





SESSIO^{nal}AL PAPER^sS.

VOL. XXVI.—PART IV.

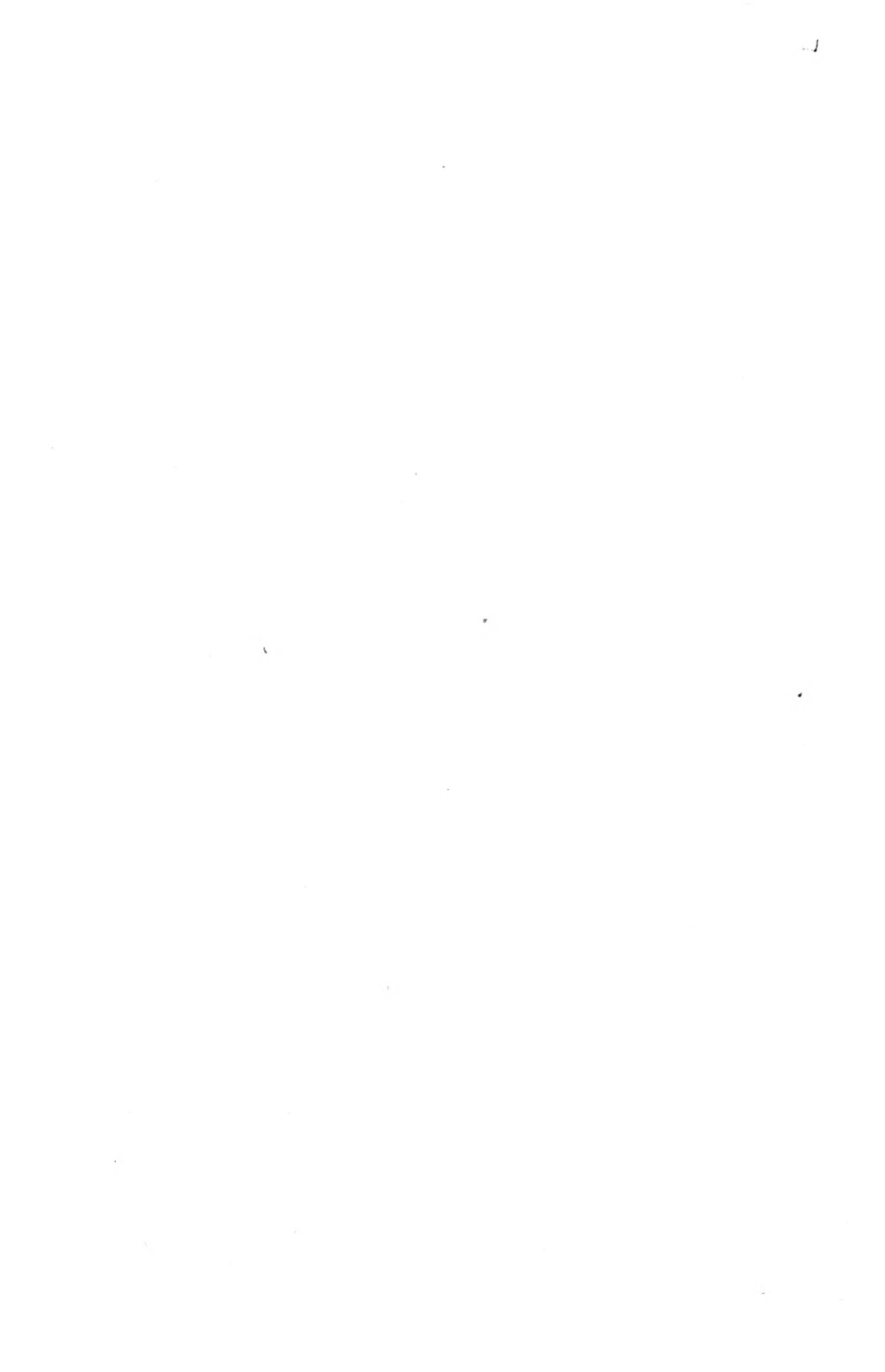
FOURTH SESSION, SEVENTH LEGISLATURE

OF THE

PROVINCE OF ONTARIO.

