

quence of ill-health shortly afterwards accepted the offices of Clerk of the Crown and Joint Clerk of the Peace, which were offered to him by the Government. While holding this position, the performance of his duties was so satisfactory to the public and the Government that on resigning this appointment two years after, to return to practice, he received an official letter recognizing in the most flattering terms the able manner in which he had discharged his duties.

In 1862 or 1863 he was appointed as Assistant Professor of Constitutional and Criminal Law in McGill University, being associated with the Hon. Mr. Justice Badgley. He now occupies that chair alone.

McGill University has conferred upon him the degree of B.C.L.; Bishop's College, Lennoxville, also conferred upon him the degree of L.L.D., being one of the Governors of that institution, having been elected to the position some years since by the Provincial Synod of the Anglican Church. Since the new organization of the Church of England in Canada, Mr. Carter has been a delegate elected to represent the Parish of Sorel in the Diocesan Synod, and has invariably been elected by the members of that body as one of the delegates to the Provincial Synod. In both capacities he has taken an active part in the debates before both Houses. In 1867 Mr. Carter was elected by acclamation to represent Montreal Centre, in the Legislature of Quebec. He was chosen Chairman of the Committee on Private Bills, and was most assiduous in the discharge of his duties. It is to his exertions that in the second session of that Legislature he obtained a measure from the Government relating to education, in which the Protestant minority were deeply interested.

When a general election took place in 1871 he was opposed at the last moment by an old politician and member of the House of Commons, the Hon. L. H. Holton, and after a close contest, was beaten by a majority of only seven votes.

Upon the elevation of the Hon. C. Dunkin, member representing the County of Brome in the House of Commons, to the Bench, Mr. Carter was elected by acclamation last fall to represent that county. Mr. Carter, in the Local Legislature, displayed uncommon ability, and in the larger sphere afforded him by his seat in the Commons, is doubtless destined to play a distinguished part in the politics of the Dominion. For their numbers, the English speaking members of Parliament from the Province of Quebec are conspicuous by their talent, and we judge that the able member who formerly represented Brome, and who now adorns the bench, has been replaced by one who is fully equal to the task of sustaining the well-earned reputation of his Province.

CANADIAN PARLIAMENT.

SENATE.

April 29.—The reports on several petitions having been read, the Act relating to the Larceny of Stamps passed its second reading, after which Hon. Mr. CAMERON laid on the table the correspondence relating to the fishery clauses of the Washington Treaty.

April 30.—In reply to a question from Senator BORSBERG in relation to the gauge of the Intercolonial Railway, Hon. Mr. CAMERON replied that until the law was altered the Government could not change the gauge of that road. The Bill respecting Larceny of Stamps passed through committee, and the House adjourned.

May 1.—Several bills were favourably reported. In answer to Senator HAZEN, Hon. Mr. MITCHELL stated that the estimated cost of the service of Maritime Police for the protection of the fisheries was about \$4,000. The Bill respecting Larceny of Stamps received its third reading, and the House adjourned.

May 2.—The whole of the afternoon's session was taken up with an explanation by Hon. Mr. MITCHELL, at the request of Senator ST. JEAN, of the superannuation of the New Brunswick Light House Inspector.

May 3.—Several private bills were reported, but no business of any importance was transacted.

HOUSE OF COMMONS.

April 29.—Sir JOHN A. MACDONALD laid on the table copies of the correspondence relating to the fishery clauses of the Washington Treaty. In answer to Mr. WALLACE, of Vancouver's Island, Hon. Mr. MORRIS said the Government did not intend bringing down this session any measure for the assimilation of the weights and measures of British Columbia to those of the rest of the Dominion. Mr. JOOKS (Leeds and Grenville) moved for a statement of the costs and charges connected with the Intercolonial Railroad. Carried. Mr. RENAUD moved for correspondence relating to the School Act, passed by the Legislature of New Brunswick, and explained the grievance of the Roman Catholics in that Province. Sir JOHN A. MACDONALD replied that the Dominion Government had no power over the schools in the Provinces, and the Roman Catholics should fight for the removal of the grievance at the polls. After a discussion respecting the composition of the Senate, the members of which, Mr. MILLS contended, should be elected by the people or by the Provincial Legislature, the House adjourned at 11:45.

