to mile No. 175.

BALLASTING AND SURFACING.

Three pits have been opened during the year, and surfacing has been carried on up to mile No. 175. The section from mile 0 to 56, which was lifted last year, has got the final lift, with the exception of a few depressed grades, and is now in first-class condition.

Material suitable for ballast is very scarce between mile 127 and 242, and we have failed to find a satisfactory pit, although the country has been well cruised for same. It will, therefore, be necessary to haul from the pit at mile No. 127. Material to fill the depressed grades can, however, be got in the proximity of same. From mile 242 north, I am glad to say that material for ballast is fairly plentiful.

TANKS.

Seven standard tanks have been built this season, and the water supply laid into three of them.

TRESTLES.

Seven trestles and a number of small pile openings have been erected during the season.

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SURVEYS.

The final location was completed into Port Nelson about the end of August, and a very satisfactory line has been got. The total length of the line from The Pas to Port Nelson is 424 miles, and is only 22 miles longer than an air line between these two points, so that the general direction is exceptionally good.

Revised locations have been made at various points between Manitou rapids and Port Nelson, resulting in quantities being cut down, amounting in money value to \$150,000.

The revised locations adopted for the bridge crossings of the Nelson river at Manitou rapids and Kettle rapids have resulted in a large saving, which I estimate will amount to in the neighbourhood of \$200,000.

GENERAL.

Owing to the extremely mild weather, and the lack of snow during February and March, supplies and men for the various residences had to be rushed in earlier this year than heretofore, but all have been landed in good shape, and the men are now arriving at their respective camps.

Engineering camps have been established up to mile No. 393. The Tote road was completed into Port Nelson on February 19, so that men could be taken into that point, and a mail service has been operated between The Pas and Port Nelson all winter.

CASUALTIES.

I regret to report that there has been two fatal accidents on the engineering staff, namely, J. N. McKay, time-keeper on residency No. 10, who was killed while attempting to board a gravel train on July 15; and James Wilson, resident engineer on residency No. 23, who was drowned in the Shell rapids on the Nelson river on August 24. G. Lyons was also seriously injured by the accidental discharge of a shotgun on August 29. Four of the contractors' men were also killed by dynamite explosions in rock cuts.

SUMMARY OF WORK DONE APRIL 1, 1914, TO MARCH 31, 1915.

Grading ready for track.	Miles.	110
" partially completed.	"	53
Track laid on main line.	"	118
" sidings.	"	12
Telegraph line built.	"	115
Ballasting.	"	50
Surfacing.	"	125
Standard tanks erected.		7
Trestles built.		7
Material moved in grading operations, sections 1, 2 and 3.		2,970,000
" for ballasting, surfacing, and train filling.		730,000

Yours truly,

J. W. PORTER,

Chief Engineer.

SESSIONAL PAPER No. 20

HUDSON BAY TERMINUS AT PORT NELSON.

PORT NELSON, May 6, 1915.

SIR,—I have the honour to present the following annual report upon the works of the Hudson Bay Terminus, at Port Nelson, for the fiscal year ending March 31, 1915.

The 1st of April, 1914, found winter conditions still maintaining at Port Nelson.

Early in April, 150 men arrived from the end of steel, then about 340 miles distant, having travelled 240 miles by horse teams, and the remaining distance by means of dogs and toboggans.

The ice did not move out of the estuary until June 3, but from about May 15, when the ice began to rot and disintegrate, it was impossible for men to travel or do any work on it, the last crossing on foot being made on May 31. Two weeks before this, Indians had reported the opening of the river, for a distance of 40 miles, terminating at Flamborough head, a point 8 miles above the harbour site.

From the beginning of April until the break-up in June, all energies were directed towards preparation for work during the following season. About fifty men were engaged in a logging camp on the south side of the estuary, while at the same time a large gang of men was engaged in salving timber from the stranded ship *Alette*. Two deck scows, one 24 feet by 70 feet, and one 22 feet by 60 feet, were built, the timber for this being all whip-sawn. At the same time work was begun on two substantial solid-faced crib wharves, the construction of which required the removal of 8 feet of solid ice, and the excavation by hand of solidly frozen clay for filling material. This latter proved very expensive, but as no plant was available, and scows and wharves were a necessity, it was unavoidable. During this same period, much work of a smaller nature, but which required the time and labour of a considerable number of men, was done. This included cruising the country, digging test pits and making borings with drills, surveying and sounding 60 miles of river and harbour, building large beacons at Sam's creek, 11 miles distant, and at Bear creek, 5 miles distant, and many other works too numerous to mention.

All the building material having been used up during the late winter, energies were directed towards clearing the probable site for all buildings and storage grounds, while an extensive drainage system was begun, necessitating over 2 miles of ditching, many places 5 feet deep, all of which required blasting on account of the frozen nature of the clay. At the same time a terminal railway—5½ miles in extent—was laid out and graded, to further the economical handling of all supplies to and from the various buildings, wharves, and storage areas. The Marconi station, which had been erected in the depth of the previous winter, was temporarily closed down from May 15 to June 1 in order to complete it in a workmanlike manner, but since then has been giving continuous service, and is a great boon to the camp in the way of furnishing daily war bulletins, as well as transmission of official business.

From June 1 until August 13, the date of the arrival of the first ship, all the timber cut up the Nelson river was rafted down to the port, taken out of the water and piled on skidways, while that salvaged from the *Alette*, about 200,000 feet, was also rafted and towed up the coast to Port Nelson.

During the above period, No. 1 wharf, built the previous year, was extended a distance of 58 feet and a width of 28 feet; wharf No. 2 was constructed, with a length of 200 feet and a width varying from 40 to 68 feet, and No. 3 was also built with a length of 260 feet by 30 feet wide. The new wharves, Nos. 2 and 3, were built of close-faced cribwork, as it was found from experience with No. 1 wharf, which had

been moved a distance of 4 feet, that the lighter form of construction would not stand existing ice conditions. The work of filling the cribs was a very slow and arduous task, as all excavation had to be done by hand; and as only one 7½-ton donkey engine was available, at least half the cars had to be hauled by man power, in order to have them completed in the time available. Added to this, the work was very much interfered with by frequent northeast gales, which swept the Nelson estuary, very often at "spring tides," when the water is at its highest.

During the former summer and up to the completion of the above, work in the harbour, such as rafting and landing of timber, had been carried on with great difficulty and disappointment, owing to the ruinous action of the tides and waves, but with the protected area made available by the construction of these wharves, some degree of security could be relied upon against these storms.

Early in July a large gang of men was put to work assembling and erecting the "A" frame, ladder frame, and other parts of the dredge *Port Nelson*, while another large gang commenced riveting, assembling, and caulking the 2,600 feet of pipeline with the necessary pontoons. The former gang completed their work about the 1st of October, and the latter will be finished in a very short time.

For some weeks subsequent to the breaking up of the ice in the Nelson estuary, large quantities of ice drifted backward and forward with the winds and tides, while a belt about 200 feet wide remained solidly frozen on the beaches. The latter gradually melted away without leaving hold of the ground. In this belt of ice the lighter *Neophyte* and the tug *Kathleen* were resting, and in order to extricate them it was necessary to blast and excavate the ice around them. However, when released, it was found that they had stood the winter without injury, except for the breaking of the heel posts of both boats. This was due to the same ice motion which pulled part of wharf No. 1 at right angles to the shore. The *Kathleen* floated off the beach and anchored in the stream on June 22, and the *Neophyte* on the 25th, while the first gasoline boat was placed in the water about the 13th of June.

During July, one gasoline boat and the tug *Kathleen* were busily engaged in buoying the channel from deep water in Hudson bay to opposite Root creek, but unfortunately this had to be done twice, as late in July the ice swept in from Hudson bay and carried away more than half of the buoys which had been laid. The last appearance of ice in the harbour was on July 24, and buoys laid subsequent to that date remained in position.

With the *Neophyte* and *Kathleen* afloat, work was begun on the salvaging of the very necessary plant and materials on the wrecked ship *Cearense*, 14½ miles distant from the wharves. This work was very much endangered and interfered with by the shallowness of the water adjacent to the ship, and its exposure to the full roll of Hudson bay, and only seven successful trips with full loads were made. Among the materials obtained were two donkey engines which were put together and put into commission before the ships arrived. A large quantity of coal and lumber was also salvaged. A few days previous to the arrival of the ships it had been decided to abandon the work on the *Cearense* and begin on the *Alette*, the system being to load on to flat scows from the ship's side, and this work was under way when the first boat arrived. A total of about 700,000 feet of timber was salvaged from the *Alette* during the year, while from the *Cearense* about 1,000 tons of coal, timber, plant, and supplies were landed.

On August 13, the *Bonaventure* arrived and was promptly discharged by the *Neophyte*, and scows constructed here. The ships *Sheba* and *Bellaventure* arrived here on the 19th, accompanied by the two new steam lighters built in Toronto, and the tug *Yates*, purchased in Great Britain.

A large number of workmen, who had fulfilled their contracts at Port Nelson, availed themselves of the opportunity of returning to Halifax on the *Bonaventure*, the first ship to leave, but the incoming ships brought in a large number of new men to take their places.

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From August 13 until the sailing of the last ship, October 17, the three new lighters and the *Neophyte* were kept busy night and day unloading supplies and the heavy plant for construction purposes. Approximately 19,000 tons were brought into port during the season, divided as follows: the *Bellaventure*, three shipments; the *Bonaventure* and *Sheba*, two shipments each, and the *Sharon* and *Durley Chine*, one shipment each. Four ships belonging to other departments visited the harbour, one of which, the *Minto* had cargo on board for Port Nelson, while the survey ship *Acadia* made a draft on us for 150 tons of coal. The sailing ships *Benmore* and *Bargany* were partly discharged and then beached, with the remainder of their cargo, which was taken off in the fall.

The weather during all the summer months was very wet and disagreeable, but the month of October was unusually pleasant, and it was not until the 25th that board ice appeared in the harbour. Records here show a total of thirty-six days' rain or snow during the months of July, August and September, and the lost time caused thereby was serious. It is very windy during the whole year, and the wind gauge frequently records 50-mile-per-hour gales. The total wind distance for the year as recorded upon the standard wind gauge was 104,110 miles, an average for the year of 12 miles per hour.

The following table shows the average monthly temperature from morning and evening readings—

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1913.....	-42.0	-24.6	-15.1	22.5	29.3	43.9	53.0	51.7	37.6	21.2	8.3	5.7
1914.....	-23.9	-28.5	- 7.7	12.0	31.7	43.4	55.8	53.3	46.2	32.0	8.0	7.6
1915.....	-21.6	- 6.6	3									

The lighters were laid up in winter quarters on the top of spring tides on October 19, and the tugs *Kathleen* and *Yates* were beached the following day.

The heavy plant for construction purposes was assembled as soon as possible after landing, and on August 28 the first steam shovel excavation was done, the material being used for the grading of the yard and the building of the breakwater. This latter was constructed for a distance of about 350 feet, and about 50,000 cubic yards deposited in this way, when work was suspended on account of frost, about November 12.

Outside of the river bed, the only construction material within 50 miles of Port Nelson is a mixture of sand and clay, which would be usually classified as hard-pan. This material in the swamps is unfrozen and covered with a layer of very soft clay, about 5 feet thick. Both these materials were given a thorough trial and both were found to be so softened by the rising and falling tides that they slid in all directions, wrecking trestles and taking slopes of about 20 to 1. Thus it became evident to all that this was not an economical form of construction, and modification was necessary.

After the arrival of the boats and the additional men, work was pushed on the construction of the various buildings required, and up to the present time the following additional buildings have been erected:—7 bunk-houses, making a total accommodation for about 1,000 men, 1 dining camp (500 men), 3 warehouses, 1 engineer's office, 1 accountant's office, 1 bakery, 1 root-house, 3 dwellings (private), 1 horse stable, 1 electric power plant, 1 engine house, 1 machine shop, 1 saw-mill.

The machinery for the last four buildings has all been installed in good working order. In addition to the above, a fine new two-story residence for the engineers and office staff has been built, with accommodation for about fifty men.

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The hospital is a well-equipped building, with a resident physician and nurse, a large ward and separate rooms for special patients.

There is available for construction purposes about 1,100,000 feet of dimensioned timber, a considerable quantity of imported, and some native timber, besides 15,000 logs now cut along the Airhole river. The invoice value of plant and materials on hand is about one and a quarter millions, which does not include the steamships which the department own.

In the months of September and October, three caches of supplies were placed along the Nelson river, between Port Nelson and Kettle rapids, for the use of men travelling to and from Port Nelson, and also for the use in logging camps the following winter.

During the winter, eight timber scows and one "yard and a half" dredge hull have been built. One stern-wheel tug and one steel tow barge have also been completed, and the sectional scows taken from the *Alette* have been assembled. The dry dock, 50 by 200 feet, is now nearing completion. The breakwater has been extended to a point 700 feet from shore.

The excavation from the dry dock has been chiefly used to level up the storage areas and cover up the moss adjacent to buildings, as a protection from fire. Many other works have been constructed, such as a water tank and distribution system for water, coal trestle, lighting system, telephone system, etc.

About the middle of February a tote road connection was made with that of the Hudson Bay Railway contractors, and as a result of this a large number of men have come to Port Nelson. The serious handicap under which work has been carried on heretofore, owing to its isolation, will be to a great extent removed, in the future, and work prosecuted much more expeditiously.

The country has been explored carefully for timber and rock, and a large number of test pits, borings, and examinations have been made with a view to determining many things of vital interest to the work. One test pit which was put down 140 feet in the swamp area adjacent to the shore works revealed the disappointing fact that there was no ground water supply, other than salt water, and various test pits dug on shore show that unless the ground surface has been a swamp, and water has lain upon it for many years, the frost penetrates to an unbelievable depth, at no point less than 25 feet, and probably very much farther. A great many borings have been taken along the site of the proposed bridge and harbour works. Apart from showing that the foundation is suitable for the load which we propose to place upon it, the most interesting discovery has been that solid rock exists at about 100 feet below the surface.

It has been found a most difficult matter to decide the design and form of the harbour works in the Nelson estuary, but after close observation and study it has been decided to build a cigar-shaped island near the natural channel of the estuary, and from this island to the end of the present works construct a bridge on piers, which though unusually large can be safely protected from ice action by the liberal use of riprap. Work on this new design has been started, and it is hoped that, with all the preliminary work now done, the coming year will show considerable accomplishment in the nature of permanent harbour works.

The winter of 1914-15 has been unusually mild, and the snow disappeared at a very early date, in fact so early that it seriously interfered with our lumbering operations.

A light transportation service has been maintained during the winter months for the carrying of letter mail to the men, and, during the summer mails have been maintained at intervals by ship from Halifax, and by canoe from the interior.

Yours very truly,

D. W. McLACHLAN,

Engineer in charge.

SESSIONAL PAPER No. 20

REPORT OF THE ENGINEER IN CHARGE, DARTMOUTH TO DEANS
BRANCH, INTERCOLONIAL RAILWAY.

DARTMOUTH, N.S., July 15, 1915.

SIR,—I have the honour to submit the following report on the progress of the construction of the Dartmouth to Deans Branch of the Intercolonial railway during the fiscal year ended March 31, 1915.

As stated in my last annual report, the work comprised in the contract with Messrs. M. P. and J. T. Davis was unfinished at the date of the expiration of the contract, March 31, 1914, and an extension of time was granted to December 31, 1914. The work was still unfinished at the latter date, and a further extension was granted to August 1, 1915, and work proceeded throughout the fiscal year.

Grading.—From Dartmouth to end of 42nd mile, the grading was complete with the exception of some trimming of cuttings, ditching and additional work on farm and public road crossings. From 42nd mile to end of line all the cuttings were excavated, but portions of embankments have yet to be finished to complete the whole of the grading. At mile 34½ considerable difficulty was experienced in building the embankment across Ritecy's lake. The bottom of the lake is steeply inclined and covered with soft mud, repeated slides occurred and two steam shovel equipments were engaged for two months in filling a length of about 250 feet. It was completed in December, and has given no further trouble. Also at Kelly's meadow, mile 38, an embankment, 4,400 feet in length, on soft bottom, a considerable subsidence occurred. Both manual and horse labour and steam shovel equipment have hitherto been employed on the work of grading. It is arranged to complete the balance of the grading by steam shovel equipment only.

Bridges, etc.—All bridge structures, pile trestles, and culverts were completed with the exception of seven small pipe culverts. Five steel bridges, namely, McNab's Brook, Marsh Brook, Head of Chezzetcook, Gaetz Brook, and Petpeswick River were erected complete except final coat of paint.

Track laying.—Track was laid to mile 58½ with full number of ties and spikes, a portion, however, only half bolted; and there are some short and bent rails to be removed and replaced.

Ballasting.—A ballast pit was opened in gravel deposit at Musquodoboit harbour (mile 33) in June, and the line from the Dartmouth end to mile 36 was fully ballasted and one lift distributed and placed under track between mile 36 and mile 42.

Fencing.—A standard wire fence, with cedar posts, was erected from Dartmouth to end of mile 48, omitting part of line between Musquodoboit harbour and Meagher's Grant, through wild land where no cattle are pastured.

Owing to the advanced condition of the work the engineering staff has been reduced, and there are now three resident engineers in the field, and inspectors of track work and fencing are employed as required.

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The total expenditure to end of fiscal year is \$1,884,093.57, equal to 86½ per cent of the estimated total expenditure, and the percentage of the various items compared with the estimate to complete are:—

	Per cent.
Location	100
Engineering expenses	86
Right of way and legal expenses	50
Grading	95
Bridges, trestles and culverts	83
Ties	97
Rails and fastenings	106
Ballast	53
Tracklaying	80
Fencing right of way	73

The cost of rails and fastenings has exceeded the amount estimated by reason of a large proportion of 80-pound rails having been used.

The item "grading" will also probably exceed the estimate due to the large quantity required at Ritcey's lake, and the excessive subsidence in the meadows in the lower part of the Musquodoboit valley.

I am, sir,

Your obedient servant,

W. A. HENDRY,

Engineer in charge.

SESSIONAL PAPER No. 20

REPORT OF INSPECTING ENGINEER.

OTTAWA, July 30, 1915.

Sir,—I have the honour to report that the following inspections of railways, subsidized by the Dominion Government, were made by me during the fiscal year ending March 31, 1915.

August 11 to September 8, 1914.—Canadian Northern Ontario railway: Montreal to Port Arthur.

September 13 to 23, 1914.—Algoma Central railway: Oba to Hearst.

October 18 to 21, 1914.—Canadian Northern Ontario railway: Portion of Montreal-Port Arthur line.

October 22 to November 7, 1914.—Canadian Northern Pacific railway: New Westminster to Yellowhead Pass.

November 8 to 15, 1914.—Canadian Northern Alberta railway: Edmonton to Yellowhead Pass.

November 16 to 25, 1914.—Kettle Valley railway: Midway to Penticton; Penticton to Merritt; Coldwater Junction to Hope.

December 2^d to 7, 1914.—Quebec Central railway: Extension of Chaudière Valley branch.

February 21 to March 5, 1915.—Kootenay Central railway: Colvalli to Golden.

March 18 to 23, 1915.—Canadian Northern Ontario railway: Inspection of records, at the company's head office, of Montreal-Port Arthur line.

The field inspections represent 2,370 miles of line covered, all of which has been reported on in detail.

I have the honour to be, sir,

Your obedient servant,

ALEX. FERGUSON,

Inspecting Engineer.

PART VII.

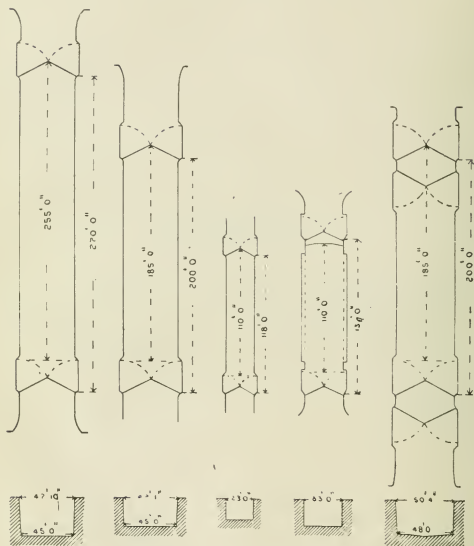
CANALS

Diagrams showing dimensions of smallest lock on each canal, etc.

Dimensions and other features of the several canal works, and description of the intermediate water navigations:

1. Between Montreal and Port Arthur or Fort William, Lake Superior.
2. Montreal, Ottawa and Kingston.
3. River Richelieu and Chambly Canal to Lake Champlain.
4. Trent Canal.
5. St. Peter's Canal.

PLANS AND SECTIONS showing Dimensions of the Smallest Lock on each



Lachine

St Anne,
St Ours,
Carillon,
& Grenville.

Chambly

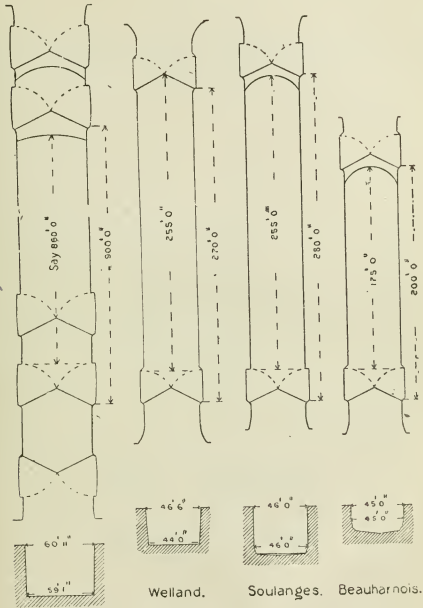
Rideau

St Peter's

There are no locks on the through route between lake Superior and

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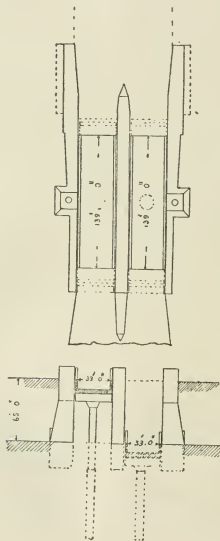
of the Canadian Canal System except the Trent Canal, which is uncompleted.



Sault Ste Marie.

Montreal of less dimensions than those of the Welland canal locks.

TRENT CANAL

Hydraulic Lift-Lock at Peterborough
65 Feet Lift.

CANALS.

The following statements give in concise form the essential features of the government canal works and the intermediate water navigation.

The canal systems of the Dominion, under government control, in connection with lakes and navigable rivers, are as follows:—

First.—The through route between Montreal and Port Arthur or Fort William on the west shore of Lake Superior (1½ feet minimum depth of water.)

	Statute Miles.
1. Lachine canal.	8½
Lake St. Louis and river St. Lawrence.	16
2. Soulanges canal.	14
Lake St. Francis and river St. Lawrence	31
3. Cornwall canal.	11½
River St. Lawrence.	5
4. Farrans Point canal.	1½
River St. Lawrence.	9½
5. Rapide Plat canal.	3½
River St. Lawrence.	4½
6. Galops canal.	7½
River St. Lawrence and lake Ontario	228
7. Welland canal.	26¾
Lake Erie, Detroit river, lake St. Clair, lake Huron, etc.	574
8. Sault Ste. Marie canal.	1½
Lake Superior to Port Arthur or to Fort William. . .	272
Total.	1,214
To Duluth.	1,336
Chicago.	1,240

Second.—Montreal to International Boundary, near Lake Champlain.