SESSION 1894.

TORONTO:
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1894.



LIST OF SESSIONAL PAPERS

ARRANGED ALPHABETICALLY.

TITLE.	No.	REMARKS.
Accounts, Public	1	<i>Printed.</i>
Agricultural and Arts Board, grant to	113	<i>Not printed.</i>
Agricultural and Arts, Report	39	<i>Printed.</i>
Agricultural College, Report	32	"
do Report of Commission	33	"
do Commission and Evidence	124	<i>Not printed.</i>
do Cattle sale at	95	<i>Printed.</i>
do do names of cattle	97	<i>Not printed.</i>
Agricultural Societies, Analysis	103	"
Algonquin Park, Reports	22	<i>Printed.</i>
Appeal cases for argument	75	"
Aspinall, Joseph, liquor license to	114	<i>Not printed.</i>
Asylums, Report	26	<i>Printed.</i>
Awrey, N., Report on Chicago Exposition	98	"
Bee-Keepers' Association, Report	38	<i>Printed.</i>
Binder twine industry	80	"
Births, Marriages and Deaths, Report	11	"
Blind Institute, Report	30	"
Bonds and Securities	69	<i>Not printed.</i>
Bryce, charges against	127	"
Canadian Institute, Report	10	<i>Printed.</i>
Central Farmers' Institute, Report	36	"
Census Returns, Provincial	104	"
Central Prison Industries, sales	107	"
Children Neglected, Report	47	"
City and County Clerks, salaries	109	"
City and County Treasurers, salaries	108	"
Colonization Roads in Smith	83	<i>Not printed.</i>
Columbian Exposition, Report	98	<i>Printed.</i>
do Stockmen's payment	89	<i>Not printed.</i>
Commissions Royal, since Confederation	6	<i>Printed.</i>
Commutation allowances	52	"

TITLE.	No.	REMARKS.
County Councils, Reeves comprising in 1887 and 1892..	55	<i>Printed.</i>
do do 1893	85	"
Courts, cases before at Osgoode Hall	58	"
Crown Lands, Report.....	14	"
do amounts due on	53	"
Dairymen and Creameries, Report	34	<i>Printed.</i>
Davidson liquor license	91	<i>Not printed.</i>
Deaf and Dumb Institute, Report	31	<i>Printed.</i>
Disputed Territory, number of acres sold in, etc....	119	"
Division Courts, Report.....	16	"
do Rules, etc	118	<i>Not printed.</i>
Division Courts, fees of Clerks of.....	100	<i>Printed.</i>
Dorian charges against P. H. Bryce.....	127	<i>Not printed.</i>
Dufferin Registrar, fees for 1893	90	"
do do 1890-91.....	129	"
East Northumberland Registry Office, expenditures	96	<i>Printed.</i>
Education, Report	3	"
do Report of Commissioners in Prescott	4	"
do publication of book on Physiology	66	<i>Not printed.</i>
do Departmental Regulations.....	67	"
do appointment of S. B. Sinclair	68	"
do Public School grant apportionment	128	"
Elections, Returns	46	<i>Printed.</i>
Elgin House of Industry, Report	71	<i>Not printed.</i>
do Correspondence	94	"
Elgin License Commissioners.....	86	<i>Printed.</i>
Entomological Society, Report	35	"
Estimates	2	"
Factories Inspectors, Report	42	<i>Printed.</i>
Farmers' Institutes, Report	36	"
Fees enquiry, Commission	88	"
Fish and Game, Report	17	"
Free Libraries and Mechanics' Institutes.....	125	<i>Not printed.</i>
French language in Prescott and Russell.....	4	<i>Printed.</i>
Fruit-Growers' Association, Report	37	"
Game and Fish, Report	17	<i>Printed.</i>
Game Laws, correspondence	63	<i>Not printed.</i>
Gaols, Prisons and Reformatories, Report	27	<i>Printed.</i>
Goderich Police Magistrate.....	126	<i>Not printed.</i>
Government employees	43, 99	<i>Printed.</i>