April 30.—Several private bills were introduced, after which Sir JOHN A. MACDONALD moved to give effect to certain articles of the Treaty of Washington by suspending certain clauses in the Fishery Laws. The bill met with some opposition and was finally withdrawn. Sir JOHN then laid upon the table papers relating to the abduction of the schooner "E. A. Horton." Sir FRANCIS HINCKS, in moving the House into Committee of the Whole on Ways and Means, delivered the usual budget speech. He stated that the amount of the public debt at the end of the fiscal year was nearly eighty million dollars—seven-and-a-half millions of which bore no interest,

as it was a portion of the debt of Old Canada. Notwithstanding the large expenditure in 1871 the net debt decreased for the first time in the history of the country by over half a million dollars. He stated that Canada to-day held no less a sum than three million dollars in London on deposit, which made our financial position impregnable. He estimated the revenue of 1871 at \$17,360,000; and the actual receipts were \$19,335,650. The actual expenditure during the past year was \$15,523,180, leaving a total surplus for the year of \$3,712,470. The actual revenue for the past year amounted to \$20,950,000. He anticipated another million dollars of a surplus revenue next year. While regretting that Sir JOHN A. MACDONALD had been requested to take a seat upon the Joint High Commission, he held that there were no just grounds for the cry that had been raised by the opponents in Canada of the Washington Treaty. Hon. Mr. MACKENZIE proceeded to criticise the speech of the Finance Minister. He commenced by objecting to the large amount of debt it would be necessary to incur in order to carry out the terms of Union with British Columbia. That amount had been at first fixed at \$25,000,000, and it was now stated at \$40,000,000. He next attacked the course of the Government with regard to the Imperial Guarantee. He spoke of the speeches in favour of severing the connection with the Mother Country, recently delivered by a member of the Cabinet and a member of the House, as most unfortunate, and calculated to produce a false impression abroad. He congratulated the Hon. Minister of Finance on the policy adopted respecting the Tariff, which had a true national ring about it. Sir A. T. GALT expressed his pleasure at the prosperity of the country. He still, however, adhered to his idea of ultimate independence. Hon. Messrs. McDONNELL and others followed. Hon. Mr. CHAVEAU referred to the platform of the National party of Quebec, which advocated the commercial independence of Canada, and urged that this was not a safe-guard against commercial depression; the debate continued until 10:30.

May 1.—After routine, Hon. Mr. POPE stated that the Government did not intend to provide for an exhibition of cattle, horticultural and agricultural produce, &c., from all parts of the Dominion of Canada in 1872. While sympathizing with the objects which the Agricultural Societies had in view, he said the Government did not intend to extend aid to them this season. Hon. Mr. LANGEVIN, in reply to Mr. MASSON, said the Government would take good care that the best sites would be selected for any new canals to be constructed. Mr. OLIVER drew attention to the exorbitant charges upon Canadian bonded goods passing through the United States to British Columbia. Several other members supported the assertion; and the Hon. Mr. TULLEY, while he feared that little could be done to remedy the evil, said the Government would use its best influence with the Washington Government to have the cause of complaint removed or modified. Mr. JOLY moved the House into Committee of the Whole to consider a resolution respecting the Superannuation Fund, which he maintained was becoming too large, and he wished to have the widows and orphans pensioned out of the surplus. Sir F. HIXENS was of the opinion that in case the four per cent. deducted from the salaries of officers of the civil service were found to be too much, that the employees would prefer having the percentage reduced than the surplus expended, as the mover of the motion had suggested. The House adjourned at six o'clock without taking action on the motion.