	Statute Miles.
1. St. Lawrence river to Sorel.	46
2. Sorel, via Richelieu river, to St. Ours lock.	14
3. St. Ours lock.	½
4. Richelieu river, St. Ours lock to Chambly canal.	32
5. Chambly canal.	12
6. Chambly canal to boundary line.	23
Total.	127½

Third.—Montreal to Ottawa.

	Statute Miles.
1. Lachine canal.	8½
Lake St. Louis.	15
2. St. Anne's lock at outlet of Ottawa river.	½
Lake of Two Mountains and Ottawa river.	27
3. Carillon canal.	¾
Ottawa river.	6½
4. Grenville canal.	5¼
Ottawa river to Ottawa.	56
Total.	119¾

Fourth.—Ottawa to Kingston and Perth.

	Statute Miles.
1. Rideau canal, Ottawa to Kingston	126½
Perth Branch—Rideau lake to Perth	—
Total	133½

Fifth.—Lake Ontario, at Trenton, to Lake Huron.

1. Trent canal—not completed.

Sixth.—Atlantic Ocean to Bras d'Or Lakes, Cape Breton.

	Statute Miles.
1. St. Peter's canal	½

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 strait of Belle Isle to Port Arthur or Fort William on the west coast of lake Superior, a distance of 2,217 statute miles. The distance to Duluth is 2,339 miles; the distance to Chicago, 2,243 miles. From the strait of Belle Isle, at the mouth of the St. Lawrence, to Montreal, the distance is 1,003 statute miles. From Quebec to Montreal the distance is 160 miles.

The control of the St. Lawrence ship channel, and the making of improvements thereto, are now under the Department of Marine and Fisheries, whose annual reports give full information as to the history and improvement of the channel. A 30-foot channel between Montreal and Father Point—with a width of 450 feet in the straight portions, and of from 600 to 750 feet in the bends between Montreal and Quebec, and of 1,000 feet everywhere below Quebec—has been practically completed. In 1909 the first work of deepening the ship channel to 35 feet was begun.

By means of channel improvements, Montreal has been placed at the head of ocean navigation, and here the canal systems of the river St. Lawrence begin, overcoming the several 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, Cornwall, Farrans Point, Rapide Plat, Galops, Murray, Welland, and Sault Ste. Marie. Their aggregate length is 74 miles; total lockage (or height directly overcome by locks), 553½ 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 forty-eight. The Soulanges canal takes the place of the Beauharnois canal, abandoned for navigation purposes, and the Murray canal is used only by the coasting vessels on lake Ontario. It is not a part of the through route.

It is important to note that the enlargement of 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 vessels to be accommodated is limited to 255 feet. At Farrans 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. The lock at Sault Ste. Marie is 900 feet by 60 feet, with 18 feet 3 inches on the sills at lowest known water level.

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Access from lake Erie to lake Huron is obtained by way of the Detroit river, lake St. Clair, and the St. Clair river, which have been deepened to a minimum of 21 feet, principally by the United States government.

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 canals, situated on the United States side of the river St. Mary. Improvements of the United States channels in river St. Mary through Hay lake, east of Sault Ste. Marie, have been carried on for several years past. The dredged areas now total 34 miles in length, with a minimum width of 300 feet, which is increased at angles and other critical points to 1,000 feet. The depth is 20 feet at the mean stage of water. In the year 1903 excavation was commenced to afford 21 feet at the lowest stage of water.

The improvement of Canadian channels from above Montreal to the head of Lake Superior is controlled by the Department of Public Works. Work is now under way to dredge the channel in the River St. Mary to 21.5 feet below L.W.L., the existing minimum depth being 18.75 feet below L.W.L. Existing depths elsewhere between Lakes Erie and Superior give a minimum of 21 feet below L.W.L. The Limekiln channel in the Detroit river has been deepened to 21 feet; and the United States government has opened the Livingstone channel in the same (Detroit river) with a depth of 22 feet.

The improvements at the harbours of Fort William and Port Arthur now under way will give a minimum depth of 25 feet below L.W.L. This depth exists at present over the channels leading to the principal wharves.

The provisions and maintenance of aids to navigation on all Canadian river and lake channels is controlled by the Department of Marine and Fisheries.

The Sault Ste. Marie, Welland, Cornwall, Soulanges and Lachine canals are well lighted throughout by electricity, and are electrically operated. The Farrans Point canal is lighted with acetylene gas.

Navigation, which is closed by ice during the winter months, opens about the end of April on the Great Lakes and St. Lawrence route. Ice-breaking steamers are now employed to lengthen the navigable season at Lake Superior and Georgian Bay terminals.

STATEMENT OF PRESENT MINIMUM DEPTH OF IMPROVED CHANNELS.

Father Point to Montreal.	30 feet.
Montreal to Port Colborne.	14 "
Port Colborne to Fort William.	18½ "

LACHINE CANAL.

Length of canal.	8½ statute miles.
Number of locks.	5
Dimensions of locks.	270 feet by 45 feet.
Total rise or lockage.	45 feet.
Depth of water on sills, at two locks.	18 "
Depth of water on sills, 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 two lower north locks, however, have been lengthened to 270 feet, and have 16½ feet of water on the sills.

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 bar the ascent of the river St. Lawrence. They are 986 miles distant from the strait 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 feet.
Depth of water on sills..	15 "
Breadth of canal at bottom..	100 "
Breadth of canal at water surface..	164 "

The canal extends from Cascade Point to Coteau Landing, overcoming the Cascades rapids, Cedar rapids and Coteau rapids.

From the head of the Lachine to the foot of the Soulanges canal the distance is sixteen miles.

CORNWALL CANAL.

Length of canal...	11 statute miles.
Number of locks..	6
Guard gates..	1
Dimensions of locks..	270 feet by 45 feet.
Total rise or lockage..	48 feet.
Depth of water on sills..	14 "
Breadth of canal at bottom..	90 "
Breadth of canal at water surface..	154 "

The old lift locks, 200 feet by 45 feet, are also available with nine 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 31 miles, which is navigable for vessels drawing fourteen feet.

The Cornwall canal extends past the Long Sault rapids from the town of Cornwall to Dickinson's Landing.

WILLIAMSBURG CANALS.

The Farrans Point, Rapide Plat and Galops canals are collectively known as the Williamsburg canals.

FARRANS POINT CANAL.

Length of canal...	1½ mile.
Number of locks..	1
New lock..	800 feet by 50 feet.
Old lock..	200 " 45 "
Total rise or lockage..	3½ feet.
Depth of water on sills of new lock..	14 "
Depth of water on sills of old lock..	9 "
Breadth of canal at bottom..	90 "
Breadth of canal at water surface..	154 "

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From the head of the Cornwall canal to the foot of Farrans Point canal the distance on the river St. Lawrence is five miles. The latter canal enables vessels ascending the river to avoid Farrans Point rapids, passing the full tow at one lockage. Descending vessels run the rapids with ease and safety.

RAPIDE PLAT CANAL.

Length of canal.	3 $\frac{3}{4}$ miles.
Number of locks.	2
Dimensions of locks.	270 feet by 45 feet.
Total rise or lockage.	11 $\frac{1}{2}$ feet.
Depth of water on sills.	14 "
Breadth of canal at bottom.	80 "
Breadth of canal at water surface.	152 "

The old lift-lock, 200 feet by 45 feet, is also available with nine feet of water on mitre sills.

From the head of Farrans Point canal to the foot of Rapide Plat canal there is a navigable stretch of 9 $\frac{1}{2}$ miles. The 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—	
Lift-lock at foot of canal.	800 by 50 feet.
Guard-lock at head of canal.	270 by 45 "
Lift-lock to pass vessels around Galops rapids only.	303 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. The canal enables vessels to overcome the rapids at Pointe aux Iroquois, Point Cardinal and the Galops.

MURRAY CANAL.

Length between eastern and western piers.	5 $\frac{1}{2}$ miles.
Breadth at bottom.	80 feet.
Breadth at water surface, low water, Lake Ontario.	124 "
Depth below low water, Lake Ontario.	11 "
Number of locks.	None.

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	27½ miles.	26¾ miles.
Pairs of guard-gates (formerly 3)	2	1
Number of locks—		
Guard	1	1
Lift	26	25
Dimensions	$\left\{ \begin{array}{l} 1 \text{ (tidal) } 230 \times 45 \\ 1 \text{ lock } 200 \times 45 \\ 1 \text{ lock } 270 \times 45 \\ 24 \text{ locks } 150 \times 26\frac{1}{2} \end{array} \right\}$	270 feet x 45 feet.
Total rise or lockage	326¾ feet.	326¾ feet.
Depth of water on sills	10½ "	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 (6-ft. navigation only)	1,020 "
Number of locks—one at Aqueduct and one at Port Robinson	2
Dimensions of locks	150 x 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 ft.
	1 of 300 by $\left\{ \begin{array}{l} 45 \text{ ft. lower.} \\ 28 \text{ ft. upper.} \end{array} \right\}$
Total rise or lockage	10 feet.
Depth of water on sills	6 " only.
Navigable depth of channel	9 "

PORT MAITLAND BRANCH.

Length of canal	1¼ miles.
Number of locks	1
Dimensions of locks	185 feet by 45 feet.
Depth of water on sills	7½ feet.
Total rise or lockage	7 "
Navigable depth of channel	6 " only.

The Welland canal has two entrances from lake Ontario at Port Dalhousie, one for the old, the other for the new canal.

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From Port Dalhousie to Allanburg, 11 $\frac{3}{4}$ miles, there are two distinct lines of canal in operation, the old line and the enlarged or new line.

From Allanburg 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 580 miles. From the Sault the distance through lake Superior to Port Arthur is 274 miles, and to Duluth 397 miles.

SAULT STE. MARIE CANAL.

Length of canal, between the extreme ends of the entrance piers.	1 $\frac{1}{2}$ ₅₀ miles or 7,472 feet.
Number of locks.	1
Dimension of locks.	900 feet by 60 feet at water level; width at lock bottom, 59 feet.
Depth of water on sills (at lowest known water level).	18 feet 3 inches.
Total rise or lockage (mean).	19 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.

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 245 $\frac{5}{8}$ miles.

After leaving the Lachine canal the works constructed to overcome difficulties of navigation are:—

OTTAWA RIVER CANALS.

The Ste. Anne's lock. Carillon canal. Grenville canal.

RIDEAU CANAL.

The total lockage (not including that of the Lachine canal) is 509 feet (345 rise, 16 $\frac{1}{2}$ fall) and the number of locks is 55.

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The following table exhibits the intermediate distances from Montreal harbour:—

Sections of Navigation.	Interme- diate Distance.	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.	½	23
Ste. Anne's lock to Carillon canal.	27	50½
The Carillon canal.	3	54½
From Carillon to Grenville canal.	6½	57½
The Grenville canal.	5½	62½
From the Grenville canal to entrance of Rideau navigation	56	119½
Rideau navigation ending at Kingston.	126½	245½
Perth branch, from Rideau lake to Perth.	7	195

STE. ANNE'S LOCK.

	New Lock.	Old Lock.
Length of canal.	½ mile.	½ mile.
Number of locks.	1	1
Dimensions of locks.	200 x 45 feet.	190 x 45 feet.
Total rise or lockage.	3 "	3 "
Depth on sills.	9 "	6 "

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, 23½ miles from Montreal harbour.

THE CARILLON CANAL.

Length of canal.	¾ 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 is a navigable stretch of 27 miles, through the lake of Two Mountains and 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.	5½ miles
Number of locks.	5
Dimensions of locks.	200 x 45 feet.
Total rise or lockage.	43½ 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.	126½ miles.
Number of locks from Ottawa to Kingston.	{ 33 ascending. 14 descending.
Total lockage ..457½ feet. { 292½ rise and } { 165½ fall. }	at low water.
Dimensions of locks.	134 x 33 feet
Depth of water on sills.	5 feet.
Navigation depth through the several reaches.	5 feet.
Breadth of canal reaches at bottom.	{ 54 feet in rock. 60 feet in earth.
Breadth of canal at surface of water.	80 feet in earth.

PERTH BRANCH.

Length of canal.	7 miles.
Number of locks.	2
Dimensions of locks.	134 feet x 33 feet.
Total rise or lockage.	26 "
Depth of water on sills.	5 " 6 inches.
Length of dam.	200 "
Breadth of canal at surface of water.	80 "
Breadth of canal at bottom.	{ 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 Catarauqui. 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 southwest descending level to Kingston, supplied by the Mud lake system, formerly known as the Devil lake system, discharging into lake Opinicon.

Lake Opinicon receives the waters of Buck lake and Rock lake.

All these waters on the descending level, supplemented by those on lake Loughboro', flow to Cranberry lake, which, discharging through Round Tail outlet, forms the river Catarauqui. 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 at Chambly; thence, by the Chambly canal to St.

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Johns, and up the river Richelieu to lake Champlain. The distance from Sorel to the boundary line is 81 miles.

At Whitehall, at the southern end of lake Champlain, connection is obtained by means of the Champlain canal with the river Hudson, by which the city of New York is directly reached.

The following table shows the distances between Sorel and New York:—

Sections of Navigation.	Interme- diate Distance.	Total Distances.
	Miles.	Miles.
Sorel to St. 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	$\frac{1}{2}$ mile.
Number of locks	1
Dimensions of lock	200 feet by 45 feet.
Total rise or lockage	5 feet.
Depth of water on sills	7 "
Length of dam in 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	} From 22 $\frac{1}{2}$ to 24 feet wide.
Lift lock No. 2	124 "	
Lift locks Nos. 3, 4, 5, 6	118 "	
Lift locks Nos. 7, 8, 9, combined	125 "	
Total rise or lockage	74 "	
Depth of water on sills	6 $\frac{1}{2}$ "	
Breadth of canal at bottom	36 "	
Breadth of canal at 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 Honey harbour, about 10 miles north of Midland, on Georgian bay, 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 155 miles from Trenton; from lake Balsam by a canal and the river Talbot to lake Simcoe.

From lake Simcoe the route is through lake Couchiching and down the Severn river to Gloucester pool, leaving Gloucester pool by the Go-Home lakes and south Honey harbour and entering the Georgian bay at Skylark rock between the islands of Beausoleil and Minnicoganashene. There will be 8 feet 4 inches of water on the sills throughout. Another passage between Gloucester pool and Georgian bay is provided by a small lock at Fort Severn, with 6 feet of water on the sill.

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 Seugog, to Port Perry, a distance of approximately 174 miles from Trenton.

The works by which the Trent navigation has been improved to date comprise short canals with locks at Hastings, Peterborough, Peterborough to Lakefield 7 locks, one being a hydraulic lift; Young's point, Burleigh falls, Lovesick, Buckhorn, Bobcaygeon, Fenelon Falls, Rosedale, and six locks between Balsam and Simcoe lakes, one being a hydraulic lift; also lock and dam at Lindsay.

Also dams at Healey falls, Hastings Peterborough, Peterborough to Lakefield, 6; Young's point, Burleigh, Lovesick, Buckhorn, Bobcaygeon, Fenelon Falls, Rosedale, and three between Balsam and Simcoe lakes.

Bridges also have been built at many of the locks and at other places.

For convenience the canal may be divided into the following divisions, the lengths being given:—

ONTARIO-RICE LAKE DIVISION.

Embracing the canal and river navigation between Trenton, on the Bay of Quinté, to Rice lake, 56 miles.

The all-river route from Trenton, on the Bay of Quinté, to Rice lake was fully decided upon by the government during the session of 1907, and the work of construction was begun that fall. The improvement is carried out on the principle of damming the river at suitable points by means of dams, and connecting the pools thus created by means of locks and short stretches of canal. The locks on this division will be 175 feet long, 33 feet wide, with 8 feet 4 inches of water on the sills. In the reaches there will be a minimum depth of 9 feet of water. For the purpose of construction, this division of 56 miles has been divided into seven sections, all of which are under contract. Rice lake is 369 feet above low water level of lake Ontario, which height will be overcome by 18 locks.

PETERBOROUGH-RICE LAKE DIVISION.

Embracing that stretch of river and lake navigation from the lower end of Rice lake to Peterborough, 32 miles.

This division is navigable with a minimum depth of 6 feet.

At Hastings are a concrete lock, replacing the old masonry lock, and a concrete dam, replacing the old timber structure which formerly existed at that point; these maintain navigation on the Trent river, Rice lake and the Otonabee river to Peterborough, a distance of about 38 miles.

At Peterborough, 89 miles from Trenton, is a masonry lock and a concrete dam which maintain navigation through Little lake to lock No. 6 of the Peterborough-Lakefield division, a distance of about three-quarters of a mile.

PETERBOROUGH-LAKEFIELD DIVISION.

Embracing that stretch of river and canal navigation from Little lake at Peterborough to Lakefield, 10 miles.

Construction completed and canal in operation with a minimum depth of 6 feet for navigation.

From Peterborough to Lakefield, navigation is maintained on the Otonabee river by a series of concrete locks and timber dams as follows:—

Leaving Little lake through lock No. 6, in a distance of about half a mile, the hydraulic lift lock is reached, where there is a lift of 65 feet into a reach which extends to lock No. 5, about five miles from Peterborough, the last mile only of this reach being in the river; from here to Lakefield, locks 5, 4, 3, 2 and 1, with their respective dams, give navigation to Lakefield, about ten miles from Peterborough, or 99 from Trenton, and thence on five miles further to Young's Point.

KAWARTHA LAKES DIVISION.

Embraces that stretch of lake and river navigation from Lakefield to the entrance to the canal on the west shore of Balsam lake—62 miles.

Navigable with a minimum depth of 6 feet. Also in this division, may be included the Lindsay branch which embraces the Scugog lake and river from main channel on Sturgeon lake to Port Perry, the distance being about 30 miles, not included in the total 62 miles, above mentioned. A new lock and dam at Lindsay on this branch have recently been built.

At Young's point, a masonry lock and timber dam maintain navigation through Clear and Stony lakes to Burleigh, a distance of about nine miles.

At Burleigh, a masonry lock of two lifts and concrete dam maintain navigation through Lovesick lake, about two miles, to Lovesick. A new concrete dam has recently been completed at Burleigh.

At Lovesick, a masonry lock and timber dam maintain navigation through Deer bay for about five miles to Buckhorn.

At Buckhorn, a masonry lock and new concrete dam maintain navigation for about 16½ miles through Buckhorn and Pigeon lakes to Bobcaygeon, 136 miles from Trenton, and also as branches, maintain navigation from Buckhorn lake through Chemong lake to Bridgenorth, about 8 miles, and in the Pigeon river from Pigeon lake to Omeme, about 10 miles.

At Bobcaygeon, a masonry lock and two dams, one being recently rebuilt of concrete and the other a timber one, maintain navigation through Sturgeon lake and Fenelon river, a distance of about 14½ miles to Fenelon Falls.

At Fenelon Falls is a short canal, a masonry lock of two lifts and a new concrete dam which maintain navigation across Cameron lakes to Rosedale, a distance of about 3½ miles, to a new concrete lock of the same dimensions as those of the Ontario-Rice lake division.

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At Rosedale, the new concrete lock and dam maintain navigation on Balsam lake, the summit level of the canal, which extends from Rosedale to the hydraulic lock at Kirkfield, a distance of twelve miles; half of this distance is through a canal connecting Balsam lake with the lock, which is about 166 miles from Trenton.

SIMCOE-BALSAM LAKE DIVISION.

Extends from Balsam lake to Gamebridge on lake Simcoe—18.2 miles.

Construction completed and canal in operation with a minimum depth of 6 feet.

At the Kirkfield hydraulic lock is a drop of 50.44 feet from the summit level. From this point to Gamebridge on lake Simcoe, 179 miles from Trenton, the route consists of canal and river reaches maintained by damming the Talbot river. There are five new concrete locks numbered 1, 2, 3, 4 and 5, with concrete dams at Nos. 1 2 and 3.

SEVERN RIVER DIVISION.

This division embraces the western portion of the system extending from lake Simcoe to the Georgian Bay. It comprises three main sections, Nos. 1, 2 and 3, and the Port Severn section. Except for section 1, these are all in course of construction.

Section 3 extends from lake Couchiching to a point $1\frac{1}{2}$ miles above Ragged rapids, a distance of 15.3 miles. The dams at the various outlets of lake Couchiching will be remodelled so as to provide more efficient regulation. A cut 4 miles long with a lock of 20 feet drop at its northern end will connect deep water in lake Couchiching with the Severn river just below Severn bridge. From this point the route follows the Severn river through Sparrow lake to the lower end of the section without lockage.

Section 2, 11.6 miles long, extends to Big Chute. Except for $\frac{1}{4}$ mile of cut near the east end of the section, the route follows the river bed throughout. The dam and power plant at Ragged rapids will be replaced by a new dam, power plant and lock of 47 feet drop two miles further down the river. This is the only lock on this section. A regulating dam is being constructed on Pretty Channel.

Section 1, 16.8 miles long, extends to deep water in Georgian bay west of Beau-soleil island. Between Big Chute and Gloucester pool the route is east of the river, and will consist of two locks of 29 feet drop each, connected by an artificial lake. The Gloucester pool level extends through the Go-Home lakes to the south Honey harbour lock where, with a drop of about 14.5 feet, the canal will enter the Georgian bay level.

The Port Severn section includes the impounding and regulating dams at Port Severn which maintains the Gloucester pool level. A small lock there will provide for small craft an additional route between Gloucester pool and Georgian bay.

HOLLAND RIVER DIVISION.

This contemplated the canalization of the Holland river between lake Simcoe and Newmarket, 12.3 miles. It has not been completed, and work on it was discontinued in December, 1911.

The following is a list of locks now in use, with their dimensions, in order of location, from Hastings to Gamebridge on lake Simcoe.

	Length between Hollow Quoins	Width.	Depth on Sill.	Lift.
	Ft.	Ft.	Ft.	Ft.
1 Lock at Hastings.....	175	33	8 4 in.	9
1 " at Peterborough.....	134	33	6	9
1 " No. 6, Peterborough—Lakefield division.....	142	33	6	12
1 " at Peterborough, hydraulic lift lock No. 1.....	140	33	6	65
1 " No. 5, Peterborough—Lakefield division.....	142	33	6	14
1 " No. 4, " " " ".....	142	33	6	12
1 " No. 3, " " " ".....	142	33	6	12
1 " No. 2, " " " ".....	142	33	6	10
1 " No. 1, " " " ".....	142	33	6	16
1 " at Young's point.....	134	33	6	6
2 " at Burleigh, each 11½ feet.....	134 150	33	6	23
	{ Upper Lower			
1 " at Lovesick.....	134	33	6	4
1 " at Buchhorn.....	134	33	6	9
1 " at Bobcaygeon.....	134	33	6	7
2 " at Fenelon Falls, each 12 feet.....	134 150	33	6	24
	{ Upper Lower			
1 " at Rosedale.....	175	33	8 4 in.	4
1 " at Kirkfield, hydraulic lift No. 2.....	240	33	6	50-44
1 " No. 1, Simcoe—Balsam Lake division.....	142	33	6	21
1 " No. 2, " " " ".....	142	33	6	14
1 " No. 3, " " " ".....	142	33	6	14
1 " No. 4, " " " ".....	142	33	6	14
1 " No. 5, " " " ".....	142	33	6	11
24				
1 " at Lindsay, Scugog Branch.....	142	33	6	6-5

ST. PETER'S CANAL, CAPE BRETON.