TITLE.	No.	REMARKS.
Hamilton Beach lease	82	<i>Not printed.</i>
Hamilton, working of license law	78	<i>Printed.</i>
Hastings, Grand Jury Indictments in	60	<i>Not printed.</i>
Health Report	12	<i>Printed.</i>
Hospitals, Report	29	"
Immigration, Report	15	<i>Printed.</i>
Industries, Bureau of, Report	44	"
Inquests on vagrants	105	<i>Not printed.</i>
Insurance, Report	13	<i>Printed.</i>
do conditions of Fire policies	56	<i>Not printed.</i>
do Life Companies in Ontario	61	<i>Printed.</i>
Labour Laws, compilation	121	<i>Printed.</i>
Lands sold, amounts due on	53	"
Law Society, receipts and expenditures	101	"
Legal Offices, Report	24	"
Librarian, Report	48	<i>Not printed.</i>
Liquor License Law, Report	19	<i>Printed.</i>
do Commissioners, resignations	57	"
do to Mr. Scott, of Windsor	59	<i>Not printed.</i>
do law, working of in Hamilton	78	<i>Printed.</i>
do convictions in N. Ontario	84	<i>Not printed.</i>
do Commissioners in Elgin	86	<i>Printed.</i>
do to M. H. M. Davidson	91	<i>Not printed.</i>
do convictions in Dufferin	93	"
do to J. Aspinall	114	"
McDonald and McKee, correspondence	87	<i>Not printed</i>
McLaren, A., timber dues by	64	"
Magdalen Asylums, Report	28	<i>Printed.</i>
Maguire, F., appointment	120	<i>Not printed</i>
Maton inquest	110	"
Mechanics' Institutes and Free Libraries	125	"
Mines, Report	21	<i>Printed.</i>
Municipal Loan Fund collections	92	"
Municipal and School expenditure	111	"
Municipal taxation	117	"
Niagara Falls Park and River Railway Co'y. Financial Statement	72	<i>Printed.</i>

TITLE.	No.	REMARKS.
Official appointments	43	<i>Printed.</i>
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Pacaud Auréle, dismissal of	102	<i>Not printed.</i>
Parliament Buildings, Waite correspondence	76	<i>Printed.</i>
Plebiscite Vote	70	"
Poultry and Pet Stock Association, Report	40	"
Prescott and Russell, French language in	4	"
Printing and Binding contract	45	"
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Public Accounts	1	"
Public Institutions, expenditure	62	"
Public School Grant, apportionment	128	<i>Not printed.</i>
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Queen Victoria Niagara Falls Park, Report	23	<i>Printed.</i>
Railway Aid Papers and Documents	115	<i>Printed.</i>
Refuge, Orphan and Magdalen Asylums	28	"
Registry Offices, Report	65	"
do instruments received, etc	106	"
do losses sustained	116	"
Royal Commissions issued	6	"
Russell Square, location of	112	"
School expenditure	111	<i>Printed.</i>
Scott, liquor license	59	<i>Not printed.</i>
Secretary and Registrar, Report	18	<i>Printed.</i>
Sheep and Swine Breeders', Report	41	"
Spicknell, Samuel	79	<i>Not printed.</i>
Statute distribution	49	"
do	50	"
Tavern and Shop Licenses, Report	19	<i>Printed.</i>
Timber dues by A. McLaren	64	<i>Not printed</i>
do berths sold	74	<i>Printed.</i>
do supply for Chisholm mill	81	<i>Not printed.</i>
do dues, names of persons indebted	130	"
do in Disputed Territory	119	<i>Printed.</i>
Titles, Report of Master	25	"
Toronto General Trusts Co'y., Report	73	<i>Not printed.</i>
Toronto University, Report	7	"

TITLE.	No.	REMARKS.
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do Biological Building... ..	51	"
Travelling Dairy, places visited.....	54	<i>Not printed.</i>
Upper Canada College, Report	5	<i>Printed.</i>
Waite, R. A., correspondence.....	76	<i>Printed.</i>
White, J. B., charges against.....	123	<i>Not printed.</i>
Young, William, gratuity to	122	<i>Not printed.</i>

LIST OF SESSIONAL PAPERS.