May 2.—After preliminary business had been despatched, Hon. Mr. HORTON moved a resolution condemning the appointment of Judge Johnson to the office of Lieut.-Governor of Manitoba. He contended that the appointment was contrary to the law as laid down in section 8, chap 78, of the Consolidated Statutes, inasmuch as Mr. Johnson continues to hold office in Lower Canada, and draw salary therefor. Sir G. E. CARTER said the salary of the Lieut.-Governor of Manitoba was not fixed by statute, but by an Order in Council. The appointment was merely temporary, and further, the Government did not intend paying any salary to Judge Johnson as Lieut.-Governor. He contended that the appointment as administrator was not illegal, citing the case of the late Province of Canada, where, in the absence of the Governor, the Commander of the Forces should act as administrator, and other similar cases. He concluded by stating that as the question had been raised, the Government would cancel the appointment. The debate was continued by Messrs. DOMOX, BLAKE, and McDONNELL until six o'clock. After recess Mr. COLBY moved the House into Committee on the Insolvency Act Repeal Bill. A disorderly discussion ensued, until at last a vote was taken on a motion by Mr. ANGLIX to postpone the Committee for three months. This was defeated by a vote of: Yeas, 69; Nays, 77. The Committee, however, had only sat a few minutes when Mr. JONES (Halifax) moved it should rise. Then ensued an uproarious scene, as, at the call of the chairman, members changed sides, a series of struggles to capture or restrain one another ensuing between the Hon. gentlemen. The motion was declared lost; and then one to report the bill was put and carried. A debate ensued on Mr. JOLY'S Superannuation Bill, which was finally declared out of order, and the House adjourned at 12 o'clock.

THE VARRUGAS VIADUCT.

We illustrate this week a magnificent viaduct, designed under the superintendence of the well-known American engineer, Mr. W. W. Evans, for the Lima and Oraya Railway, and recently constructed by Messrs. Demme & Co., of Baltimore. The viaduct consists of four of the Fink suspension truss type spans, three of 190 ft each, and one of 125 ft. The piers upon which the bridge rests are amongst the highest, if not indeed the highest yet constructed, No. 1 pier being 145 ft. in height, No. 2, 252 ft., and No. 3, 178 ft.

Each pier consists of 12 columns of wrought iron, made by the Phoenix Iron Company, who also furnished all the rolled iron used in the structure. The piers are divided into tiers of 25 ft. each in height, and connected by cast-iron joint boxes, to which the columns are bolted.

The horizontal strutting, consisting of double channel struts, is firmly attached at each tier to the cast-iron joints, to which joints is also attached the rod bracing, longitudinal, transverse, and horizontal.

The piers at grade measure 15 by 50 ft. The 12 legs all batter transversely one half in and one half out, as they descend, the outward batter being 1 in 12, the inner batter whatever could be obtained by bringing the converging legs together at their feet, each group of four columns forming an

inverted M transversely. Longitudinally the piers are vertical, holding their size of 50 ft. from top to base. The pier legs rest in heavy cast iron feet, planed to a true surface, which are anchored to the rock or base blocks. All bearing surfaces are planed and truly dressed, and as every portion of each pier has been actually bolted together and carefully marked, no misfits can well take place. The maximum pressure on the base plates of the cast feet is 121 lb. per square inch, with the viaduct fully loaded.

The maximum pressure per square inch on the main bearing columns, which are of the Phoenix six segment section, is 4,612 lb. per square inch.

Machinery has been devised and sent out for raising the piers within themselves. The end spans are to be raised in the ordinary way, by scaffolding. The central spans are to be framed together on such an incline as will permit them to be lifted bodily between the piers on which they are to rest, by machinery provided for the purpose. As soon as the highest end appears above the pier-caps it will be laid hold of and drawn back, while the lower end of the span is being raised above its pier-caps. The adjustment then becomes a simple matter, and the span can be accurately placed in position.

We trust on a future occasion to publish details of this work, which is now about to be erected.

We may mention, in conclusion, that Mr. Henry Meigge is the contractor for the Lima and Oraya Railroad.

LAKE KINOAGAMI.