Length of canal.....	About 2,600 feet.
Breadth at water line.....	55 feet.
Lock.....	1 tidal lock, 4 pairs of gates.
Dimensions.....	200 feet by 48 feet.
Depth of water on sills.....	18 feet at lowest water.
Depth through canal.....	19 feet.
Extreme rise and fall of tide in St. Peter's bay.....	7 feet

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. A new Atlantic entrance and lock, 300 feet by 48 feet, are now under construction. These will replace the existing lock and entrance.

PART VIII. MISCELLANEOUS STATEMENTS.

Table of distances, Intercolonial and Prince Edward Island Railways.

INTERCOLONIAL RAILWAY.

- Expenses, gross earnings, freight tonnage, profit or loss, and passengers, yearly since July 1, 1876.
- Earnings, passenger, freight, mails and sundries, yearly since July 1, 1876.
- Earnings, yearly since July 1, 1876.
- Local and through freight, yearly since July 1, 1876.
- Local and through passengers, yearly since July 1, 1876.
- Coal carried from Nova Scotia collieries, yearly since July 1, 1876.
- Grain carried for shipment, yearly since July 1, 1876.
- Flour and meal carried, yearly since July 1, 1876.
- Grain carried, yearly since July 1, 1876.
- Lumber carried, yearly since July 1, 1876.
- Live stock carried, yearly since July 1, 1876.
- Raw and refined sugar carried, yearly since July 1, 1876.
- Fresh and salt fish carried, yearly since July 1, 1876.
- Ocean-borne goods carried, yearly since July 1, 1876.

WINDSOR BRANCH.

- Earnings, expenses and profits or losses, yearly from 1880.

PRINCE EDWARD ISLAND RAILWAY.

- Expenses, earnings, freight and passenger traffic and loss, yearly from 1875.

CANALS.

- Statement showing total cost of construction and enlargement from Montreal to Port Arthur.
- Statement showing total cost of construction and enlargement from Lachine to Ottawa.
- Statement showing total cost of construction and enlargement from Ottawa to Kingston.
- Statement showing total cost of construction and enlargement from St. Johns to Sorel.
- Statement showing total cost of construction and enlargement from Lake Ontario to Georgian Bay.
- Statement showing total cost of construction and enlargement from Atlantic Ocean to Bras d'Or Lakes.
- Freight traffic in 1913 and 1914.
- Dates of opening and closing of canals for the season of 1914.

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 River St. Lawrence ports of Lévis, opposite Quebec, and Montreal.

The total length of the road operated during the year ended March 31, 1915, was 1,450.08 miles.

The following are the through distances:—

	Miles.
Montreal to Halifax, via Lévis	837.52
“ St. John, via Lévis	741.29
“ Sydney, via Lévis	999.62
“ North Sydney, via Lévis	984.46

Freight is carried direct via St. Henri, which would reduce each of the above distances by 3 miles.

MAIN LINE AND BRANCHES.

	Miles.
Halifax to Truro	62.12
Dartmouth Branch	12.50
Truro to Moncton	123.52
Moncton to St. John	89.31
Pointe du Chêne Branch	11.98
Moncton to Campbellton	185.57
Campbellton to Mont Joli	105.38
Mont Joli to Rivière du Loup	83.44
Rivière Ouelle Branch	6.19
Rivière du Loup to Pointe Lévis	115.82
Hadlow to Chaudière Curve	5.60
Chaudière to Ste. Rosalie	115.79
St. Charles Junction to Chaudière Junction	16.71
Nicolet Branch	14.70
Dalhousie Branch	6.28
Pictou to Oxford Junction	69.10
Brown's Point to Stellarton	11.90
Junction near New Glasgow to Pictou Landing	8.24
Pugwash Junction to Pugwash	4.54
Truro to Mulgrave	122.30
Point Tupper to Sydney	101.92
Sydney Mines Loop	16.60
Fredericton to Derby Junction	110.62
Nelson Junction to Loggieville	13.77
Ferrona Junction to Sunny Brae	12.48
	<hr/>
	1,409.78

LEASED.

Length of Main line from Pointe Lévis to Hadlow	1.49	
Chaudière Curve to Chaudière	1.18	
St. Rosalie Junction to Montreal	37.63	40.30
		<hr/>
Total miles	1,450.08	
Mulgrave to Point Tupper (Ferry)		0.80
		<hr/>

FREIGHT BRANCHES OWNED.

	Miles.
Switch near North street to D. W. T., Halifax.	0.85
Halifax Cotton Factory.	2.10
Sydney Station to wharf.	1.06
North Sydney Station to wharf.	0.82
Switch near Pictou landing to coal wharf.	0.75
Pictou Station to wharf.	0.15
Pictou Station to Copper Crown smelter.	0.72
Logan's Tannery siding.	0.48
Pugwash Station to wharf.	0.07
Sackville Wharf branch.	0.47
Dorchester Wharf branch.	1.00
Moncton Wharf branch.	1.00
Courtenay Bay branch.	2.39
St. John water front extension.	0.44
St. John Station to Deep Water wharf.	0.28
Newcastle Wharf branch.	1.75
Dalhousie Station to wharf.	0.50
Campbellton Wharf branch.	0.43
Rimouski Wharf branch.	2.00
Trois Pistoles spur.	2.38
Rivière du Loup Wharf branch.	4.35
St. Pacôme Spur.	1.27
Nicolet Station to wharf.	2.08
Carmel Branch, main line to village.	1.05
Fort Lawrence Spur.	1.18
Wallace Spur.	2.00
Pugwash Branch to brick works	1.02
	<hr/>
	32.59

PRINCE EDWARD ISLAND RAILWAY.

LENGTH OF LINE.

	Miles.
Souris to Tignish.	165.5
Mount Stewart to Georgetown.	24.4
Charlottetown to Royalty Junction.	5.3
Emerald Junction to Cape Traverse.	11.8
Charlottetown to Murray Harbour.	47.8
Montague Junction to Montague.	6.2
Harmony to Elmira.	9.9
Millview Loop.	4.3
	<hr/>
	275.2

SESSIONAL PAPER No. 20

INTERCOLONIAL RAILWAY.

The following table shows the working-expenses, gross earnings, the tonnage of freight and number of passengers carried each year from July 1, 1876, to March 31, 1915.

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	1,378,146	78	432,326	78	552,710		618,957	
1878-79	714	2,010,183	22	1,294,069	69	716,083	53	510,861		640,101	
1879-80	829	1,603,439	71	1,506,298	48	97,131	23	561,924		581,483	
1880-81	840	1,750,851	27	1,760,393	92	542	65	725,777		631,345	
1881-82	840	2,069,657	45	2,079,262	66	9,605	18	838,956		779,994	
1882-83	840	2,360,373	27	2,370,910	10	17,547	18	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	989,986	
1885-86	946	2,583,999	67	2,450,693	88	133,905	79	1,023,788		932,880	
1886-87	977	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	05	383,445	69	1,288,823		1,040,163	
1888-89	971	3,244,647	73	2,967,801	00	276,847	73	1,218,877		1,136,272	
1889-90	971	3,560,575	74	3,012,739	87	847,835	87	1,368,819		1,219,233	
1890-91	1,094	3,662,341	94	2,977,395	38	684,946	56	1,304,534		1,298,304	
1891-92	1,142	3,439,377	00	2,945,441	97	493,935	03	1,264,575		1,267,732	
1892-93	1,142	3,045,317	50	3,065,499	09	20,181	50	1,338,080		1,292,878	
1893-94	1,142	2,981,671	98	2,987,516	17	5,838	29	1,342,710		1,301,062	
1894-95	1,142	2,936,902	74	2,940,717	95	3,815	21	1,276,816		1,352,664	
1895-96	1,142	3,012,827	62	2,957,670	10	55,187	52	1,379,618		1,471,866	
1896-97	1,145	3,225,968	67	2,866,928	02	59,940	65	1,296,028		1,501,690	
1897-98	1,201	3,327,648	51	3,117,669	85	209,978	66	1,434,576		1,523,444	
1898-99	1,315	3,675,686	21	3,738,331	44	62,645	43	1,730,761		1,603,095	
1899-1900	1,315	4,431,404	09	4,552,071	71	120,667	02	2,151,208		1,029,754	
1900-01	1,315	5,160,404	64	4,972,235	87	488,186	77	2,111,310		2,517,295	
1901-02	1,315	5,574,563	30	5,671,385	91	96,822	61	2,385,816		2,186,226	
1902-03	1,315	6,196,653	19	6,324,323	72	127,670	53	2,790,737		2,404,220	
1903-04	1,321	7,239,982	04	6,339,231	43			900,750	61	2,664,149	
1904-05	1,446	8,569,826	75	6,783,522	83	1,725,303	92	2,782,257		2,810,960	
1905-06	1,446	7,881,914	36	7,643,829	00	61,915	54	3,156,189		2,737,160	
1906-07	1,448	6,030,171	83	6,243,311	00	218,139	17	2,606,073		2,044,847	
1907-08	1,448	9,157,435	53	9,173,558	80	16,123	27	4,131,061		2,789,371	
1908-09	*1,447-13	9,328,021	55	8,527,069	46			800,952	09	3,573,972	
1909-10	1,447-13	8,645,070	33	9,268,234	99	623,164	66	3,927,240		3,122,347	
1910-11	1,455-63	9,595,976	79	9,863,738	40	267,866	61	4,104,400		3,232,895	
1911-12	1,468-15	10,591,035	84	10,593,785	84	2,750	00	4,536,599		3,416,553	
1912-13	1,467-73	11,984,482	69	11,984,482	69			5,293,469		3,763,115	
1913-14	1,457-77	**12,878,549	00	12,878,549	00			5,287,740		3,983,511	
1914-15	1,450-08	11,438,373	00	11,444,873	00	6,500	00	4,529,002		3,613,373	

† The year 1906-7 was nine months only; the Canadian fiscal year having been changed to close on March 31, instead of June 30.

* The railway was remeasured in this year.

‡ Of this total \$4,500 was paid for compassionate allowance by special vote of Parliament.

** Of this total \$11,360 was paid for compassionate allowance by special vote of Parliament.

INTERCOLONIAL RAILWAY.

STATEMENT of Earnings, yearly, from July 1, 1876, to March 31, 1915.

Year.	Miles in Operation.	Passenger Traffic.		Freight Traffic.		Mails and Sundries.		Total.	
		§	cts.	§	cts.	§	cts.	§	cts.
1876-7	714	460,368	15	607,564	99	86,512	21	1,154,443	33
1877-8	714	475,256	82	801,709	82	101,985	07	1,378,946	78
1878-9	714	451,893	29	752,490	85	88,715	55	1,294,009	69
1879-80	829	490,338	66	915,486	50	100,473	32	1,506,298	48
1880-1	840	545,114	48	1,113,872	21	101,407	23	1,760,493	92
1881-2	840	651,299	74	1,303,496	00	124,470	72	2,079,262	66
1882-3	840	741,992	72	1,487,601	98	141,326	49	2,379,910	10
1883-4	887	775,784	77	1,461,390	37	147,240	78	2,383,414	92
1884-5	941	747,285	13	1,542,032	10	151,566	35	2,441,203	66
1885-6	946	765,900	03	1,523,487	72	160,706	13	2,450,093	88
1886-7	977	828,328	28	1,677,971	59	153,817	06	2,660,116	93
1887-8	971	844,448	07	1,932,877	85	166,010	13	2,983,336	95
1888-9	971	906,246	77	1,969,094	44	152,460	09	2,967,801	00
1889-90	971	895,094	53	1,964,646	86	152,998	48	3,012,739	87
1890-1	1,094	962,316	88	1,853,629	88	160,448	62	2,977,395	38
1891-2	1,142	961,427	94	1,803,529	03	180,485	00	2,946,441	97
1892-3	1,142	1,002,912	74	1,868,853	84	184,468	80	3,065,999	09
1893-4	1,142	958,915	13	1,834,126	34	193,762	51	2,987,502	27
1894-5	1,142	963,914	44	1,782,608	54	194,194	97	2,940,717	95
1895-6	1,142	971,426	26	1,788,813	18	197,400	66	2,957,640	10
1896-7	1,145	979,005	57	1,687,050	42	190,472	03	2,866,028	02
1897-8	1,201	1,053,864	64	1,857,740	06	206,065	15	3,117,669	85
1898-9	1,315	1,167,453	16	2,348,096	58	222,781	70	3,738,331	44
1899-1900	1,315	1,404,469	87	2,912,790	52	234,811	32	4,552,071	91
1900-1	1,315	1,607,166	79	3,121,006	15	244,062	93	4,972,235	87
1901-2	1,315	1,770,941	13	3,644,513	42	255,931	36	5,761,385	91
1902-3	1,315	1,927,916	87	4,128,255	00	268,151	75	6,324,323	72
1903-4	1,321	2,021,568	40	4,041,122	48	276,540	55	6,339,231	43
1904-5	1,446	2,105,066	75	4,373,178	75	305,277	53	6,783,522	33
1905-6	1,446	2,297,716	52	5,019,805	53	326,307	85	7,643,829	90
1906-7	1,448	1,932,438	88	4,032,745	00	263,127	12	6,248,311	05
1907-8	1,448	2,711,416	98	6,054,493	45	407,643	37	9,173,358	80
1908-9	*1,447	2,628,218	57	5,502,550	58	396,300	31	8,527,069	46
1909-10	1,447	2,765,884	66	6,048,884	18	453,466	15	9,268,234	99
1910-11	1,455	2,899,419	82	6,344,595	66	619,767	92	9,863,783	40
1911-12	1,468	3,017,304	63	7,008,300	49	568,180	72	10,593,785	84
1912-13	1,467	3,438,447	32	8,028,760	13	517,275	24	11,984,482	69
1913-14	1,457	3,674,878	75	8,469,590	33	734,079	92	12,878,549	00
1914-15	1,450	3,291,916	96	7,310,765	11	842,191	07	11,444,873	14

* As measured in this year.

† 1906-7, nine months only.

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INTERCOLONIAL RAILWAY.

STATEMENT showing the Number of Tons of Local and Through Freight carried, yearly, from July 1, 1876, to March 31, 1915.

Year.	Miles in operation.	Local Freight.	Through Freight.	Total.
1876-7	714	The information for these years was destroyed when the general offices in Moncton were burned.		421,327
1877-8	714			522,710
1878-9	714			510,861
1879-80	829			561,924
1880-1	840			725,777
1881-2	840	571,784	267,272	838,956
1882-3	840	537,025	443,936	970,961
1883-4	887	584,581	424,658	1,009,237
1884-5	941	506,574	483,352	989,956
1885-6	946	580,076	443,712	1,023,788
1886-7	977	633,455	509,565	1,143,020
1887-8	971	727,599	561,224	1,288,823
1888-9	971	624,486	594,441	1,218,877
1889-90	971	756,696	612,123	1,368,819
1890-1	1,094	797, 92	507,042	1,304,534
1891-2	1,142	750,783	513,792	1,264,575
1892-3	1,142	1,030,628	357,452	1,388,080
1893-4	1,142	966,114	376,596	1,342,710
1894-5	1,142	901,374	366,442	1,267,816
1895-6	1,142	1,101,229	368,389	1,379,618
1896-7	1,145	927,167	368,859	1,296,028
1897-8	1,201	1,053,569	381,007	1,434,576
1898-9	1,315	1,351,569	399,192	1,750,761
1899-1900	1,315	1,713,928	437,280	2,151,208
1900-1	1,315	1,633,671	477,639	2,111,310
1901-2	1,315	1,914,551	471,265	2,385,816
1902-3	1,315	2,239,963	550,744	2,790,737
1903-4	1,321	2,125,261	540,888	2,664,149
1904-5	1,446	2,119,528	662,729	2,782,257
1905-6	1,446	2,413,893	742,326	3,156,189
1906-7	1,448	1,906,869	609,204	*2,666,073
1907-8	1,448	3,227,425	906,629	4,134,064
1908-9	1,447 13	2,742,454	831,518	3,573,972
1909-10	1,447 13	2,958,642	968,598	3,927,240
1910-11	1,465 63	3,054,437	1,015,963	4,101,400
1911-12	1,468 15	3,452,489	1,084,110	4,536,599
1912-13	1,467 73	3,913,373	1,290,096	5,203,469
1913-14	1,457 77	3,783,578	1,504,162	5,287,740
1914-15	1,450 08	2,983,719	1,545,283	4,529,002

* 1906-7, nine months only. † As remeasured in this year.

INTERCOLONIAL RAILWAY.

STATEMENT of the Number of Local and Through Passengers carried, yearly, from July 1, 1876, to March 31, 1915.

Year.	Miles in Operation.	Number of Local Passengers.	Number of Through Passengers.	Total.
1876-7.	714	The information for these years was destroyed when the general offices in Moncton were burned.		613,420
1877-8.	714			619,957
1878-9.	714			640,101
1879-80.	829			581,483
1880-1.	840			631,245
1881-2.	840	647,534	132,460	779,994
1882-3.	840	728,186	150,414	878,600
1883-4.	887	784,715	159,921	944,636
1884-5.	941	812,028	145,200	957,228
1885-6.	946	784,817	148,063	932,880
1886-7.	977	814,032	128,752	942,784
1887-8.	971	948,324	91,839	1,040,163
1888-9.	971	1,050,592	85,680	1,136,272
1889-90.	971	1,112,695	91,531	1,219,233
1890-1.	1,094	1,203,814	94,490	1,298,304
1891-2.	1,142	1,198,649	99,083	1,297,732
1892-3.	1,142	1,188,827	104,051	1,292,878
1893-4.	1,142	1,216,027	85,035	1,301,062
1894-5.	1,142	1,272,284	80,383	1,352,667
1895-6.	1,142	1,386,803	85,063	1,471,866
1896-7.	1,145	1,416,631	85,059	1,501,690
1897-8.	1,201	1,438,590	89,854	1,528,444
1898-9.	1,315	1,504,652	98,443	1,603,095
1899-1900.	1,315	1,878,858	112,896	1,991,754
1900-1.	1,315	1,905,599	119,696	2,025,295
1901-2.	1,315	2,061,196	125,030	2,186,226
1902-3.	1,315	2,553,013	149,217	2,404,230
1903-4.	1,321	2,447,843	215,313	2,663,156
1904-5.	1,446	2,389,928	221,032	2,610,960
1905-6.	1,446	2,491,472	245,688	2,737,160
*1906-7.	1,448	1,853,126	191,721	2,044,846
1907-8.	1,448	2,593,886	195,485	2,789,371
1908-9.	1,447-13	2,656,217	251,020	2,907,237
1909-10.	1,447-13	2,873,547	248,777	3,122,324
1910-11.	1,455-63	2,968,435	264,460	3,232,895
1911-12.	1,468-15	3,126,022	289,531	3,415,553
1912-13.	1,467-73	3,448,411	314,704	3,763,115
1913-14.	1,457-77	3,637,482	346,029	3,983,511
1914-15.	1,450-68	3,348,614	264,757	3,613,371

* 1906-7, nine months only. † As remeasured this year.

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The following table shows the number of Tons of Coal carried over the Inter-colonial railway from the Nova Scotia collieries to Ste. Rosalie, Montreal and St. John for points west thereof, and to local stations in each year from July 1, 1876, to March 31, 1915.

Year.	For the West.			To Local Stations.	Total.
	Via Ste. Rosalie.	Via Montreal.	Via St. John.		
1876-7				103,420	103,420
1877-8				97,043	97,043
1878-9				112,232	112,232
1879-80		300		135,369	136,466
1880-1		6,102	4,022	174,483	184,607
1881-2		18,015	11,779	218,364	248,158
1882-3		12,837	22,206	227,380	262,423
1883-4		32,014	19,532	252,014	293,562
1884-5		133,440	1,773	213,791	349,004
1885-6		171,170	21,150	215,272	407,592
1886-7		192,871	27,536	233,178	433,585
1887-8		183,704	36,228	309,727	529,659
1888-9		160,026	27,923	338,338	526,487
1889-90		164,453	25,126	366,967	554,546
1890-1		113,996	60,213	344,829	498,038
1891-2		35,447	5,918	392,441	433,806
1892-3		136,898	3,775	402,653	543,296
1893-4		102,273	8,028	367,390	478,691
1894-5		67,682	7,865	310,253	385,200
1895-6		53,124	9,681	369,708	432,513
1896-7		38,393	12,305	331,469	382,172
1897-8		9,064	4,796	351,069	369,949
1898-9		4,647	5,399	484,163	494,206
1899-1900		3,495		599,714	603,289
1900-1		136			506,454
1901-2		1,131	5,763	3,640	546,986
1902-3	2,200	7,817	6,775	725,727	742,519
1903-4	2,260	637	513	691,346	694,761
1904-5	800	265	3,022	596,290	602,377
1905-6	7,542	1,625	661	610,444	620,272
*1906-7	1,737	2,808	3,252	624,833	632,430
1907-8	22	183	4,245	1,061,694	1,066,134
1908-9	514	945	4,243	960,050	914,752
1909-10	42	890	1,452	1,063,120	1,065,504
1910-11	90	180	633	983,921	984,824
1911-12	73		303	1,111,157	1,111,633
1912-13			425	1,216,636	1,217,061
1913-14	20			1,237,550	1,237,576
1914-15			50	1,083,492	1,083,542

* 1906-7, nine months only.

6 GEORGE V, A. 1916

TABLE showing the number of Bushels of Grain carried during each year over the Intercolonial railway for shipment from July 1, 1876, to March 31, 1915.

Year.	Bushels.		Total.	Year.	Bushels.		Total.
	Via Chaudière.	Via St. John.			Via Chaudière.	Via St. John.	
1876-7				1896-7	Nil.	Nil.	Nil.
1877-8				1897-8	8,000	"	8,000
1878-9				1898-9	30,000	"	30,000
1879-80				1899-1900	13,239	"	13,239
1880-1				1900-1	147	"	147
1881-2				1901-2	Nil.	"	Nil.
1882-3	31,011		31,011	1902-3	"	"	"
1883-4	73,389		73,389	1903-4	147,438	"	147,438
1884-5	300,901		300,901	1904-5	Nil.	"	Nil.
1885-6	389,122		389,122	1905-6	*170,000		170,000
1886-7	575,880		575,880	1906-7			Nil.
1887-8	69,021		69,021	1907-8			"
1888-9	129,725		129,725	1908-9			"
1889-90	502,012		502,012	1909-10			"
1890-1	148,803	59,543	218,337	1910-11	*233,839	2,000	235,839
1891-2	845,997	519,500	1,265,497	1911-12	†122,734	1,215,574	1,338,308
1892-3	156,396	197,666	352,975	1912-13	*2,021,901		2,021,901
1893-4	Nil.	8,026	8,026	1913-14	*2,251,117	966,800	3,217,917
1894-5	"	Nil.	Nil.	1914-15	†859,888	658,524	1,518,412
1895-6	"	"	"				

* Via Montreal. 1906-7, nine months only. † Via Halifax.