Arranged in Numerical Order with their Titles at full length; the dates when Ordered and when presented to the Legislature; the name of the Member who moved the same, and whether Ordered to be Printed or not.

CONTENTS OF PART I.

- No. 1. . Public Accounts of the Province for the year 1893. Presented to the Legislature, 27th February, 1894. *Printed.*
- No. 2. . Estimates for the service of the Province until the Estimates of the year are finally passed. Presented to the Legislature, 16th February, 1894. *Not printed.* Estimates for the year 1894. Presented to the Legislature, 28th February, 1894. *Printed.* Estimates required for the service of the Province until the Estimates for the year are finally passed. Presented to the Legislature, 3rd April, 1894. *Not printed.* Estimates (Supplementary) for the year 1894. Presented to the Legislature, 27th April and 1st May, 1894. *Printed.*

CONTENTS OF PART II.

- No. 3. . Report of the Minister of Education for the year 1893, with the statistics of 1892. Presented to the Legislature, 6th March, 1894. *Printed.*
- No. 4. . Report of the Commissioners on Schools in the Counties of Prescott and Russell, in which the French language is taught. Presented to the Legislature, 16th February, 1894. *Printed.*
- No. 5. . Report of the Upper Canada College for the year ending 30th June, 1893. Presented to the Legislature, 19th February, 1894. *Printed.*
- No. 6. . Return to an Order of the House of the first day of April, 1892, for a Return shewing the number of Royal Commissions issued since Confederation, together with the date of the issue thereof, subjects inquired into, costs of each with names of Commissioners and amounts paid to each. Presented to the Legislature, 23rd February, 1894. *Mr. Marter. Printed.*
- No. 7. . Report of the Toronto University for the year 1892-93. Presented to the Legislature, 16th February, 1894. *Not printed.*
- No. 8. . Report of the Standing Committee on Finance, of the Toronto University, on the income and expenditure, 1893-94, of the Medical Faculty. Presented to the Legislature, 16th February, 1894. *Printed.*

- No. 9.. Report of the Standing Committee of the University of Toronto, on Finance, for the year 1893-94. Presented to the Legislature, 16th February, 1894. *Printed.*
- No. 10.. Report of the Canadian Institute for the year 1893. Presented to the Legislature, 3rd April, 1894. *Printed.*

CONTENTS OF PART III.

- No. 11.. Report relating to the registration of Births, Marriages and Deaths for the year 1892. Presented to the Legislature, 15th March, 1894. *Printed.*
- No. 12.. Report of the Provincial Board of Health for the year 1893. Presented to the Legislature, 24th April, 1894. *Printed.*
- No. 13.. Report of the Inspector of Insurance and Registrar of Friendly Societies for the year 1893. Presented to the Legislature, 16th February, 1894. *Printed.*

CONTENTS OF PART IV.