Of this lake, also called *Kenuagami*, *Kenwagami*, *Chinouagami*, *Tianvagami* and *Tshouagami*, Bouchette says:—"This beautiful lake lies on the left of the Chicoutimi and seven leagues up that river. Its length is variously represented by travellers as from five to nine leagues long and from half a mile to two miles in width, with an average breadth of nearly a mile. It is navigable for vessels of 60 or 80 tons, and by some accounts for vessels of at least 100 tons. An explorer, who states its length as only five or six leagues, says that it is so narrow that it resembles a river more than a lake. It is separated from another lake called Kiguagomishish by a species of dividing ridge, about a mile or one-and-a-half miles long and half a mile wide, which separates the waters flowing southward directly into the Saguenay from those which, by pursuing a northerly course, first enter Lake St. John, a topographical feature of rather unusual occurrence; but it is said that this is not, strictly speaking, the case, because a small stream falls from Lake Kiguagomishish into Lake Kiguagomi. Although unusual, this is not a physical impossibility, without, indeed, as has been asserted, the waters of the latter are higher than those of the former. Surrounded by high rocky hills, some of which have barren cliffs about 200 feet high. The southern borders rise into hills of about 350 feet high, timbered with spruce, white birch and aspen; the land is so rocky, and the cliffs appear in so many places, that this side of the lake is quite unfit for culture. The northern side, although not so mountainous, frequently rises in perpendicular cliffs of granite, whose base is bathed by the waters of the lake; their summits are clothed with cypress and a stunted description of pine, sometimes called Norway pine. The prevailing timber is white birch, and there is neither ash nor elm. *Pointe au Sable*, or *Sandy Point*, is a low bank of alluvial soil stretching into the lake from the northern shore. It lies at the entrance of a river and would be an excellent situation for a village. Opposite to it on the south side a small stream falls into the lake from between the high mountains which form its bed, and the cascade at its entrance affords a good site for a mill and similar establishments. About four miles from Pointe au Sable is a dry green bay, which appears to enter deep into the northern shore and to be free from mountains and rocky precipices for some distance. It is the only place between Portage de l'Enfant, on the R. Chicoutimi, and the portage of Kiguagomi, where land fit for farming might be expected to occur in any considerable extent. Little can be said of Lake Kiguagomi in an agricultural point of view, but its sublime and beautiful scenery is highly extolled. Its length, its numerous rocky capes and bays, and its precipitous shores, cause it to resemble the Saguenay, but its mountains are neither so high nor so barren. The *Portage Kiguagomi*, also called *Insula Formosa* or *Belle Isle*, is 96 chains in length, and lies on the height of land which separates Lake Wiqui from Lake Kiguagomishish."

CHEMICAL COMPOSITION OF A SALMON.—Professor Sir R. Christison threw a peculiar light on this subject on Monday evening at the Royal Society. He communicated the results of a chemical analysis he had recently made with the view of determining the difference in composition between clean and foul salmon:—"One of the specimens examined was a very fine clean-run salmon, 20 lb. in weight, taken last May from the tideway of the river Tay; the other being a kelt caught in the beginning of the present month—so ugly a brute as ever was seen under the name of salmon. The result of the examination was to show, what might have been concluded from the taste, that salmon contained a large quantity of oil. In making the experiments, masses of fat were avoided, and only the substance dealt with which is analogous to the lean of fat meat. In the case of the clean salmon, the flesh taken from the dorsal region showed 16.66 per cent. of oil, 20.57 per cent. of nitrogenous matter, 0.88 per cent. of saline matter, and 61.89 per cent. of water; while that from the abdominal region showed, of oil, 20.4 per cent., of nitrogenous matter 18.82 per cent., saline matter 0.88 per cent., and water 59.99 per cent. The foul salmon, on the other hand, showed in its dorsal region, of oil 1.2 per cent., nitrogenous matter 16.92 per cent., saline matter 0.88 per cent., water 81.0 per cent.; and in its abdominal regions, of oil 1.3 per cent., nitrogenous matter 17.22 per cent., saline matter 0.88 per cent., and water 80.6 per cent. Taking the mean of the dorsal and abdominal regions in both, the results were:—For the clean salmon, oil 18.53 per cent., nitrogenous matter 19.70 per cent., saline matter 0.88 per cent., and water 60.89 per cent.; and for the foul salmon, oil 1.25 per cent., nitrogenous matter 17.07 per cent., saline matter 0.88 per cent., and water 80.80 per cent. Sir Robert called attention to the fact that in the foul fish the quantity of oil was very much less than in the other: the nitrogenous matter was also less, while the quantity of water was considerably greater. This completely confirmed our idea as to the inferiority of a foul salmon as compared with a clean one. The great quantity of oil in the latter was an argument in favour of the general Scotch opinion, that a good salmon required no sauce."—*Land and Water.*