TABLE showing the number of Barrels of Flour and Meal carried during each year over the Intercolonial railway from July 1, 1876, to March 31, 1915.

Year.	Barrels.	Year.	Barrels.
1876-7	254,710	1896-7	847,701
1877-8	557,772	1897-8	987,701
1878-9	630,329	1898-9	1,157,250
1879-80	535,248	1899-1900	1,234,077
1880-1	672,310	1900-1	1,292,106
1881-2	692,095	1901-2	1,311,707
1882-3	983,916	1902-3	1,521,540
1883-4	817,134	1903-4	1,607,050
1884-5	935,977	1904-5	1,769,480
1885-6	761,127	1905-6	1,882,630
1886-7	763,894	1906-7	1,531,140
1887-8	871,838	1907-8	1,528,620
1888-9	948,514	1908-9	1,468,920
1889-90	1,116,050	1909-10	1,608,170
1890-1	1,013,129	1910-11	1,656,280
1891-2	954,015	1911-12	1,873,640
1892-3	856,913	1912-13	2,094,990
1893-4	944,967	1913-14	1,960,920
1894-5	938,351	1914-15	2,374,440
1895-6	822,097		

1906-7, nine months only.

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TABLE showing the number of Bushels of Grain carried during each year over the Intercolonial railway since July 1, 1876.

Year.	Bushels.	Year.	Bushels.
1876-77	292,852	1896-97	1,093,499
1877-78	331,170	1897-98	1,551,372
1878-79	302,921	1898-99	2,595,353
1879-80	534,021	1899-1900	2,720,453
1880-81	565,678	1900-01	3,535,364
1881-82	560,253	1901-02	2,959,761
1882-83	1,195,601	1902-03	3,392,252
1883-84	654,073	1903-04	2,788,772
1884-85	734,902	1904-05	3,317,910
1885-86	849,800	1905-06	2,924,226
1886-87	1,018,395	1906-07	2,231,864
1887-88	1,219,035	1907-08	4,567,245
1888-89	1,256,158	1908-09	4,727,268
1889-90	2,610,292	1909-10	7,074,042
1890-91	2,890,921	1910-11	5,080,848
1891-92	3,776,677	1911-12	5,206,440
1892-93	1,514,619	1912-13	6,530,920
1893-94	1,304,684	1913-14	6,419,560
1894-95	1,036,384	1914-15	5,011,840
1895-96	1,064,385		

1900-7, nine months only.

TABLE showing the quantity of Lumber in feet carried during each year over the Intercolonial railway since July 1, 1876.

Year.	Feet.	Year.	Feet.
1876-77	50,066,474	1896-97	243,355,725
1877-78	56,626,547	1897-98	354,093,816
1878-79	55,626,696	1898-99	306,554,031
1879-80	55,462,654	1899-1900	379,350,074
1880-81	72,841,388	1900-01	396,838,964
1881-82	78,356,418	1901-02	428,051,029
1882-83	104,633,417	1902-03	459,231,589
1883-84	131,120,948	1903-04	465,379,803
1884-85	138,493,675	1904-05	518,434,310
1885-86	117,186,512	1905-06	572,878,600
1886-87	161,801,763	1906-07	452,602,703
1887-88	1:7,735,272	1907-08	754,759,383
1888-89	199,597,777	1908-09	571,395,101
1889-90	216,886,071	1909-10	677,805,611
1890-91	184,188,324	1910-11	647,327,499
1891-92	175,474,540	1911-12	656,418,588
1892-93	181,211,013	1912-13	830,654,000
1893-94	200,507,949	1913-14	1,048,690,630
1894-95	202,247,269	1914-15	558,730,900
1895-96	226,332,715		

1900-7, nine months only.

6 GEORGE V, A. 1916

TABLE showing the number of Live Stock carried during each year over the Inter-colonial railway since July 1, 1876.

Year.	Number.	Year.	Number.
1876-77.....	34,414	1896-97.....	72,082
1877-78.....	46,498	1897-98.....	89,301
1878-79.....	47,584	1898-99.....	109,821
1879-80.....	70,990	1899-1900.....	92,813
1880-81.....	61,574	1900-01.....	95,923
1881-82.....	73,479	1901-02.....	98,495
1882-83.....	68,338	1902-03.....	127,060
1883-84.....	60,090	1903-04.....	113,006
1884-85.....	70,785	1904-05.....	110,670
1885-86.....	74,498	1905-06.....	106,589
1886-87.....	82,896	1906-07.....	97,381
1887-88.....	98,302	1907-08.....	92,824
1888-89.....	85,960	1908-09.....	104,165
1889-90.....	80,771	1909-10.....	106,712
1890-91.....	95,529	1910-11.....	113,976
1891-92.....	87,889	1911-12.....	115,189
1892-93.....	93,369	1912-13.....	119,490
1893-94.....	75,203	1913-14.....	98,207
1894-95.....	72,106	1914-15.....	163,800
1895-96.....	61,031		

1906-7, nine months.

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TABLE showing the number of Tons of Ocean-borne goods to and from Europe carried over the Interoceanic railway during each year from July 1, 1876, to March 31, 1915.

Year.	Via Ste. Rosalia to and from the West.	Via Mon- treal to and from the West.	Via St. John to and from the West.	To and from Local Stations.	Total.
1876-77.....					
1877-78.....		14,949		3,405	18,354
1878-79.....		21,628		2,643	24,271
1879-80.....		21,073		4,332	25,405
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.....		9,716		23,835	33,571
1892-93.....		7,295		12,319	19,714
1893-94.....		3,623	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.....		2,462	243	31,335	34,263
1899-1900.....		6,880	307	37,198	39,794
1900-01.....	322	7,780	1,142	155,514	163,838
1901-02.....	1,106	11,925	1,528	172,793	183,147
1902-03.....	817	21,377	1,194	124,695	188,631
1903-04.....	2,079	15,325	2,994	146,070	174,520
1904-05.....	284	17,217	3,683	85,853	105,149
1905-06.....	2,026	15,922	5,337	128,462	153,042
1906-07.....	1,384	16,652	436	110,447	128,219
1907-08.....	2,440	16,652	519	134,541	154,052
1908-09.....	2,487	23,402	649	119,913	146,451
1909-10.....	2,367	21,064	5,818	131,273	160,522
1910-11.....	7,220	27,607	6,927	130,776	172,530
1911-12.....	9,911	63,544	8,777	213,579	295,811
1912-13.....	13,144	74,870	11,114	192,612	291,140
1913-14.....	16,424	58,083	45,776	123,964	244,247
1914-15.....	22,819	64,764	15,252	194,130	296,965

1906-7, nine months.

TABLE showing the number of Tons of Raw and Refined Sugar carried over the Inter-colonial railway during each year from July 1, 1876.

Year.	Raw Sugar.					Refined Sugar.				
	Via Ste. Rosslie.	To Montreal for West.	To St. John for West.	To Local Stations	Total.	To Ste. Rosalie for West.	To Montreal for West.	To St. John for West.	To Local Stations	Total.
	Tons.	Tons.	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			13,862		4,022		2,902	6,924
1881-82		13,256		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		4,394		3,988	8,382		7,674		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		6,390		8,913	16,303		6,778		6,125	12,903
1890-91		5,088	4,670	8,215	17,973		10,130	468	5,096	16,594
1891-92		7,142	3,960	10,535	21,637		12,633	7,647	12,414	32,721
1892-93				10,137	10,137		8,327	6,456	7,840	22,623
1893-94				6,775	6,775		17,729	6,967	8,885	33,581
1894-95				10,342	10,342		13,351	15,819	4,695	33,865
1895-96				9,824	9,824		15,138	13,734	11,309	40,181
1896-97				4,925	4,925		5,694	8,069	6,957	20,720
1897-98							6,624	8,821	10,989	26,534
1898-99							8,138	2,183	15,833	26,164
1899-1900		96			96		9,795	257	19,055	29,907
1900-01		489			489		14,791	12	10,615	25,821
1901-02		90		11,553	11,643		3,101	9,831	861	18,839
1902-03		194		17,137	17,331		3,183	5,763	1,636	20,529
1903-04	357	875		7,495	8,727		6,013	8,628	879	20,400
1904-05	602	600	78	1,495	15,684		1,446	7,107	224	23,937
1905-06		715	68	9,308	10,091		4,235	12,268	176	24,780
1906-07		394		14,671	15,065		1,998	5,898	2,374	13,927
1907-08		912		4,371	5,283		5,280	10,555	723	21,073
1908-09	6	1,705		6,817	8,528		5,095	8,906	979	21,527
1909-10	309	2,000		12,203	14,512		6,402	9,217	1,051	23,224
1910-11	532	1,293		24,166	25,991		6,326	9,368	947	25,026
1911-12	1,096	2,558		12,037	15,711		8,242	9,691	1,519	21,870
1912-13	1,380	14,030			15,410		8,678	9,640	1,422	25,684
1913-14	1,419	1,852			13,077		8,813	8,470	1,609	24,388
1914-15	2,053	1,998		5,894	9,945	10,333	11,381	861	30,399	52,924

1903-7, nine months only.

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TABLE showing the number of Tons of Fresh and Salt Fish carried over the Inter-colonial railway during each year since 1876.

Year.	Fresh Fish.					Salt Fish.				
	Via Ste. Rosalie.	Via Montreal	Via St. John	To Local Stations	Total.	Via Ste. Rosalie.	Via Montreal	Via St. John	To Local Stations	Total.
	Tons.	Tons.	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	3,346
1878-79		471	1,336	817	2,624		988	1,038	1,048	2,974
1879-80		519	1,462	453	2,334		1,612	2,238	959	4,809
1880-81		498	1,879	920	3,297		1,418	937	1,071	4,406
1881-82		475	1,919	967	3,951		4,031	1,066	2,487	7,584
1882-82		542	384	393	1,319		3,229	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	1,655	902	4,216		1,680	3,047	3,376	7,103
1886-87		1,278	1,477	2,008	4,859		3,236	569	1,747	5,552
1887-88		1,533	1,572	1,031	4,041		2,617	470	1,069	4,193
1888-89		2,474	2,000	1,870	6,344		3,070	7,746	2,994	13,810
1889-90		2,335	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		1,959	2,192	2,224	6,375		2,921	1,814	2,962	7,697
1894-95		2,066	3,726	1,160	6,892		2,075	1,849	5,285	10,209
1895-96		1,966	3,059	1,316	6,344		1,863	1,087	2,791	5,741
1896-97		3,397	3,115	1,286	7,708		2,158	1,176	2,536	5,889
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	5,583		1,651	1,198	3,625	5,474
1899-1900		2,547	2,706	3,686	8,939		2,421	1,563	2,658	6,643
1900-01	37	2,009	3,207	4,125	9,393	860	3,416	1,346	4,643	9,768
1901-02	219	3,013	4,373	5,477	13,082	283	3,250	1,413	5,196	10,042
1902-03	149	2,269	3,040	4,842	10,289	493	2,808	1,615	6,579	11,495
1904-05	779	1,939	3,588	5,002	11,068	225	2,359	564	5,848	8,996
1905-06	284	2,448	2,439	7,706	13,177	683	2,740	346	6,994	10,763
1906-07	320	2,882	3,712	7,400	14,314	307	3,159	416	6,848	10,227
1907-08	199	3,288	1,353	6,224	11,064	661	2,856	1,976	7,034	12,527
1908-09	312	2,965	2,794	6,946	13,017	668	4,078	1,632	4,866	11,244
1909-10	547	3,965	2,616	6,525	14,110	697	3,759	806	6,706	14,888
1910-11	1,216	4,300	2,733	6,161	14,110	893	3,590	1,993	9,130	15,546
1911-12	1,476	4,213	1,917	6,686	14,292	4,250	4,060	425	10,108	18,843
1912-13	1,490	4,572	3,928	7,294	17,284	909	5,795	2,902	8,529	18,135
1913-14	2,424	4,424	3,435	9,361	19,744	1,242	5,503	1,657	7,810	16,212
1914-15	2,183	3,746	1,180	9,904	17,013	2,549	6,771	452	9,246	19,018

1906-07, nine months only.

WINDSOR BRANCH.

This road has heretofore been operated by the Dominion Atlantic Railway Company (formerly the Windsor and Annapolis Railway Company) under an agreement which covers also running powers over the Intercolonial railway between Windsor Junction and Halifax; the company retaining two-thirds of the gross earnings and the Government receiving one-third of the gross earnings for maintaining the way and works. Under date the 1st of January, 1914, a new lease was entered into with the company, subject to ratification by Parliament, to be valid for a period of 99 years from that date, the rental to be \$22,500 a year.

Year.	Miles in operation.	One-third gross earnings.	Proportion credited to line Windsor Junction to Halifax.	Proportion 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	21,052 19	13,090 55	7,953 64	
1882-83	32	31,190 77	8,095 88	24,113 89	23,103 93	1,009 96	
1883-84	32	30,328 39	7,409 46	23,018 93	22,140 86	878 07	
1884-85	32	32,246 30	7,794 96	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	39,544 19	9,381 73	30,162 46	18,982 82	11,179 64	
1890-91	32	39,519 50	9,284 48	30,508 35	28,931 71	1,303 42	
1891-92	32	42,891 23	9,382 38	30,235 13	19,514 37	13,994 48	
1892-93	32	43,901 28	9,585 17	34,316 11	16,889 96	17,426 16	
1893-94	32	41,834 70	8,859 23	32,575 47	17,645 09	15,390 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 82	16,476 46	20,085 37	
1896-97	32	54,208 81	13,605 38	40,603 23	10,821 04	29,782 19	
1897-98	32	48,892 21	11,665 57	37,226 64	18,181 09	14,045 01	
1898-99	32	56,314 51	13,840 48	42,474 04	12,873 06	29,600 94	
1899-1900	32	62,266 61	14,925 18	47,351 43	12,891 56	34,459 87	
1900-01	32	62,523 20	15,261 31	47,261 89	16,862 66	30,396 23	
1901-02	32	65,315 38	15,710 79	49,604 59	16,376 27	33,228 32	
1902-03	32	56,417 38	13,856 57	42,560 81	17,843 19	24,717 62	
1903-04	32	72,708 54	19,074 49	53,634 05	24,281 09	29,352 96	
1904-05	32	66,798 46	16,759 79	50,038 67	26,863 16	23,175 51	
1905-06	32	65,936 66	16,484 16	49,452 50	17,485 97	31,966 53	
1906-07	32	61,597 30	16,156 78	45,440 52	15,425 32	30,015 20	
1907-08	32	76,471 58	20,041 17	56,430 41	37,912 11	18,518 20	
1908-09	32	75,781 80	19,750 47	56,031 33	36,234 55	19,796 78	
1909-10	32	81,861 73	21,207 75	60,653 98	23,549 90	37,104 08	
1910-11	32	64,781 89	16,590 46	48,191 43	17,797 98	30,393 45	
1911-12	32	99,996 10	26,819 50	73,176 60	33,854 05	39,322 55	
1912-13	32	93,235 40	24,988 70	68,246 70	29,970 62	38,276 08	
1913-14	32	85,277 77	23,710 25	61,517 52	26,486 98	35,030 54	
1914-15	32	Leased to the Dominion Atlantic Railway Company at an annual rental of \$22,500.					

1906-07—nine months only.

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PRINCE EDWARD ISLAND RAILWAY.

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 in 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	228,505	25	130,664	92	97,930	33	41,039	93,478
1877-78	199	221,599	46	135,899	60	85,699	89	38,668	111,428
1878-79	199	223,313	12	123,855	99	97,457	21	38,923	105,046
1879-80	199	164,640	55	113,851	11	50,789	44	37,208	90,533
1880-81	199	228,259	97	137,267	54	90,922	43	48,315	118,436
1881-82	199	252,808	41	146,170	42	106,637	99	51,920	117,162
1882-83	199	236,428	13	144,504	12	91,924	01	51,841	118,988
1883-84	211	211,267	01	158,583	06	52,618	95	57,346	130,423
1884-85	211	216,744	34	155,584	36	61,159	98	57,913	120,574
1885-86	211	204,237	37	155,363	37	48,934	09	63,589	103,067
1886-87	211	229,639	95	158,365	62	71,276	33	59,603	131,246
1887-88	211	247,559	44	171,369	56	76,189	89	55,632	152,780
1888-89	211	266,485	85	160,971	78	105,524	07	52,604	133,099
1889-90	211	257,990	08	174,258	05	83,732	03	59,511	145,508
1890-91	211	289,706	38	157,442	69	132,263	69	51,065	139,389
1891-92	211	226,422	17	162,690	42	63,731	75	56,718	132,111
1893-94	211	226,891	06	158,533	83	68,857	23	53,577	123,727
1894-95	211	232,165	19	149,634	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	50	153,443	13	87,046	77	52,151	131,498
1897-98	211	231,418	74	158,950	61	72,463	13	57,539	150,510
1898-99	211	218,053	01	165,021	03	53,040	98	57,968	129,667
1899-1900	211	220,931	81	174,738	73	46,193	08	62,227	147,471
1900-01	211	261,766	24	195,833	48	67,883	76	73,606	157,793
1901-02	210	270,159	97	197,969	97	72,160	00	74,381	184,748
1902-03	209	269,737	82	217,714	24	41,923	58	80,582	205,265
1903-04	209	335,695	44	234,390	03	101,305	41	86,286	224,517
1904-05	209	370,464	44	217,330	61	153,133	83	75,969	235,194
1905-06	261	294,253	16	267,270	57	36,982	59	87,162	371,092
1906-07	267	282,148	50	215,534	97	67,713	53	67,144	232,256
1907-08	267	399,947	79	304,579	83	93,367	96	97,250	317,828
1908-09	267-5	400,330	00	311,319	63	69,010	78	105,090	332,758
1909-10	267-5	427,283	73	319,074	74	108,208	99	103,741	251,038
1910-11	267-5	424,164	00	337,419	55	86,684	45	108,263	356,761
1911-12	267-5	449,962	91	367,203	39	82,759	52	120,218	388,076
1912-13	267-5	489,972	34	389,474	07	100,498	27	122,784	433,888
1913-14	275-2	571,415	37	409,616	74	161,798	63	115,751	445,739
1914-15	275-2	568,226	97	415,495	44	182,731	53	125,272	423,496

1906-7, nine months only.

CANALS.

STATEMENT showing the total cost of construction of the individual Dominion canal works and connecting waters, up to March 31, 1915.

Route from Montreal to Lake Superior.

	Original Construction.	Enlargement of Canals.	Improvements to St. Lawrence River and Lakes.	Totals.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Lachine Canal.....	2,589,532 85	11,387,717 10		13,977,249 95
Lake St. Louis.....			298,176 11	298,176 11
Soulanges Canal.....	7,870,284 74			7,870,284 74
Beauharnois Canal.....	1,636,690 26			1,636,690 26
Lake St. Francis.....			75,906 81	75,906 71
Cornwall Canal.....	1,945,624 73	5,300,679 48		7,246,304 21
Williamsburg Canal.....	1,320,655 54	13,896 26		1,334,551 80
Farrans Point Canal.....		877,090 57		877,090 57
Rapide Plat Canal.....		2,154,242 00		2,158,242 00
Galops Canals.....		6,121,213 70		6,121,213 70
Galops Rapids.....			1,039,895 65	1,039,895 65
St. Lawrence River and reaches.....			711,238 93	711,238 93
North Channel.....			1,718,778 83	1,718,778 83
Murray Canal.....	1,248,946 71			1,248,946 71
Welland Canal.....	7,693,824 03	21,854,424 09		29,548,248 12
Sault Ste. Marie Canal.....	4,994,372 51			4,994,372 51
Totals.....	29,299,931 37	47,713,263 20	3,843,996 23	80,857,190 80

Route from Lachine to Ottawa.

	Original Construction.	Enlargement.	Total.
	\$ cts.	\$ cts.	\$ cts.
Ste. Anne's Lock.....	134,456 51	1,035,759 12	1,170,215 63
Carillon and Grenville Canals*.....	763,033 64	4,119,039 32	4,182,062 96
Culbute Canal (superseded).....	382,391 46		382,391 46
Total.....	579,901 61	5,154,798 44	5,734,700 05

*Construction by the Imperial Government is not included. Records relating to same were kept in Ordnance Office, Montreal, and were destroyed by fire in 1852.

Route from Ottawa to Kingston.

	Original Construction.	Enlargement.	Total.
	\$ cts.	\$ cts.	\$ cts.
Rideau Canal.....	4,084,323 37	83,130 84	4,167,454 21
Tay Canal.....	489,599 23		489,599 23
Total.....	4,573,922 60	83,130 84	4,657,053 44

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Route from St. Johns, P.Q., to Sorel.

—	Original Construction.	Enlargement.	Total.
	\$ cts.	\$ cts.	\$ cts.
Chambly Canal.....	637,086 76	94,639 76	731,696 52
St. Ours Lock	121,537 65	5,690 91	127,228 56
Total.....	758,594 41	100,330 67	858,925 08

Route from Lake Ontario to Georgian Bay.

—	Original Construction,	Enlargement.	Total.
	\$ cts.	\$ cts.	\$ cts.
Trent Canal.....	14,612,735 30	.....	14,612,735 30
Total.....	14,612,735 30	.....	14,612,735 30

Route from Atlantic Ocean to Bras d'Or Lakes.

—	Original Construction.	Enlargement.	Total.
	\$ cts.	\$ cts.	\$ cts.
St. Peter's Canal—Cape Breton.....	248,762 84	399,784 30	648,547 14
Total.....	248,762 84	*399,784 30	648,547 14

* This amount is expenditure on Capital Account, up to 1896 included. A further sum of \$176,049.05 has been expended since April 1st, 1911, on income account.

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COMPARATIVE STATEMENT of Tons of Freight which passed through the canals in seasons of 1913 and 1914.

Name of Canal.	Season of 1913.	Season of 1914.	Number of trips of vessels.	
			Season of 1913.	Season of 1914.
Sault Ste. Marie.....	42,699,324	27,549,184	8,285	5,977
Welland.....	3,570,714	3,860,969	3,229	3,692
St. Lawrence.....	4,302,427	4,391,493	11,656	10,245
Chambly.....	555,602	436,965	3,197	2,694
St. Peter's.....	71,514	54,180	1,337	1,200
Murray.....	180,576	83,907	1,277	971
Ottawa.....	365,438	385,132	2,938	2,472
Rideau.....	171,223	151,739	2,820	2,635
Trent.....	55,800	67,715	3,666	3,647
St. Andrew's*.....	81,295	42,013	988	334
Total.....	52,053,913	37,023,257	39,393	33,867

*This is a lock and dam on the Red River, between Winnipeg and Lake Winnipeg, built and operated by the Department of Public Works.

TABLE showing the dates of opening and closing of the canals for the season of 1914.