- No. 14.. Report of the Commissioner of Crown Lands for the year 1893. Presented to the Legislature, 14th March, 1894. *Printed.*
- No. 15.. Report of the Department of Immigration for the year 1893. Presented to the Legislature, 15th March, 1894. *Printed.*
- No. 16.. Report of the Inspector of Division Courts for the year 1893. Presented to the Legislature, 5th March, 1894. *Printed.*
- No. 17.. Report of the Ontario Fish and Game Commission for the year 1893. Presented to the Legislature, 5th March, 1894. *Printed.*
- No. 18.. Report of the Secretary and Registrar of the Province, for the year 1893. Presented to the Legislature, 19th April, 1894. *Printed.*
- No. 19.. Report on the working of the Tavern and Shop License Acts, for the year 1893. Presented to the Legislature, 16th February, 1894. *Printed.*
- No. 20.. Report of the Commissioner of Public Works for the year 1893. Presented to the Legislature, 7th March, 1894. *Printed.*
- No. 21.. Report of the Bureau of Mines. Presented to the Legislature, 27th April, 1894. *Printed.*
- No. 22.. Reports on the Algonquin National Park of Ontario, for the year 1893. Presented to the Legislature, 27th April, 1894. *Printed.*
- No. 23.. Report of the Commissioners of the Queen Victoria Niagara Falls Park, for the year 1893. Presented to the Legislature, 26th March, 1894. *Printed.*

No. 24. . . Report of the Inspector of Legal Offices for the year 1893. Presented to the Legislature, 28th March, 1894. *Printed.*

No. 25. . . Report of the Master of Titles for the year 1893. Presented to the Legislature, 2nd April, 1894. *Printed.*

CONTENTS OF PART V.

No. 26. . . Report upon the Lunatic and Idiot Asylums of the Province, for the year ending 30th September, 1893. Presented to the Legislature, 16th February, 1894. *Printed.*

No. 27. . . Report upon the Common Gaols, Prisons and Reformatories of the Province, for the year ending 30th September, 1893. Presented to the Legislature, 3rd April, 1894. *Printed.*

No. 28. . . Report upon the Houses of Refuge and Orphan and Magdalen Asylums of the Province, for the year ending 30th September, 1893. Presented to the Legislature, 16th February, 1894. *Printed.*

No. 29. . . Report upon the Hospitals of the Province, for the year ending 30th September, 1893. Presented to the Legislature, 23rd February, 1894. *Printed.*

No. 30. . . Report upon the Ontario Institution for the education of the Blind at Brantford, for the year ending 30th September, 1893. Presented to the Legislature, 16th February, 1894. *Printed.*

No. 31. . . Report upon the Ontario Institution for the education of the Deaf and Dumb at Belleville, for the year ending 30th September, 1893. Presented to the Legislature, 16th February, 1894. *Printed.*

CONTENTS OF PART VI.

No. 32. . . Report of the Ontario Agricultural College and of the Agricultural and Experimental Union, for the year 1893. Presented to the Legislature, 27th February, 1894. *Printed.*

No. 33. . . Report of the Commission of Enquiry as to the Ontario Agricultural College and Experimental Farm. Presented to the Legislature, 3rd April, 1894. *Printed.*

No. 34. . . Reports of the Dairymen's and Creameries' Association of Ontario, for the year 1893. Presented to the Legislature, 20th April, 1894. *Printed.*

CONTENTS OF PART VII.

No. 35. . . Report of the Entomological Society for the year 1893. Presented to the Legislature, 16th February, 1894. *Printed.*

No. 36. . . Report of the Farmers' Institutes for the year 1893. Presented to the Legislature, 17th April, 1894. *Printed.*

- No. 37. . . Report of the Fruit-Growers' Association of Ontario, for the year 1893. Presented to the Legislature, 20th April, 1894. *Printed.*
- No. 38. . . Report of the Bee-Keepers' Association of Ontario, for the year 1893. Presented to the Legislature, 14th March, 1894. *Printed.*
- No. 39. . . Report of the Agriculture and Arts Association, for the year 1893. Presented to the Legislature, 2nd March, 1894. *Printed.*
- No. 40. . . Report of the Poultry Association of Ontario, for the year 1893. Presented to the Legislature, 2nd March, 1894. *Printed.*