	Navigation Opened 1914.	Navigation Closed 1914.	
Lachine.....	April 27.....	December 8.....	
Soulanges.....	" 27.....	" 5.....	
Grenville.....	" 29.....	November 28.....	
Carillon.....	" 29.....	" 28.....	
St. Anne's.....	" 27.....	December 3.....	
Chambly.....	May 1.....	" 1.....	
St. Ours.....	" 1.....	November 30.....	
Cornwall.....	April 27.....	December 12.....	
Williamsburg {	Farrans Point.....	" 27.....	" 14.....
	Rapide Plat.....	" 27.....	" 14.....
	Galops.....	" 23.....	" 14.....
Murray.....	" 21.....	" 8.....	
Welland.....	" 15.....	" 18.....	
Sault Ste Marie.....	" 20.....	" 14.....	
Rideau {	At Ottawa.....	May 1.....	November 30.....
	At Kingston.....	" 1.....	" 17.....
	Hastings to Rice Lake.....	April 7.....	" 28.....
	Rice Lake to Peterborough.....	" 25.....	December 5.....
	Peterborough to Lakefield.....	May 13.....	November 19.....
Peterborough to Lift Lock.....	" 13.....	" 7.....	
Trent.....	Lakefield to Bobcaygeon.....	April 29.....	" 19.....
	Bobcaygeon to Rosedale.....	May 12.....	" 19.....
	Kirkfield to Lake Simcoe.....	" 11.....	" 10.....
	Kirkfield Lift Lock.....	" 11.....	October 29.....
	Lake Simcoe to Orillia.....	" 1.....	November 17.....
St. Peter's.....	Scugog River and Lindsay Lock.....	April 15.....	" 18.....
		" 29.....	December 26.....

PART IX
ACTS AUTHORIZING RAILWAY SUBSIDIES
IN FORCE MARCH 31, 1915



2 GEORGE V.

CHAP. 7.

An Act to aid the construction of the Canadian Northern Alberta Railway.

[Assented to 1st April, 1912.]

WHEREAS, by chapter 6 of the statutes of 1910, authority Preamble. was given to the Governor in Council to aid and assist the construction of the line of railway of the Canadian Northern Alberta Railway Company, hereinafter called "the Company," by guaranteeing the principal and interest of the bonds, debentures, debenture stock or other securities of the Company to the extent of thirteen thousand dollars per mile for the first fifty miles of the line so aided, and for the remainder of the said line to an amount of twenty-five thousand dollars per mile, not exceeding in all one hundred and fifty miles, as in the said Act set out, and the Governor in Council, pursuant to the said authority, has granted such aid accordingly; and whereas the Company has authority, under the said Act, to construct and operate a line of railway from a point at or near Edmonton or Strathcona to a point in the province of British Columbia in or near the Yellowhead Pass, and fifty miles west of the boundary of the said province: Therefore His Majesty, by and with the advice and consent of the Senate and House of Commons of Canada, enacts as follows:—

1. This Act may be cited as *The Canadian Northern* Short title.
Alberta Railway Aid Act, 1912.

2. His Majesty on behalf of the Dominion of Canada, Aid authorized. hereinafter called "the Dominion," may aid and assist the construction and completion of a line of railway of the Company extending from a point on the line of the railway
20—27½ 419
of

of the Company one hundred and fifty miles westerly from St. Albert, thence in a westerly direction to the boundary of the province of British Columbia at or in the Yellowhead Pass, for a distance not exceeding one hundred and fifteen miles, by guaranteeing the principal and interest of the bonds, debentures, debenture stocks and other securities, hereinafter called "securities," secured as hereinafter mentioned, of the Company, to the extent of thirty-five thousand dollars per mile of the said line of railway so aided, not exceeding in all one hundred and fifteen miles; the interest upon the said securities to be paid at the rate of three and one-half per cent per annum, payable half yearly, the principal to be payable in fifty years from the passing of this Act.

3. The said securities so guaranteed shall be secured by a deed or deeds of trust by way of mortgage or charge to a trustee or trustees, approved of by the Governor in Council, and such deed or deeds of trust shall respectively grant a first mortgage or charge upon the said line of railway so aided, and the right of way, station grounds, or other real estate and interest therein, buildings and other structures and improvements, rolling stock and equipment, plant, machinery, tools, supplies, materials and other personal properties, present and future, acquired for the purposes of the said line so aided, and in connection with operating, repairing and maintaining it, and the tolls, incomes and revenues of the Company arising and to arise from the said line, and the rights, privileges, franchises and powers of the Company now or hereafter held with respect to and in connection with the said line and the operation, maintenance and repair thereof.

4. The kind of securities to be guaranteed as aforesaid, and the forms thereof, and the form and terms of the deed or deeds of trust securing them, and the times and manner of the issue of securities and the disposition of the moneys to be raised thereon by sale, pledge or otherwise, pending the expenditure of such moneys for the purposes of the line of railway so aided, and the forms and manner of guarantee, shall be such as the Governor in Council approves, and such terms, provisions and conditions may be included in such deed or deeds of trust as the Governor in Council deems expedient or necessary.

5. The said guarantee shall be signed by the Minister of Finance, or such officer as is designated by the Governor in Council to sign it; and upon being so signed the Dominion shall become liable as guarantor for the payment of the principal and interest of the securities so guaranteed, according

Line of railway aided.

Nature of aid.

Interest.

Maturity of principal.

Security.

First mortgage.

Nature of securities, and form of trust deed.

Signature to guarantees.

Effect.

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according to the tenor thereof, and the said payment shall form a charge upon the Consolidated Revenue Fund.

6. Any moneys paid by the Dominion under any guarantee herein provided for shall be held to be paid in discharge of the liability of the Dominion and not in discharge of the liability of the Company under the securities so guaranteed, or under any deed of trust securing them, and the moneys so paid shall be held to be still secured by the said securities and deed of trust, and the Dominion shall be subrogated in and to all the rights of the holders of such securities, the interest upon or the principal of which has been paid by the Dominion, and the Dominion shall, with respect to all moneys so paid, be in all respects in the position of security holders with respect to whose securities default has been made in payment to the extent of the moneys paid by the Dominion.

Liability of Dominion discharged by payments

7. The decision of the Governor in Council as to the length of the mileage of the said line of railway so to be aided shall, for the purposes of this Act, be final.

Length of lines.

8. The books of the Company shall at all times be open for inspection for and on behalf of the Dominion by any person named in that behalf by the Governor in Council or the Minister of Finance.

Inspection of books.

9. The Canadian Northern Railway Company shall, by guarantee included in the said deed or deeds of trust, or in some other instrument agreed to by the Governor in Council or the Minister of Finance and the last named company, in such form as the Governor in Council approves, guarantee to the Dominion the due payment by the Company of the principal and interest of all securities issued and guaranteed under the provisions of this Act, according to the tenor and effect of such securities respectively, and in accordance with the terms of the said deed or deeds of trust, and shall also guarantee to the Dominion the due payment by the Company of all loss or costs which the Dominion may sustain or be put to in enforcing, after default, the provisions of the said deed or deeds of trust against the line of railway and premises thereby mortgaged and charged.

Guarantee by Canadian Northern Railway.

Principal and interest.

Costs of default.

10. The line hereby aided, as set forth or described in section 2 of this Act, shall be constructed and completed according to the following specifications:—

Standard of construction.

Bridges over rivers and large streams are to be of concrete and steel construction and to be built to the classification of the Heavy Standard Specification of the Department of Railways and Canals, dated one thousand nine hundred and eight.

Bridges.

Bridges

- Trestles.** Bridges of pile or frame trestle may be constructed over small streams which can be taken care of by culverts, such culverts to be constructed within a reasonable time after the line is put in operation, of which time the Governor in Council shall be the sole judge.
- Culverts.**
- Rails.** The line of railway shall be laid with steel rails, not less than eighty pounds to the lineal yard, with standard fastenings.
- Curves and grades.** The maximum curvature shall not be of less radius than seven hundred and sixteen feet, and the grades against east bound traffic shall not exceed five-tenths of one per cent, or 26·40 feet per mile; or six-tenths of one per cent, or 31·68 feet per mile, against west-bound traffic; provided that under exceptional conditions, with the consent of the Governor in Council, less radius of curvature and heavier grades may be allowed, on the recommendation of the chief engineer of the Department of Railways and Canals, approved by the Minister of Railways and Canals, but in no case shall the curvature exceed five hundred and seventy-three feet radius, or the gradients exceed 52·80 feet to the mile.



2 GEORGE V.

CHAP. 8.

An Act respecting aid toward the construction of the Canadian Northern Alberta Railway.

[Assented to 1st April, 1912.]

HIS Majesty, by and with the advice and consent of the Senate and House of Commons of Canada, enacts as follows:—

1. This Act may be cited as *The Canadian Northern Alberta Railway Act, 1912.* Short title.

2. The aid and assistance which, under *The Canadian Northern Alberta Railway Act, 1910*, (hereinafter called "the said Act"), the Governor in Council was authorized to give to the Canadian Northern Alberta Railway Company (hereinafter called "the Company") in respect of the construction of the one hundred and fifty miles of the line of railway therein described (hereinafter called "the old line") may, notwithstanding anything in the said Act, be applied to the first one hundred and fifty miles of the Company's line of railway at present constructed or located running from St. Albert, in the province of Alberta, in a generally westerly direction toward the Yellowhead Pass, such last mentioned one hundred and fifty miles being herein referred to as "the new line." Aid to company may be applied to new line.

3. The Governor in Council may cause to be executed by the Minister of Finance, or such other officer as the Governor in Council may designate, an instrument, in form approved by the Governor in Council, supplementary to the deed of trust, by way of mortgage or charge, made under the authority of the said Act and dated the twenty-second Execution of mortgage.

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day of March one thousand nine hundred and eleven, (herein called the original mortgage), for the purpose of giving effect to the provisions of this Act.

Securities
already issued
to be a
charge on
new line

4. Upon the execution of such instrument by the Company and the Minister of Finance, or the other person as aforementioned, the securities issued under the original mortgage shall form a charge upon the new line instead of upon the old line, and the proceeds of the guaranteed securities issued under the original mortgage shall thereupon be applied in and toward the construction of the new line.

Trustees
to execute.

5. The trustees of the original mortgage shall concur with the Company and the Governor in Council in executing, or causing to be executed, the supplementary instrument aforementioned.

Amendment
of contract
for construction.

6. Upon the passing of this Act the contract made between His Majesty the King and the Company, dated the second day of September, one thousand nine hundred and eleven, in respect of the construction of the line of railway aided under the said Act may be amended by the parties thereto so as to provide for the construction and completion of the new line instead of the line therein mentioned, and the several parties to the said contract and to the original mortgage are hereby authorized and empowered to execute the several documents and make the several amendments necessary to carry into effect the intent of this Act.



2 GEORGE V.

CHAP. 9.

An Act to authorize the granting of a Subsidy to the Canadian Northern Pacific Railway Company in aid of the construction of the railway therein mentioned.

[Assented to 1st April, 1912.]

HIS Majesty, by and with the advice and consent of the Senate and House of Commons of Canada, enacts as follows:—

1. This Act may be cited as *The Canadian Northern Pacific Railway Aid Act*. Short title.

2. The Governor in Council may grant a subsidy of twelve thousand dollars per mile to the Canadian Northern Pacific Railway Company towards the construction of a railway from a point at Yellowhead Pass to Vancouver and the mouth of the Fraser river, not exceeding five hundred and twenty-five miles. Subsidy authorized.

3. The said subsidy shall be payable out of the Consolidated Revenue Fund of Canada and may, at the option of the Governor in Council, on the report of the Minister of Railways and Canals, be paid as follows:— Manner and conditions of payment.

- (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; the cost for the purposes of this paragraph to be determined by the Governor in Council; or,
- (c) upon the progress estimates on the certificate of the chief engineer of the Department 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 thirty thousand dollars; or,

(d) with respect to (b) and (c), part one way part the other.

Time for construction limited.

4. The said railway, unless already commenced, shall be commenced within two years from the first day of August, nineteen hundred and twelve, and completed within a reasonable time, not to exceed four years from the said first day of August, to be fixed by the Governor in Council, and shall be constructed according to descriptions, conditions and specifications approved by the Governor in Council on the report of the Minister of Railways and Canals. and specified in a contract between the said Company and the said Minister, which contract the Minister, with the approval of the Governor in Council, is hereby empowered to make. The location of the said railway shall be subject to the approval of the Governor in Council.

Contract for construction.

Location.

Transportation of Government supplies, etc.

5. The said Company, its successors and assigns, and any person or company controlling or operating the said railway or portion thereof, shall each year furnish to the Government of Canada transportation for men, supplies, materials and mails over the portion of the railway 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 Board of Railway Commissioners for Canada; and in or towards payment for such charges the Government of Canada shall be credited by the said Company with a sum equal to three per cent per annum on the amount of the subsidy received by the Company under this Act.

Production of accounts.

6. As respects the railway for which such subsidy is granted the Company at any time owning or operating it 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.

Canadian steel rails, materials, and rolling stock.

7. The Governor in Council may make it a condition of the granting of the subsidy herein provided that the said Company shall lay the railway with new steel rails and fastenings made in Canada, and shall purchase all materials and

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and supplies required for the construction of the railway, and the rolling stock for the first equipment of the railway, from Canadian producers, if such rails, fastenings, materials, supplies and equipment are procurable in Canada of suitable quality and upon terms as favourable as elsewhere, of which the Minister of Railways and Canals shall be the judge.



2 GEORGE V.

CHAP. 48.

An Act to authorize the granting of Subsidies in aid of the construction of the railways and bridges therein mentioned.

[Assented to 1st April, 1912.]

HIS Majesty, by and with the advice and consent of the Senate and House of Commons of Canada, enacts as follows:—

1. This Act may be cited as *The Railway Subsidies Act, 1912.* Short title.

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:—

1. For a line of railway from Liverpool, via Milton, to Caledonia, Nova Scotia, in lieu of the subsidy granted by chapter 40 of 1907, section 1, item 5; not exceeding 30 miles.

2. For a line of railway from St. John to Grand Falls, New Brunswick, exclusive of a railway bridge across the

Kennebecasis River, at or near Perry Point, and two railway bridges across the St. John River, one at or near Mistake and one at or near Andover; in lieu of the subsidy granted by chapter 51 of 1910, section 1, item 12; not exceeding 228 miles.

3. To the L'Avenir and Melbourne Railway Company for a line of railway from Melbourne to Drummondville, in lieu of the subsidy granted by chapter 51 of 1910, section 1, item 22; not exceeding 28 miles.

4. To the Ha Ha Bay Railway Company for the following lines of railway:—

(a) from a point on the Quebec and Lake St. John Railway in the township of Jonquières, at or near St. Mathias, to Ha Ha Bay; not exceeding 20 miles;

(b) from Labrosse Junction to the Saguenay River, northerly through the town of Chicoutimi; not exceeding 5 miles;

(c) from La Terrière Junction, southerly, to Lake Kenogami, via La Terrière village; not exceeding 12 miles.

(d) from a point on the Ha Ha Bay Railway, at or near Bagotville village, easterly, to the village of St. Alexis; not exceeding 3 miles;

the said subsidies sub-items (a), (c) and (d) being granted in lieu of the subsidy granted by chapter 51 of 1910, section 1, item 27; and the subsidy sub-item (b) being granted in lieu of the subsidy granted by chapter 51 of 1910, section 1, item 19, sub-item (g); not exceeding in all 40 miles.

5. For a line of railway at or near Ste. Agathe des Monts station towards the township of Howard, in the county of Argenteuil, passing near Lake St. Joseph and St. Mary in a southerly direction, in lieu of the subsidy granted by chapter 63 of 1908, section 1, item 26; not exceeding 15 miles.

6. To the Interprovincial and James Bay Railway Company, for a line of railway from a point on the Lake Temiscamingue Colonization Railway at or near Timiskaming to or towards the De Quinze River; in lieu of the subsidy granted by chapter 43 of 1906, section 1, item 42; not exceeding 50 miles.

7. To the Canadian Northern Quebec Railway Company, for a line of railway from a point at or near Arundel to a point in the municipality of the united townships of Preston and Hartwell, in lieu of the subsidy granted by chapter 51 of 1910, section 1, item 17; not exceeding 30 miles.

8. To the Quebec and Saguenay Railway Company, for the following lines of railway:—

(a) from St. Joachim, northeasterly; not exceeding 62.8 miles;

(b) from a point 62.8 miles northeasterly from St. Joachim towards Seven Islands; not exceeding 107.2 miles;

the

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the said subsidies being granted in lieu of the subsidy granted by chapter 51 of 1910, section 1, item 25; not exceeding in all 170 miles.

9. For a line of railway from a point at or near Montreal to a point at or near Mile 837 west of Moncton on the National Transcontinental Railway, in lieu of subsidy granted by chapter 51 of 1910, section 1, item 45; not exceeding 200 miles.

10. To the Algoma Central and Hudson Bay Railway Company, for the following lines of railway:—

- (a) from Sault Ste. Marie to a point on the Canadian Pacific Railway between White River and Dalton stations in the district of Algoma; not exceeding 200 miles;
- (b) from Michipicoten Harbour, Lake Superior, towards the main line of the Canadian Pacific Railway; not exceeding 25 miles;
- (c) from a point on the Canadian Pacific Railway, northerly, towards the National Transcontinental Railway; not exceeding 50 miles;

the said subsidies being granted in lieu of the subsidies granted by chapter 51 of 1910, section 1, item 30; not exceeding in all 275 miles.

11. To the Algoma Eastern Railway Company (formerly the Manitoulin and North Shore Railway Company) for the following lines of railway:—

- (a) from a point on the said company's line of railway between Little Current and Sudbury, westerly towards the Algoma Central and Hudson Bay Railway; not exceeding 76 miles;
- (b) from a point at or near Sudbury, northerly; not exceeding 30 miles;

the said subsidies being granted in lieu of the subsidies granted by chapter 51 of 1910, section 1, item 29, sub-items (a) and (c) respectively; not exceeding in all 106 miles.

12. To the Tillsonburg, Lake Erie and Pacific Railway Company, for a line of railway from Ingersoll to Stratford, or to a point on the Grand Trunk Railway between Berlin and Stratford, in lieu of the subsidy granted by chapter 40 of 1907, section 1, item 12; not exceeding 35 miles.

13. To the Lac Seul, Rat Portage and Keewatin Railway Company, for a line of railway from a point at or near Kenora to the National Transcontinental Railway, in lieu of the subsidy granted by chapter 51 of 1910, section 1, item 32; not exceeding 22 miles.

14. To the Toronto, Lindsay and Pembroke Railway Company, for a line of railway from Golden Lake to Bancroft, in lieu of the subsidy granted by chapter 51 of 1910, section 1, item 38; not exceeding 51 miles.

15. To the Canadian Pacific Railway Company, for a line of railway from a point at or near Teulon to a point on the
the

the Icelandic River, in lieu of the subsidy granted by chapter 43 of 1906, section 1, item 27; not exceeding 35 miles.

16. To the Vancouver, Westminster and Yukon Railway Company, for a line of railway from Vancouver via Second Narrows of Burrard Inlet, northerly, in lieu of the subsidy granted by chapter 63 of 1908, section 1, item 55; not exceeding 100 miles.

17. To the Kootenay Central Railway Company, for the following lines of railway:—

(a) from Golden via Windermere and Fort Steele to a point on the British Columbia Southern Railway at or near Jukeson; not exceeding 175 miles;

(b) from a point on the British Columbia Southern Railway at or near Caithness towards the International boundary; not exceeding 25 miles;

the said subsidies being granted in lieu of the subsidy granted by chapter 51 of 1910, section 1, item 43; not exceeding in all 200 miles.

18. To the Kettle Valley Railway Company, for a line of railway from a point at or near Grand Forks to a point 50 miles up the North Fork, and East or West Fork of North Fork, of Kettle River, in lieu of the subsidy granted by chapter 63 of 1908, section 1, item 1; not exceeding 50 miles.

19. To the Esquimalt and Nanaimo Company, for the following lines of railway:—

(a) from Wellington to Alberni; not exceeding 60 miles;

(b) from a point at or near McBride Junction to or towards the village of Sandwich; not exceeding 45 miles;

(c) from the village of Sandwich to Campbell River; not exceeding 38 miles;

the said subsidies being granted in lieu of the subsidies granted by chapter 40 of 1907, section 1, item 20, and chapter 63 of 1908, section 1, item 35; not exceeding in all 143 miles.

20. For a line of railway from a point on the Esquimalt and Nanaimo Railway, near Campbell River, towards Fort George, on the line of the Grand Trunk Pacific Railway, in lieu of the subsidy granted by chapter 63 of 1908, section 1, item 54; not exceeding 100 miles.

21. To the Fredericton and Grand Lake Coal and Railway Company, for a line of railway from a point on the Intercolonial Railway at Gibson to a point at or near Minto, together with a branch line from a point on the above mentioned line to Marysville; not exceeding 35 miles.

22. To the Great Northern Mining and Railway Company, Limited, for a line of railway from Little River through Belle Marche to Eastern Harbour; not exceeding 3 miles.

23. To the Southampton Railway Company, for a line of railway from a point at or near Millville to a point on the St. John River near the Pokiok Bridge; not exceeding 13 miles.

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24. To the Northern New Brunswick and Seaboard Railway Company, for a line of railway from the Drummond mines, at Austin Brook, a branch of the Nipisiguit River above Great Falls, in the county of Gloucester, to a point on the Intercolonial Railway, and from such point to Alston Point, on the north side, or to Caron Point, on the south side of the entrance to Bathurst Harbour in the said county; not exceeding 26 miles.

25. To the North Shore Railway Company, for the following lines of railway:—

(a) from a point at or near Adamsville, in the county of Kent, to a point at or near Snowshoe Lake in the said county, connecting with the Grand Trunk Pacific Railway; not exceeding 20 miles;

(b) from Beersville, in the county of Kent, via Roxton, to a point at or near Richibucto Head, in the said county; not exceeding 20 miles;

not exceeding in all 40 miles.

26. For a line of railway from a point at or near Rosevale in the County of Albert to Stoney Creek in the said county, and thence to the city of Moncton; not exceeding 22 miles.

27. To the Quebec Central Railway Company, for the following lines of railway:—

(a) for an extension of its line of railway from a point (30 miles from St. George) in the parish of St. Justine, county of Dorchester, to a point in the parish of St. Sabine, in the county of Bellechasse; not exceeding 1'34 miles;

(b) for an extension of its line of railway from a point (31'34 miles from St. George) in the parish of St. Sabine, county of Bellechasse, to a point in the township of Dionne, county of L'Islet; not exceeding 50 miles; not exceeding in all 51'34 miles.

28. To the Canada and Gulf Terminal Railway Company, for a line of railway from Matane, easterly, to Gaspé Basin; not exceeding 200 miles.

29. To the Grand Lake and Bell River Railway Company, for a line of railway from a point on the National Transcontinental Railway, at or near Bell River, thence following the direction of Bell River to Twenty-one Mile Bay, an arm of Grand Lake, or to Rabbit Lake on the Ottawa River, in the county of Pontiac; not exceeding 45 miles.

30. To the St. Charles and Huron River Railway Company, for a line of railway from a point on the main line of the Quebec and Lake St. John Railway, at Indian Lorette station, thence up the valley of the St. Charles River in a northerly direction to Stoneham; not exceeding 7'5 miles.

31. For a line of railway from a point on the National Transcontinental Railway, at or near Mile 837 west of

Moncton, in a northerly and northwesterly direction, to a point at or near the mouth of the Nottaway River on James Bay; not exceeding 300 miles.

32. To the Simcoe, Grey and Bruce Railway Company, in respect of fifty miles of its proposed railway between the towns of Kincardine and Orillia, the said fifty miles to include that portion of the said line connecting the towns of Owen Sound and Meaford.