CONTENTS OF PART VIII

- No. 41. . . Report of the Sheep and Swine Breeders' Association of Ontario, for the year 1893. Presented to the Legislature, 17th April, 1894. *Printed.*
- No. 42. . . Report of the Inspectors of Factories for the year 1893. Presented to the Legislature, 19th March, 1894. *Printed.*
- No. 43. . . Return to Orders of the House of the tenth day of April and nineteenth day of May, 1893, and of the twenty-sixth day of February, 1894, respectively, for a Return of the names of all persons who, during the year 1871, held office under the Crown or were employed in, or in connection with any Department or branch of the Public Service, to whom or in respect of whose office or employment any salary or remuneration was paid out of the Consolidated Revenue Fund, or any special Fund applicable for the purpose, or by fees or otherwise, and whether the office or employment was permanent or temporary, together with a statement of the salary or remuneration attached to or payable in respect of each such office or employment, and the amount paid in the said year to each of such persons, and the date when each permanent office was created, and for a like Return for the year 1892; the several branches of the Public Services to which such Return relates to be classified therein as nearly as practicable as the same are classified in the Public Accounts. And a Return shewing in addition to, and as part of the Return, relating to the Public Service, ordered by the House on the tenth day of April last, the number of the letters written from each of the Departments of the Government of the Province during the years 1871 and 1892 respectively, relating exclusively to the Public Service, and distinguishing, as far as practicable, those written by the different branches of each Department. And giving also a statement from each of the Departments shewing comparatively the volume of business done in each Department during the said years 1871 and 1892, such statement to classify, so far as practicable, the business under general heads, and to set out the causes of increase or decrease under each head, and to specify the branches of the Public Service and the additions thereto, which have come into existence since the year 1871. And a Return shewing in addition to the information for the years 1871 and 1892, like information for the year 1873. Presented to the Legislature, 3rd April, 1894. Messieurs *Meredith, Davis and Balfour.* *Printed.*

- No. 44 . . Report of the Bureau of Industries for the Province, for the year 1893. Presented to the Legislature, 17th April, 1894. *Printed.*

CONTENTS OF PART IX.

- No. 44 . . Report of the Bureau of Industries for the Province, for the year 1893. Presented to the Legislature, 17th April, 1894. *Printed.*
- No. 45 . . Report on the Tenders for Departmental and Legislative Printing and Binding, with contract with Warwick Bros. and Rutter. Presented to the Legislature, 16th February, 1894. *Printed.*
- No. 46 . . Return from the Records of the several Elections to the Legislative Assembly, in the Electoral Districts of the North Riding of the County of Bruce; the East Riding of the County of Lambton, and the South Riding of the County of Lanark, since the General Election of 1890, shewing (1) the number of Votes polled for each Candidate in each Electoral District; (2) the majority whereby each successful candidate was returned; (3) the total number of Votes polled in each District; (4) the number of Votes remaining unpolled; (5) the number of names on the Voters' List in each District; (6) the number of Ballot Papers sent out and how disposed of in each Polling Sub-division; (7) the number of Tendered Ballots sent out; (8) the population of each District as shewn by the Census. Presented to the Legislature, 14th February and 9th March, 1894. *Printed.*
- No. 47 . . Report of work under the Neglected Children's Protection Act for the six months ending 31st December, 1893. Presented to the Legislature, 16th February, 1894. *Printed.*
- No. 48 . . Report of the Librarian on the state of the Library. Presented to the Legislature, 16th February, 1894. *Not printed.*
- No. 49 . . Statement as to the disposal of the Revised Statutes, 1887, for the year 1893. Presented to the Legislature, 16th February, 1894. *Not printed.*
- No. 50 . . Statement as to the disposal of the Sessional Statutes for the year 1893. Presented to the Legislature, 16th February, 1894. *Not printed.*
- No. 51 . . Return to an Order of the House of the twenty-fourth day of April, 1893, for a Return, giving the report of the Committee of the Senate of the University of Toronto appointed to enquire into the erection of the Biological Buildings, with the evidence upon which the said report is based; also, copies of all correspondence with the Government regarding the proposed Park Hospital, and all papers relating to the said Park Hospital, and all reports of any action taken in regard to the said Park Hospital scheme, or regarding any action which may have been or may be in contemplation by the Senate of the University of Toronto, the University Trustees or the Park Hospital Trustees; in connection with the lots leased to the Park Hospital Trustees; also copies of any correspondence with the Government having reference to matters bearing upon Medical Education in Ontario and the relation of the University of Toronto thereto. Presented to the Legislature, 19th February, 1894. Mr. Preston. *Printed.*

- No. 52 . . Return to an Address to His Honour the Lieutenant-Governor, of the twenty-eighth day of April, 1893, praying that he will cause to be laid before the House a Return, shewing as to what offices, or services, Orders in Council have been passed commuting the fees; the date of the Orders in Council; the amount of the commutation allowances, with a schedule or table shewing the amounts paid to each official in each year since the Order in Council was passed, and the amount received by the Province in each year from the fees of his office. Presented to the Legislature, 16th February, 1894. Mr. *Hudson*. *Printed*.
- No. 53 . . Supplementary Return to an Order of the House of the eleventh day of April, 1892, for a Return shewing by townships the amount remaining unpaid on the 31st December last on lands sold, of (1) Crown Lands, (2) Common School Lands, (3) Grammar School Lands, (4) Railway Lands, and the aggregate amount due in respect of each of the said classes of lands distinguishing the amounts due for principal and interest respectively. Presented to the Legislature, 16th February, 1894. Mr. *Meredith*. *Printed*.
- No. 54 . . Return to an Order of the House of the twenty-eighth day of April, 1893, for a Return shewing the number and names of places visited in the different electoral constituencies in the Province in each of the years 1891 and 1892 by the Travelling Dairy, the number of persons forming the staff of each Dairy, the salaries paid, the travelling and other expenses incurred, and the manner in which these travelling expenses were paid. Presented to the Legislature, 16th February, 1894. Mr. *Preston*. *Not printed*.
- No. 55 . . Return to an Order of the House of the fifth day of May, 1893, for a Return shewing the numbers of Reeves comprising the various County Councils of the Province in the years 1887 and 1892 respectively, together with the statement of the amount paid as indemnity and the assessment of each of the said Municipalities in each of the above mentioned years. Presented to the Legislature, 16th February, 1894. Mr. *Wood (Bront)*. *Printed*.
- No. 56 . . Return to an Order of the House of the twelfth day of May, 1893, for a Return shewing as to the conditions of policies ordinarily used by fire Insurance Companies in Ontario. Firstly—Companies using policies without conditions, or with conditions less than the statutory ones. Secondly—Those using statutory conditions only. Thirdly—Those imposing additional conditions to the statutory conditions, and the nature of such conditions. Presented to the Legislature, 16th February, 1894. Mr. *Monk*. *Not printed*,
- No. 57 . . Return to an Order of the House of the seventeenth day of May, 1893, for a Return shewing the number of resignations, dismissals and suspensions of License Commissioners and Inspectors for the years 1890-91 and '92. Also, copies of all papers and correspondence connected therewith, and instructions to special Agents, and names of Commissioners and Inspectors so dismissed or suspended, or who have resigned, and the causes of such resignation, dismissal or suspension. Presented to the Legislature, 16th February, 1894. Mr. *Ryerson*. *Printed*.