33. To the Algoma Central and Hudson Bay Railway Company, for a line of railway from a point fifty miles northerly from the junction of its line of railway with the Canadian Pacific Railway, northerly to a junction with the National Transcontinental Railway; not exceeding 65 miles.

34. To the Rainy River Radial Railway Company, for a line of railway from a point on the northern boundary of the state of Minnesota at or near the town of Fort Frances, to a point on the Lake of the Woods, at or near the mouth of Little Grassy River; not exceeding 50 miles.

35. To the Lake Erie and Northern Railway Company, for the following lines of railway:—

(a) from the town of Galt to Port Dover; not exceeding 58 miles;

(b) from the town of Paris (on the line from the town of Galt to Port Dover) to the village of Ayr; not exceeding 10 miles;

not exceeding in all 68 miles.

36. To the Bruce Mines and Algoma Railway Company, for a line of railway from a point on its line of railway at or near Rock Lake Mine in a generally northerly and easterly direction to or towards a point on the main line of the Canadian Pacific Railway near the crossing of the said railway of the Winneboga River; not exceeding 50 miles.

37. To the Manitoba and North Western Railway Company, for a line of railway from a point at or near Hamiota to a point at or near Birtle; not exceeding 30 miles.

38. To the Alberta Pacific Railway Company, for a line of railway from a point at or near the town of Cardston in a northwesterly direction via Pincher Creek to a point on the Crow's Nest Pass Branch of the Canadian Pacific Railway Company at or near Lundbreck, thence northerly and west of the Porcupine Hills towards Calgary; not exceeding 100 miles.

39. To the Burrard Inlet Tunnel and Bridge Company, for the following lines of railway:—

(a) from the town of Eburne on the Fraser River to a point at or near the mouth of Seymour Creek on the north shore of the Second Narrows; not exceeding 10 miles;

(b) from a point at or near Seymour Creek on the north shore of the Second Narrows to Deep Cove on the north arm of Burrard Inlet; not exceeding 5 miles;

(c)

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(c) from a point at or near Seymour Creek on the north shore of the Second Narrows to a point on Horseshoe Bay; not exceeding 14 miles;

(d) from a point at or near Pender street in the city of Vancouver to a point at or near lot 264, North Vancouver; not exceeding 3 miles;

not exceeding in all 32 miles.

40. To the Caribou, Barkerville and Willow River Railway Company, for a line of railway from a point on the Grand Trunk Pacific Railway, at or near Eagle Lake, to a point on the Caribou Road at or near the town of Barkerville; not exceeding 107 miles.

41. To the Naas and Skeena Rivers Railway Company, for a line of railway from the Nascega Gulf or some other point on the waters of the Portland Inlet or Naas River to or towards the anthracite coal deposits on the Skeena River near Ground Hog Mountain; not exceeding 100 miles.

42. To the Kettle Valley Railway Company, for a line of railway from a point at or near Penticton on Okanagan Lake to a point on the International boundary; not exceeding 50 miles.

43. To the Calgary and Fernie Railway Company, for a line of railway from a point at or near the city of Calgary in the province of Alberta, in a southwesterly direction, via Kananaskis Pass and the headwaters of the Elk River to or towards the city of Fernie, in the province of British Columbia; not exceeding 100 miles.

44. To the Grand Trunk Pacific Railway Company, for a line of railway from Harte southwesterly into the city of Brandon; not exceeding 25 miles.

3. The Governor in Council may grant the subsidies hereinafter mentioned towards the construction and completion of the bridges also hereinafter mentioned, that is to say:—

Subsidies for bridges.

1. To the Vancouver, Westminster and Yukon Railway Company, towards the construction and completion of a railway bridge across Burrard Inlet, in lieu of the subsidy granted by chapter 63 of 1908, section 2, item 6; not exceeding \$350,000.

2. To the Canadian Pacific Railway Company (lessees of the Calgary and Edmonton Railway Company) towards the construction and completion of a bridge over the Saskatchewan River connecting Stratheona and Edmonton, 15 per cent upon the amount expended thereon, in lieu of the subsidy granted by chapter 63 of 1908, section 2, item 2; not exceeding \$126,000.

3. To the Canadian Pacific Railway Company, towards the construction and completion of a bridge over the Saskatchewan River at Outlook, Saskatchewan, 15 per cent upon

upon the amount expended thereon; not exceeding \$115,000.

4. To the Kettle Valley Railway Company, towards the construction and completion of a railway bridge over the Fraser River, near Hope, British Columbia; not exceeding \$250,000.

5. To the Caribou, Barkerville and Willow River Railway Company, towards the construction and completion of all its railway bridges (about twenty in number) over the Willow River, 25 per cent upon the total amount expended thereon; not exceeding \$95,000.

6. To the Grand Trunk Pacific Railway Company, towards the construction and completion of a railway bridge over the Assiniboine River at the city of Brandon, 25 per cent upon the amount expended thereon; such bridge to be completed without unnecessary delay.

"Cost" defined.

4. 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 nor the cost of 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 the Department of Railways and Canals, 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.

How subsidies shall be paid.

5. The subsidies hereby authorized towards the construction of any railway or bridge shall be payable out of the Consolidated Revenue Fund of Canada, and may, unless otherwise expressly provided in this Act, 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 the progress estimates on the certificate of the chief engineer of the Department of Railways and Canals that in his opinion, having regard to the whole work undertaken and the aid granted, the progress made

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made justifies the payment of a sum not less than thirty thousand dollars; or,

- (d) With respect to (b) and (c), part one way, part the other.

6. The subsidies hereinbefore authorized to be granted to companies named shall, if granted by the Governor in Council, be granted to such companies respectively; the other subsidies may be granted to such companies as establish to the satisfaction of the Governor in Council their ability to construct and complete the said railway and bridges respectively; all the lines and the bridges 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, 1912, and completed within a reasonable time, not to exceed four years from the said first day of August, to be fixed by the Governor in Council, and shall also be constructed according to descriptions, conditions and specifications approved by the Governor in Council on the report of the Minister of Railways and Canals, and specified in each case in a contract between the company and the said Minister, which contract the Minister, with the approval of the Governor in Council, is hereby empowered to make. The location also of such subsidized lines and bridges shall be subject to the approval of the Governor in Council. Conditions.

7. The granting of such subsidies and the receipt thereof by the respective companies shall be subject to the condition that the Board of Railway Commissioners for Canada 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 the railway and bridges so subsidized reasonable and proper facilities in exercising such running power, fair and reasonable traffic arrangements with connecting companies, and equal mileage rates between all such connecting railways; and the said Board shall have absolute control, at all times, over the rates and tolls to be levied and taken by any of the companies, or upon any of the railways and bridges hereby subsidized: Provided always that any decision of the said Board made under this section may be at any time varied, changed or rescinded by the Governor in Council, as he deems just and proper. As to running powers.

8. Every company receiving a subsidy under this Act, its successors and 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, materials and mails over the portion of the lines in respect of which it has Transportation of Government supplies, etc.

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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 Board of Railway Commissioners for Canada; 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 the subsidy received by the company under this Act.

Production
of accounts.

9. As respects all railways and bridges for which subsidies are granted by this Act, the company at any time owning or operating any of the railways or bridges 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 or bridge, the cost of operating it, and the earnings thereof.

As to
Canadian
steel rails.

10. The Governor in Council may make it a condition of the grant of the subsidies herein provided that the company shall lay the railway with new steel rails and fastenings made in Canada and shall purchase all materials and supplies required for the construction of the railway and bridges, and the rolling stock for the first equipment of the railway, from Canadian producers, if such rails, fastenings, materials, supplies and equipment are procurable in Canada of suitable quality and upon terms as favourable as elsewhere, of which the Minister of Railways and Canals shall be the judge.

Mode of
payment of
certain
railway
subsidies.

11. Whenever a contract has been duly entered into with a company for the construction of any line of railway hereby subsidized, the Minister of Railways and Canals, at the request of the Company, and upon the report of the chief engineer of the Department of Railways and Canals and his certificate that he has made careful examination of the surveys, plans and profile of the whole line so contracted for, and has duly considered the physical characteristics of the country to be traversed and the means of transport available for construction, naming the reasonable and probable cost of such construction, may, with the authorization of the Governor in Council, enter into a supplementary agreement, fixing definitely the maximum amount of the subsidy to be paid, based upon the said certificate of the chief engineer and providing that the company shall be entitled to be paid, as the minimum, the ordinary subsidy of \$3,200 per mile, together with sixty per cent of the difference between the amount so fixed and the said \$3,200 per mile, if any; and the balance, forty per cent, shall be paid only on completion

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completion of the whole work subsidized, and in so far as the actual cost, as finally determined by the Governor in Council upon the recommendation of the Minister of Railways and Canals, and upon the report and certificate of the said chief engineer, entitles the company thereto: Provided always—

- (a) that the estimated cost, as certified, is not less on the average than \$18,000 per mile for the whole mileage subsidized;
- (b) that no payment shall be made except upon a certificate of the chief engineer that the work done is up to the standard specified in the company's contract;
- (c) that in no case shall the subsidy exceed the sum of \$6,400 per mile.



3-4 GEORGE V.

CHAP. 10.

An Act to authorize the granting of subsidies in aid of the construction of certain lines of railway of the Canadian Northern Ontario Railway Company and the Canadian Northern Alberta Railway Company respectively.

[Assented to 6th June, 1913.]

HIS Majesty, by and with the advice and consent of the Senate and House of Commons of Canada, enacts as follows:—

1. The Governor in Council may grant a subsidy of six thousand four hundred dollars per mile to the Canadian Northern Ontario Railway Company, towards the construction of a railway from the city of Toronto, in the province of Ontario, to the city of Ottawa, in the said province, not exceeding two hundred and fifty miles.

Subsidy authorized for Toronto to Ottawa line.

2. The Governor in Council may grant a subsidy of twelve thousand dollars per mile towards each of the under-mentioned lines of railway (not exceeding in any case the number of miles hereinafter respectively stated) namely:—

For Ottawa to Port Arthur, and Edmonton to Yellowhead Pass.

(a) to the Canadian Northern Ontario Railway Company, for a line of railway from the city of Ottawa, in the province of Ontario, to the city of Port Arthur in the said province; not exceeding 910 miles;

(b) to the Canadian Northern Alberta Railway Company for a line of railway from the city of Edmonton, in the province of Alberta, to the boundary of the province of British Columbia at or in the Yellowhead Pass: not exceeding 260 miles.

How
subsidies
shall be paid.

3. The subsidies hereby authorized shall be payable out of the Consolidated Revenue Fund of Canada and may, at the option of the Governor in Council, on the report of the Minister of Railways and Canals, be paid as follows;—
- (a) upon 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; the cost for the purpose of this paragraph to be determined by the Governor in Council; or,
 - (c) upon the progress estimates on the certificate of the chief engineer of the Department 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 thirty thousand dollars; or,
 - (d) with respect to (b) and (c), part one way, part the other.

Time for
construction
of railway
limited.

4. The lines, for the construction of which subsidies are hereby granted, shall be completed within a reasonable time, not to exceed three years from the first day of August, nineteen hundred and thirteen, to be fixed by the Governor in Council, and shall also be constructed and completed to the satisfaction of the Governor in Council.

Conditions
as to
running
powers.

5. The granting of such subsidies and the receipt thereof by the respective companies shall be subject to the condition that the Board of Railway Commissioners for Canada 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 the railway so subsidized reasonable and proper facilities in exercising such running power, fair and reasonable traffic arrangements with connecting companies, and equal mileage rates between all such connecting railways; and the said Board shall have absolute control, at all times, over the rates and tolls to be levied and taken by any of the companies, or upon any of the railways hereby subsidized; provided always that any decision of the said Board made under this section may be at any time varied, changed or rescinded by the Governor in Council as he deems just and proper.

Transporta-
tion of
Government
supplies, etc.

6. The Companies receiving subsidies under this Act, their successors and assigns, and any person or company controlling or operating the railways or portions of the railways subsidized under this Act, shall each year furnish to the

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the Government of Canada transportation for men, supplies, materials and mails over the portion of the lines 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 Board of Railway Commissioners for Canada; and in and toward the payment of such charges the Government of Canada shall be credited by the company with a sum equal to three per cent on the amount of the subsidy received by the company under section 1 of this Act and on the amount of the subsidy up to six thousand four hundred dollars per mile received by the Company under section 2 of this Act.

7. As respects the railways for which subsidies are granted by this Act, the company at any time owning or operating any of the 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.

Books to be produced.

8. No subsidy shall be granted under this Act unless and until there shall have been issued and transferred upon the books of the Canadian Northern Railway Company to the Minister of Finance and Receiver General of Canada, in trust for His Majesty, shares in the common stock of the Canadian Northern Railway Company of the par value of seven million dollars, which said stock and all rights appurtenant thereto shall be held for the benefit of His Majesty absolutely, and shall be deemed to be fully paid up, non-assessable and not subject to calls; provided that the said stock or any part thereof may be disposed of under the authority of Parliament upon such terms and conditions as it may determine and the proceeds of the sale thereof paid into the Consolidated Revenue Fund of Canada.

Transfer of stock to Crown.

Proviso.

9. The Canadian Northern Railway Company is hereby authorized and empowered to issue and transfer to the Minister of Finance and Receiver General of Canada, in trust as aforesaid, from and out of the authorized capital shares of its common stock of the par value of seven million dollars fully paid up and non-assessable and not subject to calls as aforesaid, upon the consideration of the Governor in

Issue of stock in return for subsidies.

Council

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Council undertaking to grant to the Canadian Northern Ontario Railway Company and the Canadian Northern Alberta Railway Company the subsidies referred to in section 2 of this Act upon the terms aforesaid, and such stock when so issued and transferred shall be deemed fully paid without further or other consideration.



3-4 GEORGE V.

CHAP. 46.

An Act to authorize the granting of Subsidies in aid of the construction of the railways and bridge therein mentioned.

[Assented to 6th June, 1913.]

HIS Majesty, by and with the advice and consent of the Senate and House of Commons of Canada, enacts as follows:—

1. This Act may be cited as *The Railway Subsidies Act, 1913.* Short title.

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:—

1. To the Margaree Coal and Railway Company, Limited, for the following lines of railway:—

(a) from a point on the Intercolonial Railway near Orangedale to St. Rose; not exceeding 46 miles;

(b) from a point on the Intercolonial Railway near McIntyre lake to Caribou cove, Port Malcolm, Richmond county; not exceeding 4 miles;

the said subsidies being granted in lieu of subsidy granted by chapter 51 of 1910, section 1, item 4; not exceeding 50 miles.

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2. To the Northern New Brunswick and Seaboard Railway Company, for a line of railway from the Drummond Mines at Austin brook, a branch of the Nipisiguit river above Great Falls in the county of Gloucester to a point on the Intercolonial Railway where it intersects the branch line from Bathurst station to Bathurst Harbour, in lieu of the subsidy granted by chapter 48 of 1912, section 2, item 24; not exceeding 16.9 miles.

3. To the Tobique and Campbellton Railway Company, for a line of railway from Plaster Rock along the Tobique river to Riley brook, in lieu of subsidy granted by chapter 51 of 1910, section 1, item 15; not exceeding 28 miles.

4. To the St. John and Quebec Railway Company, for a line of railway from Andover to St. John, New Brunswick, exclusive of a railway bridge across the St. John river, at or near Mistake, and a railway bridge across the Kennebecasis river at or near Perry Point; in lieu of subsidy granted by chapter 48 of 1912, section 2, item 2; not exceeding 200 miles.

5. To the Lotbinière and Megantic Railway Company for a line of railway from a point at or near Lyster in Megantic county to a point at or near Lime Ridge in the township of Dudswell in the county of Wolfe, in lieu of the subsidy granted by chapter 51 of 1910, section 1, item 23, for a line of railway between the points above mentioned; not exceeding 60 miles.

6. For a line of railway from a point on the Canadian Pacific Railway at or near Scotstown or Megantic to the International boundary, in lieu of the subsidy granted by chapter 40 of 1907, section 1, item 19; not exceeding 35 miles.

7. To the Little Nation River Railway Company for a line of railway from a point between Thurso and Montebello on the line of the Canadian Pacific Railway, northerly, in lieu of the subsidy granted by chapter 51 of 1910, section 1, item 46; not exceeding 30 miles.

8. To the Erie, London and Tillsonburg Railway Company, for a line of railway from Port Burwell to London, passing through or near Vienna, Calton, Aylmer, Kingsmill and Belmont, in lieu of the subsidy granted by chapter 51 of 1910, section 1, item 37; not exceeding 35 miles.

9. To the Tillsonburg, Lake Erie and Pacific Railway Company, for a line of railway from Ingersoll north to a junction with the St. Mary's and Western Ontario railway at Embro, in lieu of the subsidy granted by chapter 48 of 1912, section 2, item 12; not exceeding 10.38 miles.

10. To the Canadian Pacific Railway Company, for a line of railway from Gimli to a point on the Icelandic river at

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at or near Riverton, in lieu of the subsidy granted by chapter 63 of 1908, section 1, item 39, for a line between the points above mentioned; not exceeding 30 miles.

11. To the Canadian Pacific Railway Company, for a line of railway from Moosejaw, in a northwesterly direction, in lieu of the subsidy granted by chapter 63 of 1908, section 1, item 40; not exceeding 123 miles.

12. To the Alberta Central Railway Company, for a line of railway from Red Deer to Rocky Mountain House, in lieu of the subsidy granted by chapter 63 of 1908, section 1, item 38; not exceeding 70 miles.

13. To the Kettle Valley Railway Company, for the following lines of railway:—

- (a) from Merritt to Penticton Wharf; not exceeding 145 miles;
- (b) from a point on the line between Merritt and Penticton Wharf, at or near Penticton, to Midway; not exceeding 135 miles;
- (c) from a point on the line between Merritt and Penticton Wharf, about 25 miles south of Merritt, to a point on the Fraser river near Hope station; not exceeding 55 miles;

the said subsidies being granted in lieu of the subsidies granted by chapter 51 of 1910, section 1, item 42; not exceeding in all 335 miles.

14. To the Calgary and Fernie Railway Company for a line of railway from Michel or Sparwood, in a northerly direction via the headwaters of the Elk river and Kananaskis Pass to a point at or near the city of Calgary, in lieu of the subsidy granted by chapter 48 of 1912, section 2, item 43; not exceeding 100 miles.

3. The Governor in Council may grant the subsidy hereinafter mentioned towards the construction and completion of the bridge hereinafter mentioned, that is to say:—

To the Burrard Inlet Tunnel and Bridge Company towards the construction and completion of a bridge over the Second Narrows of Burrard Inlet, as authorized by chapter 74 of 1910, in lieu of the subsidy granted by chapter 48 of 1912, section 3, item 1; not exceeding \$350,000.

4. 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 or the cost of terminals or the cost of right of way of

Subsidy
for bridge.

"Cost"
defined.

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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 the Department of Railways and Canals, 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.

How
subsidies
shall be
paid.

5. The subsidies hereby authorized towards the construction of any railway or bridge shall be payable out of the Consolidated Revenue Fund of Canada, and may, unless otherwise expressly provided in this Act, 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 the progress estimates on the certificate of the chief engineer of the Department 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 thirty thousand dollars; or,
- (d) With respect to (b) and (c), part one way, part the other.

Conditions.

6. The subsidies hereinbefore authorized to be granted to companies named shall, if granted by the Governor in Council, be granted to such companies respectively; the other subsidies may be granted to such companies as establish to the satisfaction of the Governor in Council their ability to construct and complete the said railways and bridges respectively; all the lines and the bridges 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, one thousand nine hundred and thirteen, and completed within a reasonable time, not to exceed four years from the said first day of August, to be fixed by the Governor in Council, and shall also be constructed according to descriptions, conditions and specifications approved by the Governor in Council on the report of the Minister of Railways and Canals and

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and specified in each case in a contract between the company and the said Minister, which contract the Minister, with the approval of the Governor in Council, is hereby empowered to make. The location also of such subsidized lines and bridges shall be subject to the approval of the Governor in Council.

7. The granting of such subsidies and the receipt thereof by the respective companies shall be subject to the condition that the Board of Railway Commissioners for Canada 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 the railway and bridges so subsidized reasonable and proper facilities in exercising such running power, fair and reasonable traffic arrangements with connecting companies, and equal mileage rates between all such connecting railways; and the said Board shall have absolute control, at all times, over the rates and tolls to be levied and taken by any of the companies, or upon any of the railways and bridges hereby subsidized: Provided always that any decision of the said Board made under this section may be at any time varied, changed or rescinded by the Governor in Council, as he deems just and proper.

8. Every company receiving a subsidy under this Act, its successors and 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, materials and mails over the portion of the lines 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 Board of Railway Commissioners for Canada; 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 the subsidy received by the company under this Act.

9. As respects all railways and bridges for which subsidies are granted by this Act, the company at any time owning or operating any of the railways or bridges shall, when required, produce and exhibit to the Minister of Railways and Canals, or any person appointed by him, all books, accounts

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and vouchers showing the cost of constructing the railway or bridge, the cost of operating it, and the earnings thereof.

As to
Canadian
steel rails.

10. The Governor in Council may make it a condition of the grant of the subsidies herein provided that the company shall lay the railway with new steel rails and fastenings made in Canada and shall purchase all materials and supplies required for the construction of the railway and bridges and the rolling stock for the first equipment of the railway, from Canadian producers, if such rails, fastenings, materials, supplies and equipment are procurable in Canada of suitable quality and upon terms as favourable as elsewhere, of which the Minister of Railways and Canals shall be the judge.

Mode of
payment of
certain
railway
subsidies

11. Whenever a contract has been duly entered into with a company for the construction of any line of railway hereby subsidized, the Minister of Railways and Canals, at the request of the company, and upon the report of the chief engineer of the Department of Railways and Canals and his certificate that he has made careful examination of the surveys, plans and profile of the whole line so contracted for, and has duly considered the physical characteristics of the country to be traversed and the means of transport available for construction, naming the reasonable and probable cost of such construction, may, with the authorization of the Governor in Council, enter into a supplementary agreement, fixing definitely the maximum amount of the subsidy to be paid, based upon the said certificate of the chief engineer and providing that the company shall be entitled to be paid, as the minimum, the ordinary subsidy of \$3,200 per mile, together with sixty per cent of the difference between the amount so fixed and the said \$3,200 per mile, if any; and the balance, forty per cent, shall be paid only on completion of the whole work subsidized, and in so far as the actual cost, as finally determined by the Governor in Council upon the recommendation of the Minister of Railways and Canals, and upon the report and certificate of the said chief engineer, entitles the company thereto: Provided always—

- (a) that the estimated cost, as certified, is not less on the average than \$18,000 per mile for the whole mileage subsidized;
- (b) that no payment shall be made except upon a certificate of the chief engineer that the work done is up to the standard specified in the company's contract;
- (c) that in no case shall the subsidy exceed the sum of \$6,400 per mile.



3-4 GEORGE V.

CHAP 53.

An Act to authorize the granting of Subsidies to the Government of the Province of Ontario in aid of the construction of the Temiskaming and Northern Ontario Railway.

[Assented to 6th June, 1913.]

WHEREAS the Government of the province of Ontario Preamble. has constructed a line of railway known as the Temiskaming and Northern Ontario Railway, from North Bay on the Canadian Pacific Railway, and at a junction with the Toronto line, so called, of the Grand Trunk Railway, to Cochrane on the Grand Trunk Pacific Railway, and several branches thereof, and has them under operation; and whereas the line of railway from North Bay to Cochrane makes a through connection for the Transcontinental Railway with Toronto, and also with Montreal and Quebec, and being, as such, a work of national and not merely provincial utility: Therefore His Majesty, by and with the advice and consent of the Senate and House of Commons of Canada, enacts as follows:—

1. This Act may be cited as *The Temiskaming and Northern Ontario Railway Aid Act*. Short title.

2. The Governor in Council may grant to the Government of the province of Ontario, in consideration of its having constructed each of the undermentioned lines of railway (not exceeding in any case the number of miles hereinafter respectively stated), a subsidy not exceeding \$6,400 per mile:—

Subsidies to Government of Ontario for construction of railways.

- (i) For the line of railway from North Bay on the Canadian Pacific Railway to Cochrane on the Grand Trunk Pacific Railway; not exceeding 252.8 miles.

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- (ii) For the following branch lines of railway:—
- (a) From Englehart to Charlton; not exceeding 7·8 miles;
 - (b) From Cobalt to Kerr Lake; not exceeding 3·9 miles;
 - (c) From Iroquois Falls to Timmins; not exceeding 33·2 miles;
 - (d) From Earlton to Elk Lake City; not exceeding 28·5 miles;
 - (e) From Iroquois Falls Station to Iroquois Falls; not exceeding 7·25 miles.

How
subsidies
shall be paid.

3. The subsidies hereby authorized shall be payable out of the Consolidated Revenue Fund of Canada at the option of the Governor in Council, and may be paid upon the certificate of the chief engineer of the Department of Railways and Canals as to the mileage constructed, in such manner and in such amounts, and subject to such conditions, if any, as the Governor in Council deems expedient.

Commence-
ment of Act.

4. This Act shall come into force on a day to be fixed by proclamation of the Governor in Council published in *The Canada Gazette*.

PART X
PHOTOGRAPHS AND PLANS

PHOTOGRAPHS AND PLANS.

- PLATE
- I. Intercolonial Railway, Moncton Subdivision. Bridge over River Nepisiguit
Intercolonial Railway, Rivière du Loup Subdivision. Bridge over River St. Nicolas.
- II. Intercolonial Railway. Nashwaak Bridge. Mile 195³/₄. Fredericton Subdivision. New steel bridge on concrete piers and abutments.
- III. Intercolonial Railway, Truro Subdivision. Follegh River Bridge.
- IV. Intercolonial Railway, Mont Joli Subdivision. Rivière du Loup Bridge.
Intercolonial Railway, Mont Joli Subdivision. Bridge over Rimouski River.
- V. Intercolonial Railway. Sussex Yard looking east.
- VI. Prince Edward Island Ferry Boat. Deck.
- VII. Prince Edward Island Ferry Boat. Train deck.
- VIII. Intercolonial Railway. Deep water terminals, Halifax. East end and south side of pier No. 2.
- IX. New pier and shed No. 2 of the Intercolonial Railway deep water terminals at Halifax, N.S.
- X. Intercolonial Railway ocean terminals, Halifax, N.S. 150-ton locomotive crane. Capacity, 70¹/₂ tons at 33 foot radius. Length of boom, 45 ft. 6 in. Crane is seen holding a reinforced concrete shell (S3) weighing 58³/₄ tons. Dimensions of shell 31' 6" x 21' 10" x 3' 4". The "Strong Back" weighs about 7 tons. Distance from crane hook to bottom of shell is approximately 17 feet. This crane is to be used for handling reinforced concrete shells in the pouring and storage yards.
- XI. Intercolonial Railway. Deep water terminals. Halifax, N.S. View from tower mixing plant looking northeast. The lines placed on this photograph show the outside lines of the finished work. Dimensions are as follows:—Bulkhead Passenger Landing Quay: North wall, 335¹/₄ feet; east wall, 2,066⁰/₀ feet; south wall, 1,208¹/₁ feet. Pier "A": north wall, 1,250 feet; south wall, 1,250 feet; east wall, 320 feet. Basin No. 1: Width at head, 95 feet, width at east end: 350 feet; narrows at a point, 707⁷/₇ feet in from the cope line of the B.P.L.Q.
- XII. Intercolonial Railway. Ocean terminals, Halifax, N.S. View of shell yard looking west from mixing plant.
- XIII. Hudson Bay Terminus. Port Nelson dry dock, showing hydraulic dredge entering.
- XIV. Hudson Bay Railway Terminus, Port Nelson. Excavating boulders, for crib filling and riprap, from river bed near Flamorough Head. The orange-red dredge, scows and stern wheel tug, in rear, were built at Port Nelson.
Hudson Bay Railway Terminus, Port Nelson. Launch of steel tow barge, salvaged from wreck of ss. *Alette*, and assembled at Port Nelson.
- XV. Hudson Bay Railway. Chemon siding.
Hudson Bay Railway. Cut at Mile 53 looking north.
- XVI. Hudson Bay Railway. Cormorant Lake looking south.
Hudson Bay Terminus. Hydraulic dredge "Port Nelson" at work in the ship channel.
- XVII. Hudson Bay Terminus. View looking towards ship channel, showing work in progress on bridge piers. In the foreground hardwood and steel plate ice protection is being placed. In the immediate foreground, piles for the support of steel superstructure may be seen.
Hudson Bay Terminus. Showing dry dock after hydraulic dredge has been moved out.
- XVIII. Hudson Bay Terminus. Drydock with tugs *Geo. W. Yates* and *Kathleen* entered for repairs during winter.
Hudson Bay Terminus. Government pier, showing temporary trestle. The locomotive crane in the centre of the picture is driving piles for bridge seats. Native timber is shown in the foreground.

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- XIX. Hudson Bay Terminus. View from season's terminal crib, looking shoreward, showing riprap protection about piers.
Hudson Bay Terminus. General view of pier in latter part of October, showing the erection of first span of bridge nearly completed. The remaining spans will be erected by the cantilever method.
- XX. Hudson Bay Railway Terminus at Port Nelson. View from end of breakwater in early spring.
- XXI. Quebec Bridge, over River St. Lawrence, looking eastward down the river.
- XXII. Quebec Bridge, over River St. Lawrence. View showing progress of erection and traveller erecting panel of Top Chord Eyebars. November 27, 1914.
- XXIII. Quebec Bridge, over River St. Lawrence. General view of site and progress of erection to date. The North Anchor Arm is practically complete between the main pier and anchor pier. The duplicate traveller is being erected on the south shore. April 9, 1915.
- XXIV. Quebec Bridge, over River St. Lawrence, north side.
- XXV. Quebec Bridge, across River St. Lawrence, north side.
- XXVI. Quebec Bridge, across River St. Lawrence above Quebec, in course of construction.
- XXVII. Car ferry *Leonard*. For use in transporting trains across the St. Lawrence pending completion of the Quebec Bridge. The train platform is controlled by an hydraulic lift.
- XXVIII. Trent Canal, Severn division. Bottom of Swift Rapids dam and wheelpit of power-house.
Trent Canal, Severn Division. Looking down the Severn river from above Swift rapids.
- XXIX. Trent Canal, Severn Division. Looking down Big Chute. April 23, 1915.
Trent Canal, Severn Division. Looking up the Severn river from below Swift rapids.
- XXX. Welland Ship Canal. West wall, Lock No. 1 (34 feet yet to be built shown dotted).
- XXXI. Welland Ship Canal. Reinforced concrete entrance wall, Lock No. 1, being backfilled.
- XXXII. Welland Ship Canal. Interior of filling culvert in west wall of Lock No. 1. Size 14 ft. x 16½ ft.
- XXXIII. Welland Ship Canal. Channelling sides of rock cutting.
- XXXIV. Welland Ship Canal. Loading wagons with material for watertight embankment.
- XXXV. Welland Ship Canal. Excavating with grading machine.
- XXXVI. Welland Ship Canal. Upper end of pit for Lock No. 2.
- XXXVII. Welland Ship Canal. Spreader at work on harbour embankment.
- XXXVIII. Welland Ship Canal. Building earth dam around concrete core-wall.
- XXXIX. Welland Ship Canal. Concrete protection to banks.
- XL. Welland Ship Canal. 100,000 tons of crushed rock.
- XLI. Welland Ship Canal. Towing reinforced concrete crib out of Port Dalhousie Harbour.
- XLII. Welland Ship Canal. Junction of rock cuts, relocated G.T. Ry. Line.
- XLIII. Welland Ship Canal. Port Weller Harbour, June 30, 1915.
- XLIV. Welland Canal. Port Colborne Elevator. Showing four marine legs at work simultaneously.
- XLV. Welland Canal. Port Colborne Elevator. Showing loading side of recent extension.



Intercolonial Railway, Moncton Subdivision. Bridge over River Nepisiguit.



Intercolonial Railway, Riviere du Loup Subdivision. Bridge over River St. Nicolas.



Intercolonial Railway. Nashuaak Bridge. Mile 105'3. Fredericton Subdivision. New steel bridge on concrete piers and abutments.



Intercolonial Railway, Truro Subdivision. Folliegh River Bridge.



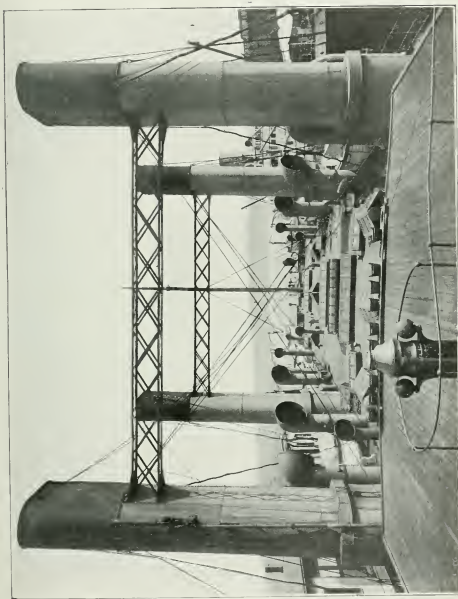
Intercolonial Railway, Mont Joli Subdivision. Rivière du Loup Bridge.



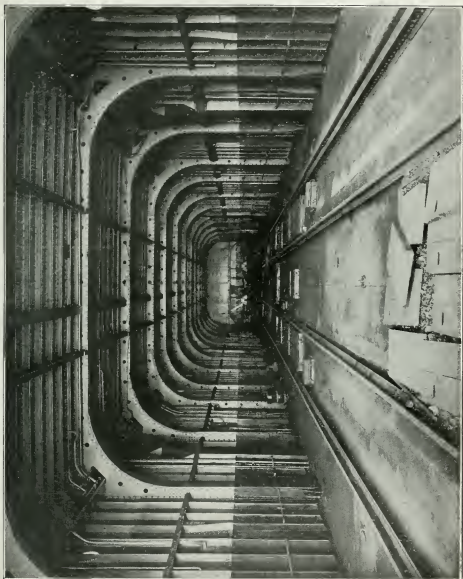
Intercolonial Railway, Mont Joli Subdivision. Bridge over Remouski River.



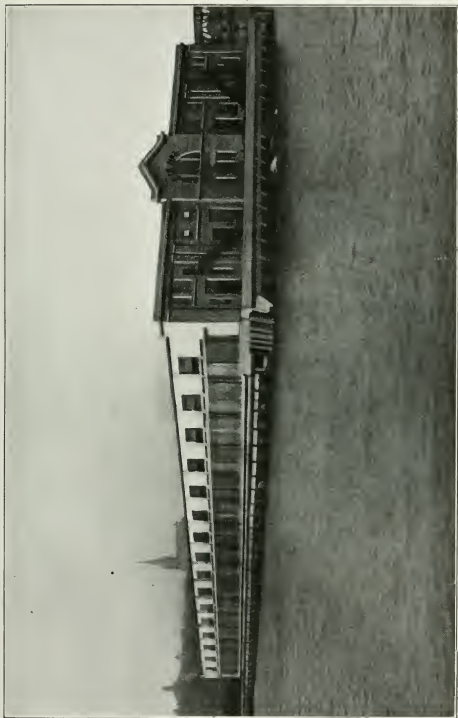
Intercolonial Railway. Sussex Yard looking east.



Prince Edward Island Ferry Boat, Deck.



Prince Edward Island Ferry Boat. Train Deck.



Intercolonial Railway. Deep water terminals, Halifax. East end and south side of pier No. 2.

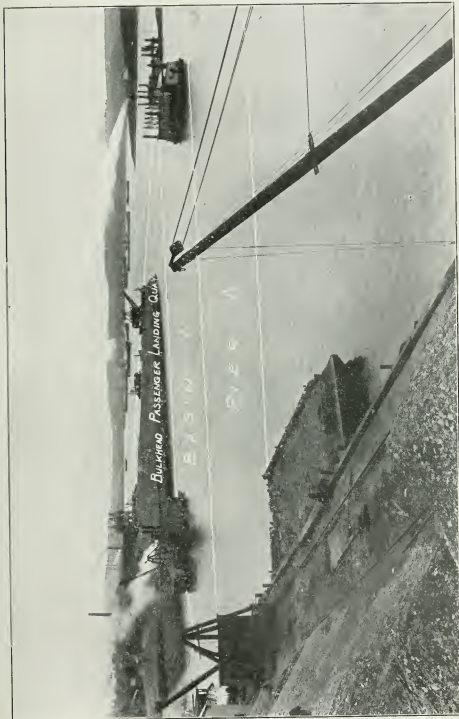


New pier and shed No. 2 of the J. C. Ry. deep water terminals at Halifax, N. S.



Intercolonial Railway ocean terminals, Halifax, N. S.

150 Ton Locomotive Crane. Capacity $70\frac{1}{2}$ tons at 33 foot radius. Length of boom, 45 ft. 6 in. Crane is seen holding a reinforced concrete shell (S3) weighing 58.3 tons. Dimensions of shell 34' 0" x 21' 10" x 3' 4". The "Strong Back" weighs about 7 tons. Distance from crane look to bottom of shell is approximately 17 feet. This crane is to be used for handling reinforced concrete shells in the pouring and storage yards.



Intercolonial Railway. Halifax, N. S.

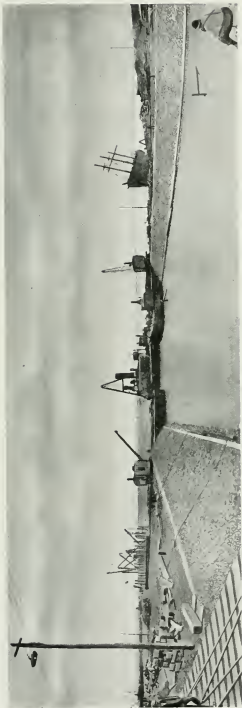
View from tower of mixing plant looking northeast. The lines placed on this photograph show the outside-lines of the finished work. Dimensions are as follows:—Bulkhead Passenger Landing Quay: North Wall, 335.4 feet; East Wall, 2,006.0 feet; South Wall, 1,298.1 feet. Pier "A": North Wall, 1,250 feet; South Wall, 1,290 feet; East Wall, 329 feet. Basin No. 1: Width at head, 95 feet; width at East end: 350 feet; narrows at a point, 707 feet in from the cope line of the B.P.L. Co.







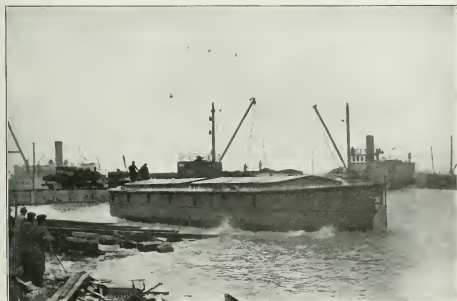
N. S. View of Shell Yard looking West from Mixing Plant.



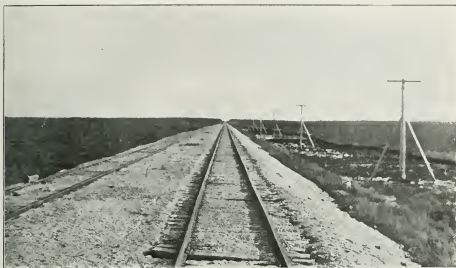
Hudson Bay Terminus. Port Nelson Drydock, showing hydraulic derrick entering.



Hudson Bay Railway Terminus, Port Nelson. Excavating boulders, for crib filling and riprap, from river bed near Flamborough Head. The orangepeel dredge, scows and stern wheel tug, in rear, were built at Port Nelson.



Hudson Bay Railway Terminus, Port Nelson. Launch of steel tow barge, salvaged from wreck of SS. *Alotte*, and assembled at Port Nelson.



Hudson Bay Railway. Chemon Siding.



Hudson Bay Railway. Cut at Mile 53 looking north.



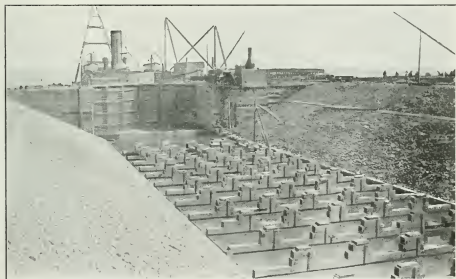
Hudson Bay Railway. Cormorant Lake looking south.



Hudson Bay Terminus. Hydraulic dredge "Port Nelson" at work in the ship channel.



Hudson Bay Terminus. View looking towards ship channel, showing work in progress on bridge piers. In the foreground hardwood and steel plate ice protection is being placed. In the immediate foreground, piles for the support of steel superstructure may be seen.



Hudson Bay Terminus. Showing drydock after hydraulic dredge has been moved out.



Hudson Bay Terminus. Drydock with tugs "Geo. W. Yates" and "Kathleen" entered for repairs during winter.



Hudson Bay Terminus. Government pier, showing temporary trestle. The locomotive crane in the centre of the picture is driving piles for bridge seats. Native timber is shown in the foreground.



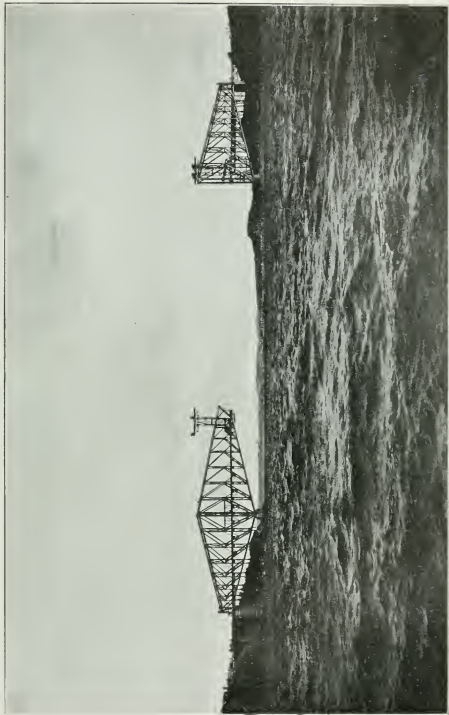
Hudson Bay Terminus. View from season's terminal crib, looking shoreward, showing riprap protection about piers.



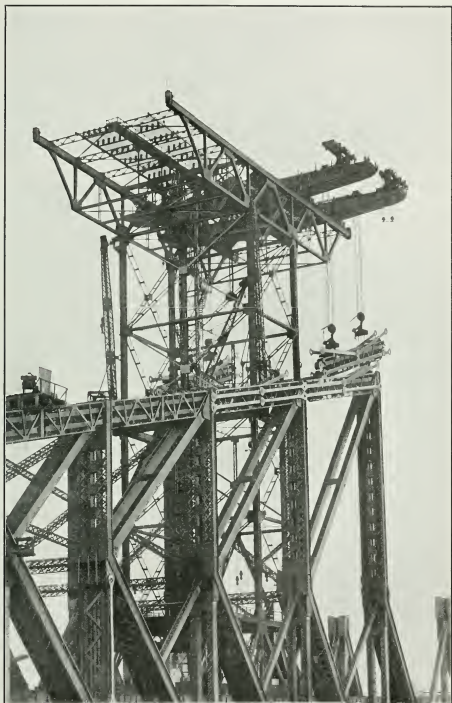
Hudson Bay Terminus. General view of pier in latter part of October, showing the erection of first span of bridge nearly completed. The remaining spans will be erected by the cantilever method.



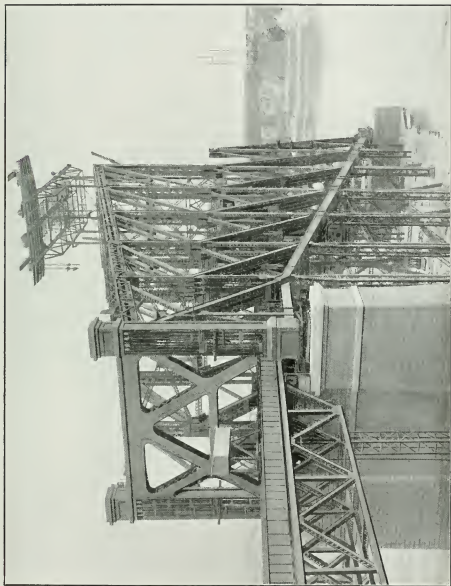
Hudson Bay Railway Terminus at Port Nelson. View from end of Breakwater in early Spring.



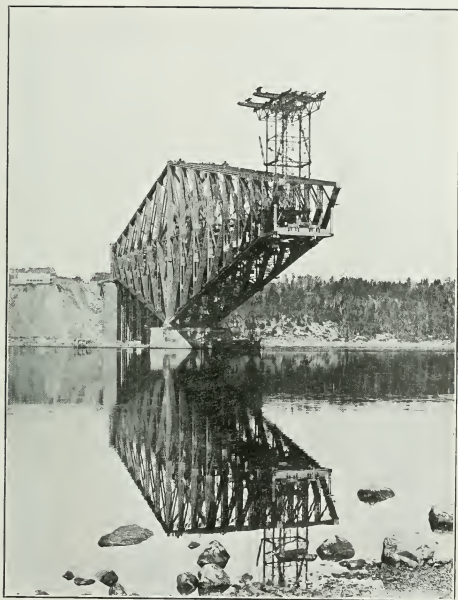
Quebec Bridge over River St. Lawrence, looking eastward down the river.



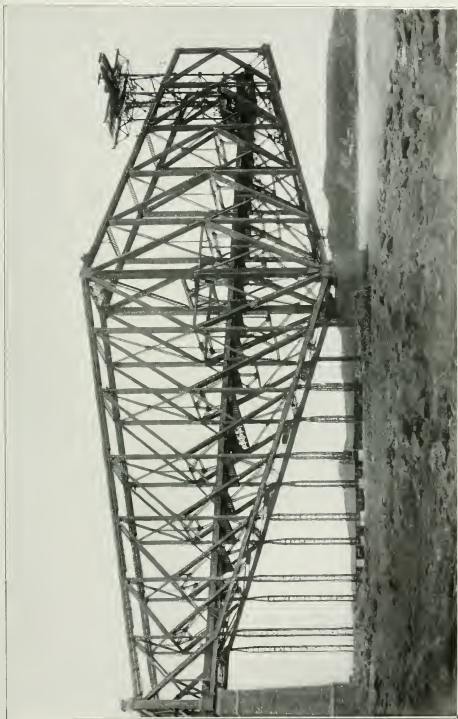
Quebec Bridge, over River St. Lawrence.
View showing progress of erection and traveller erecting panel of Top Chord Eyebars. Nov. 27, 1914.



Quebec Bridge, over River St. Lawrence
 General view of site and progress of erection to date. The North Anchor Arm is practically complete between the Main pier and Anchor pier. The duplicate traveller is being erected on the south shore. April 9, 1916



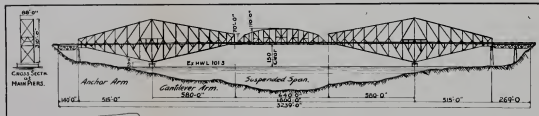
Quebec Bridge over River St. Lawrence, north side.



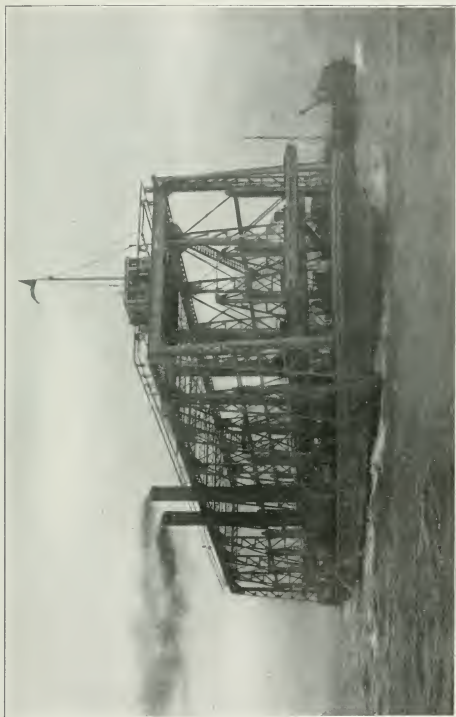
Quebec Bridge, across River St. Lawrence



Quebec Bridge, across River St. Lawrence above Quebec, in course of construction.



Quebec Bridge.



Car Ferry "Leonard." For use in transporting trains across the St. Lawrence, pending completion of the Quebec Bridge. The train platform is controlled by an hydraulic lift.



Trent Canal. Severn division. Bottom of Swift Rapids dam and wheelpit of power house.



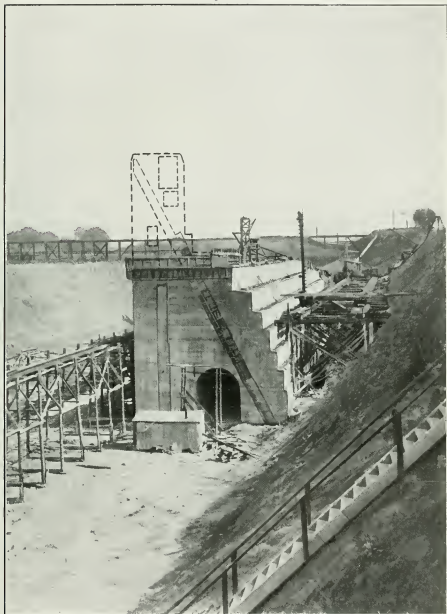
Trent Canal. Severn Division. Looking down the Severn river from above Swift rapids.



Trent Canal. Severn Division. Looking down Big Chute. April 23, 1915.



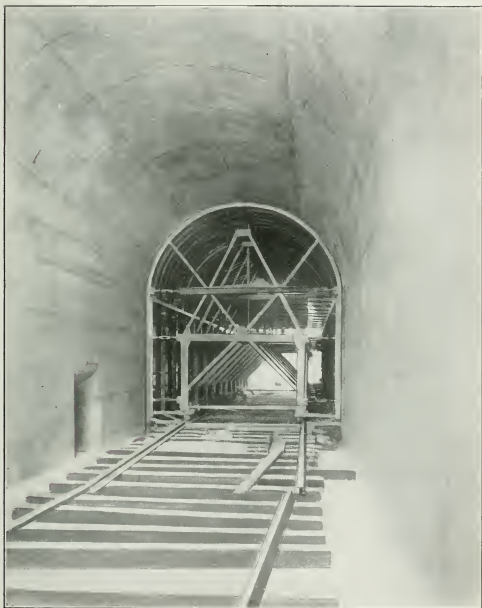
Trent Canal, Severn Division. Looking up the Severn River from below Swift Rapids.



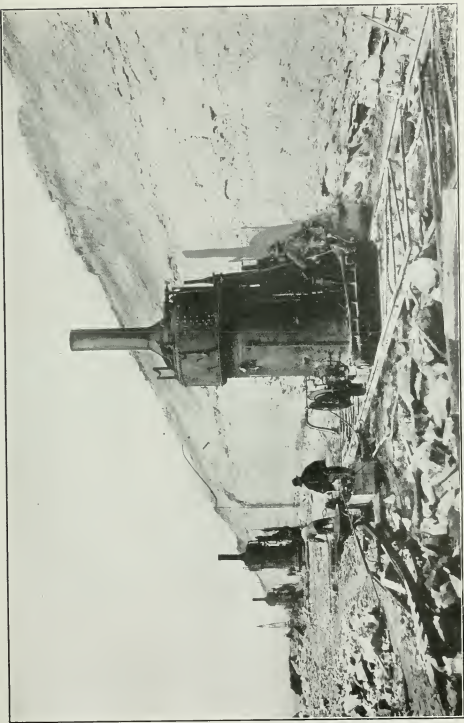
Welland Ship Canal. West Wall, Lock No. 1 (34 feet yet to be built shown dotted.)



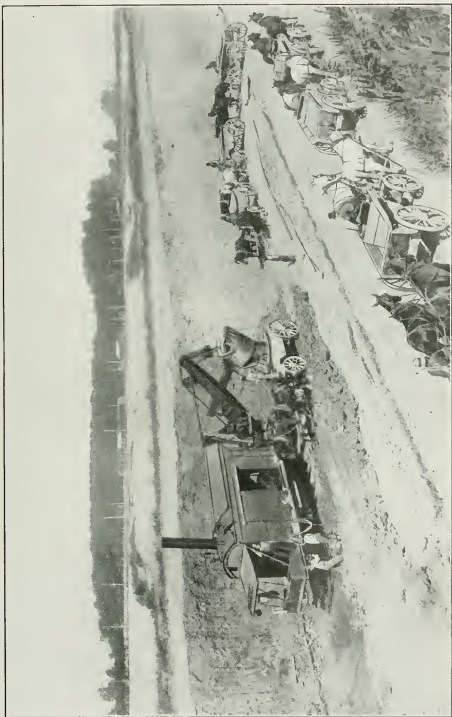
Welland Ship Canal. Reinforced concrete Entrance Wall, Lock No. 1, being backfilled.



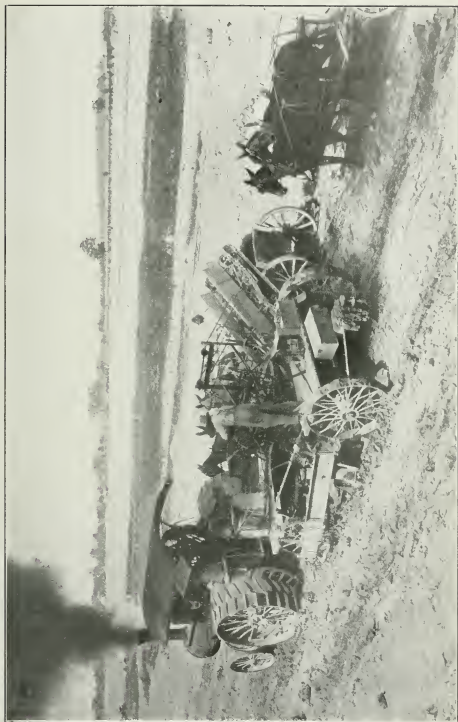
Welland Ship Canal. Interior of filling culvert in West Wall of Lock No. 1. Size 14 ft. x 16½ ft.



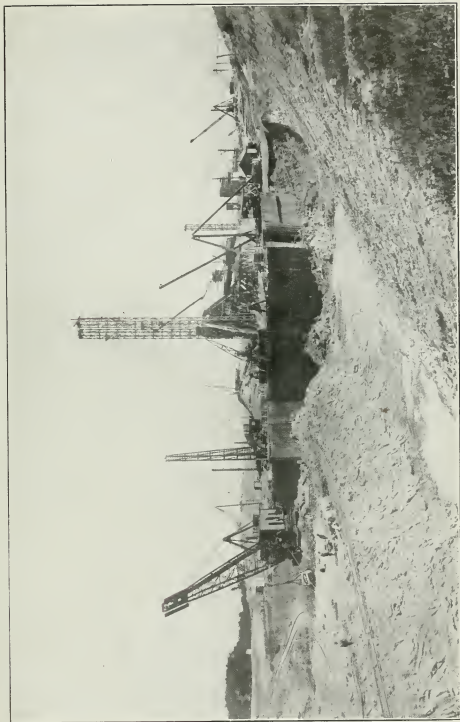
Welland Ship Canal. Channeling sides of rock cutting.



Welland Ship Canal. Loading wagons with material for water-tight embankment.



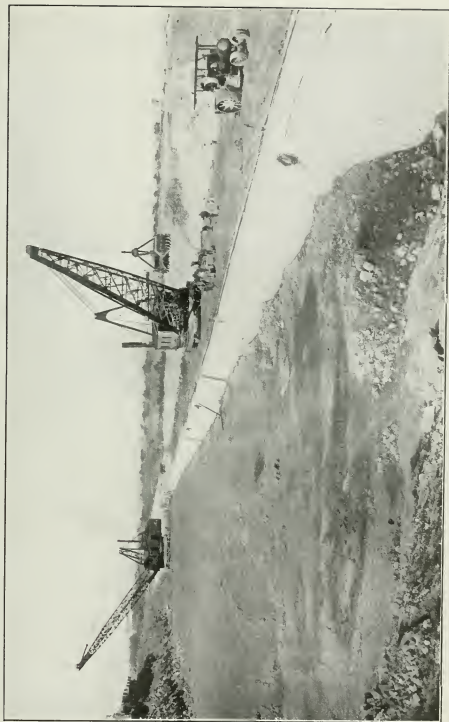
Welland Ship Canal. Excavating with grading machines.



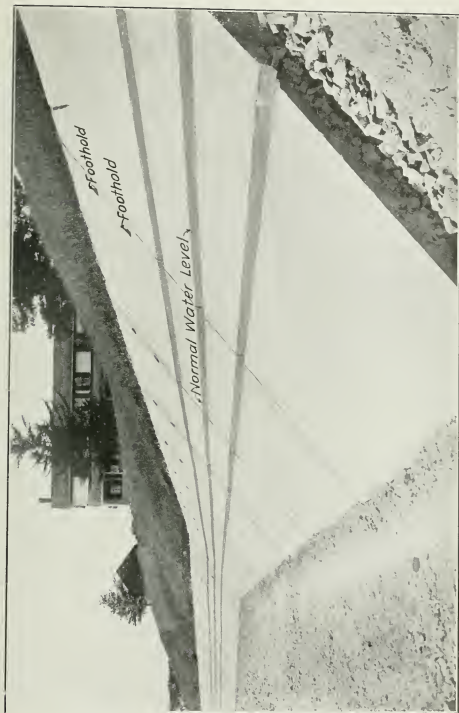
Welland Ship Canal. Upper end of pit for Lock No. 2.



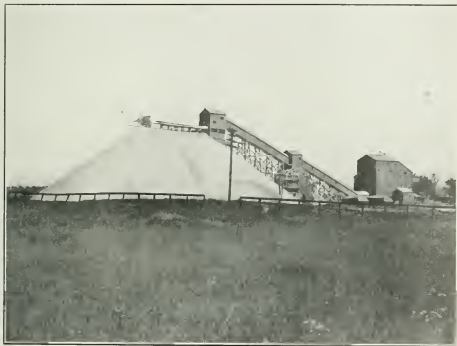
Welland Ship Canal. Spreader at work on Harbour Embankment.



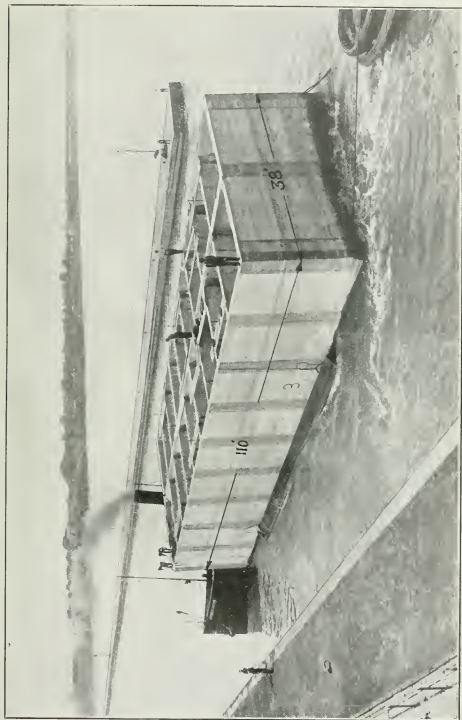
Welland Ship Canal. Building earth dam around concrete core-wall.



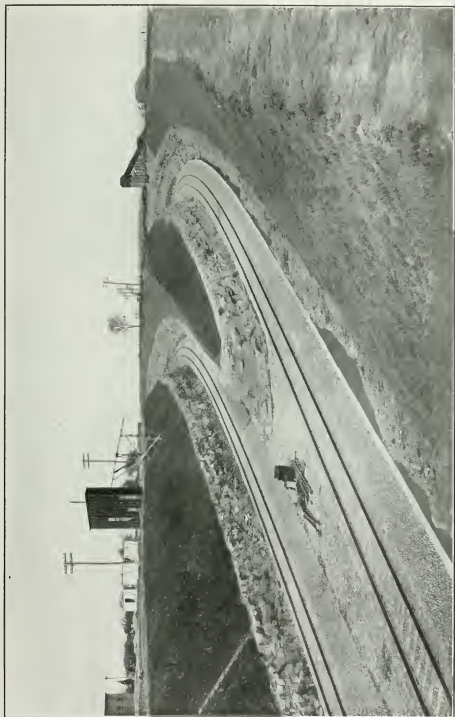
Welland Ship Canal. Concrete protection to banks.



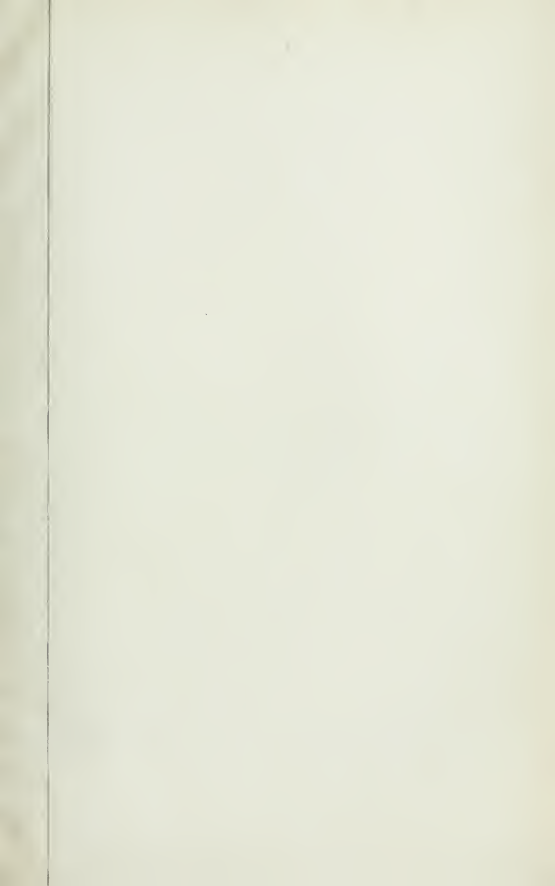
Welland Ship Canal. 100,000 tons of crushed rock.



Welland Ship Canal. Towing reinforced concrete crib out of Port Dalhousie Harbour.

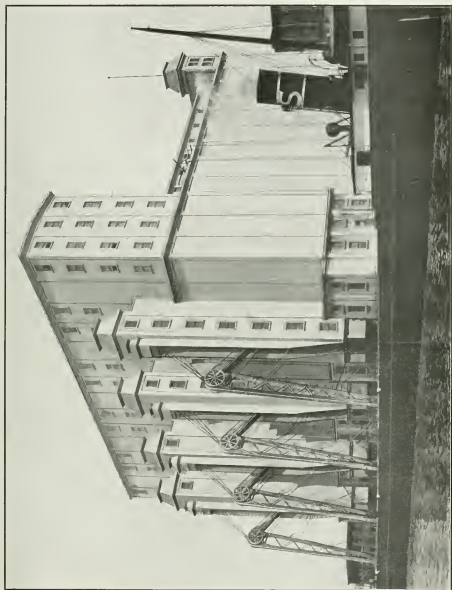


Welland Ship Canal. Junction of rock cuts, relocated G. T. Ry. Line.

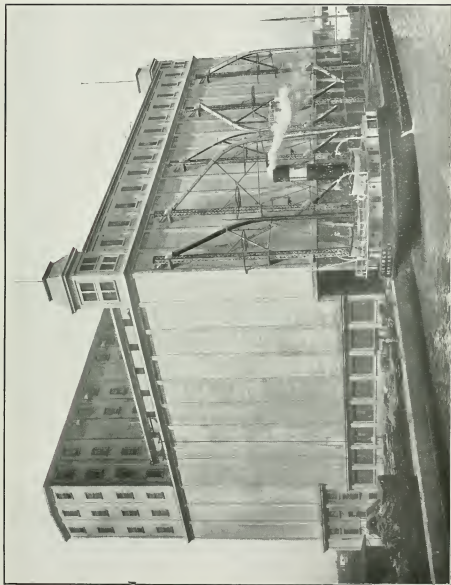








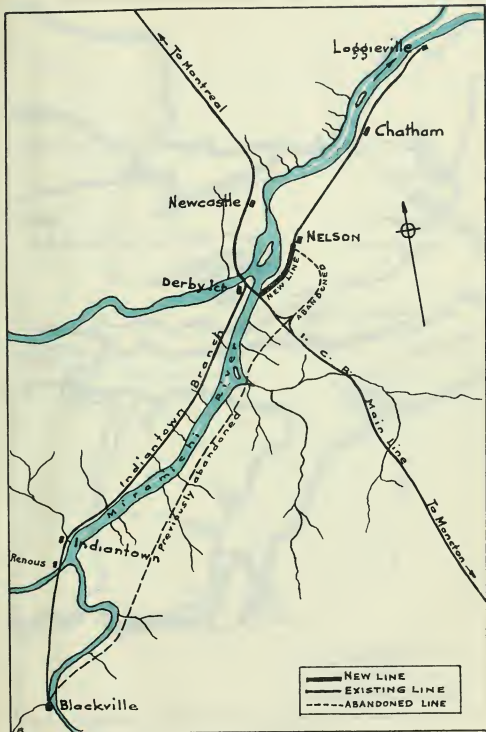
Welland Canal. Port Colborne Elevator. Showing four marine legs at work simultaneously.



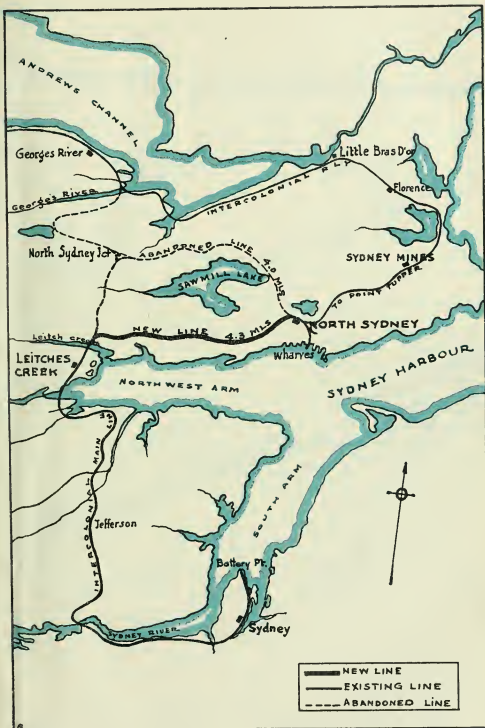
Welland Canal. Port Colborne Elevator. Showing loading side of recent extension.

PLANS





MAP OF DERBY JCT DIVERSION



MAP OF LEITCHES CREEK DIVERSION



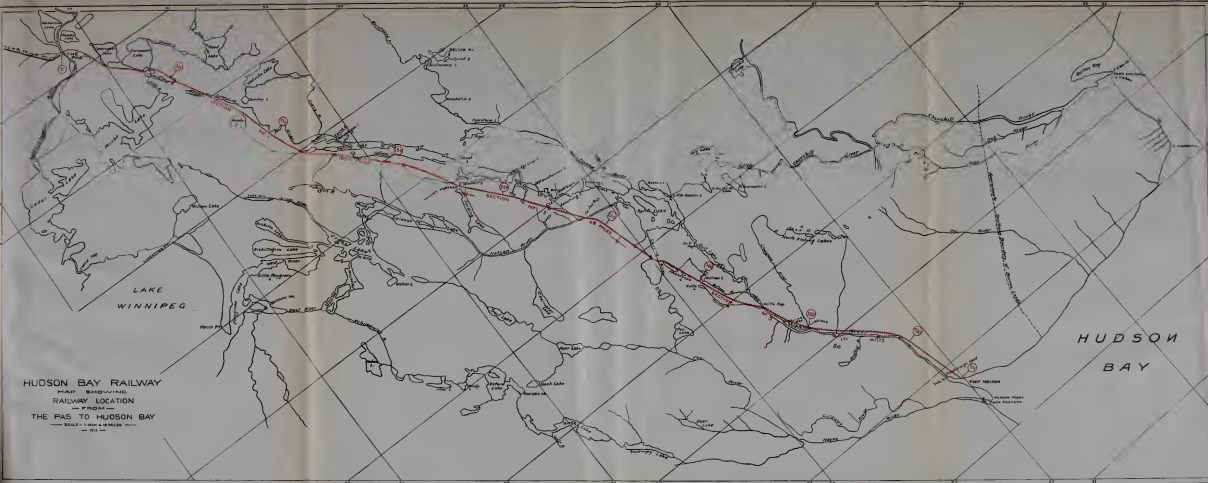
INTERCOLONIAL RAILWAY.
 SKETCH MAP
 SHOWING TERMINALS AND BRANCHES
 AT
HALIFAX, N.S.
 SCALE 1:50,000





HUDSON BAY RAILWAY
MAP SHOWING
RAILWAY LOCATION
FROM
THE PAS TO HUDSON BAY

SCALE - 1 INCH = 100 MILES



HUDSON
BAY



GENERAL DIMENSIONS

Length of Section	500 Feet
Width of Section	200 Feet
Height of East Face above	25 Feet
Top of East Face	20 Feet





THE
GREAT
AMERICAN
BOOK

POST OFFICE
STATION
NEW YORK
CITY

LAKE ONTARIO



NIAGARA PENINSULA
PLAN SHOWING LOCATION OF
WELLAND SHIP CANAL