- No. 58 . . Return to an Order of the House of the nineteenth day of May, 1893, for a Return, so far as the facts appear from the papers filed, and the books in the office at Osgoode Hall, relating to the motions and other matters heard and disposed of from first day of November, 1892, to first day of May, 1893, by or before a Judge of the High Court, sitting in Court at Osgoode Hall, in the Chancery Division, and in the Queen's Bench and Common Pleas Divisions of the High Court respectively—exclusive of trials at sittings for trials. Such Return to shew and classify as far as practicable under general heads the nature of the various motions and proceedings in Single Court. Also, shewing which of them were unopposed and which of them were disposed of upon consent of parties. Also, shewing the style in short form, of the several actions, causes and matters, and in what counties the same respectively originated. Presented to the Legislature, 16th February, 1894. Mr. *Guthrie*. *Printed*.
- No. 59 . . Return to an Order of the House of the nineteenth day of May, 1893, for a Return of a copy of the application for and Petition against the granting of a Tavern or other liquor license to Mr. Scott, of the City of Windsor, together with copies of all correspondence, minutes, proceedings and papers relating thereto. Presented to the Legislature, 16th February, 1894. Mr. *White*. *Not printed*.
- No. 60 . . Return to an Order of the House of the nineteenth day of May, 1893, for a Return shewing how many indictments have been placed before the Grand Jury in the County of Hastings for the last six years; in how many cases were true Bills found; how many cases were there in which the parties charged were in the County at the time of preferring the indictments; in how many cases have the persons charged been brought back under extradition or otherwise, and what has been the cost to the County of Hastings. Presented to the Legislature, 16th February, 1894. Mr. *Hudson*. *Not printed*.
- No. 61 . . Return to an Order of the House of the twelfth day of May, 1893, for a Return shewing as to the names of Life Insurance Companies doing business in Ontario among the industrial classes and receiving premiums of one dollar or under, weekly, and shewing an unusual condition in the policies. Shewing also, the number and names, so far as ascertainable, of cases disputed or contested by such companies during the last two years and the amount involved. And the defences set up to such cases. Presented to the Legislature, 16th February, 1894. Mr. *Monk*. *Printed*.
- No. 62 . . Return to an Order of the House of the eleventh day of March, 1892, for a Return shewing, in monthly form, the Expenditure in the Public Institutions of the Province from the year 1883 to the year 1891, both inclusive. Presented to the Legislature, 22nd February, 1894. Mr. *H. E. Clarke*, (*Toronto*). *Printed*.
- No. 63 . . Return to an Order of the House of the twenty-eighth day of April, 1893, for a Return of copies of all correspondence between any

member of the Government and any other person or persons respecting prosecutions under the Game Laws in the Counties of Lennox and Addington, and for copies of returns of all convictions for offences under the Game Laws in said Counties since the 1st July, 1892. Presented to the Legislature, 22nd February, 1894. *Mr. Reid. Not printed.*

- No. 64 . . . Return to an Order of the House of the twelfth day of April, 1893, for a Return shewing the amount due in the year 1889, by Alexander McLaren, for dues on timber cut on the berth in the Township of Wilberforce, of which he was licensee and of the amount accepted in payment of his indebtedness and of copies of all correspondence with reference to such indebtedness, and the settlement of it and of all reports by an officer of the Department in reference thereto, and as to the quantity of timber cut by the licensee and as to the value of the license. Presented to the Legislature, 23rd February, 1894. *Mr. Miscampbell. Not printed.*
- No. 65 . . . Report of the Inspector of Registry Offices for the year 1893, together with a statement of the Returns of the Fees and Emoluments of the Registrars of Ontario for the same year. Presented to the Legislature, 26th February, 1894. *Printed.*
- No. 66 . . . Copy of an Order in Council approving of an Agreement with the Methodist Book Room and Publishing House, Toronto, respecting the publication of the Public School Text Book on Physiology and Temperance. Presented to the Legislature, 26th February, 1894. *Not printed.*
- No. 67 . . . Copy of a Minute of the Department of Education approving of certain Regulations of the Department. Presented to the Legislature, 26th February, 1894. *Not printed.*
- No. 68 . . . Copy of an Order in Council appointing Samuel B. Sinclair, B.A., Vice-Principal of the Provincial Normal School at Ottawa. Presented to the Legislature, 26th February, 1894. *Not printed.*
- No. 69 . . . Detailed Statement of all Bonds and Securities recorded in the Provincial Registrar's Office since the last Return submitted to the Legislature, and made in accordance with the provisions of R.S.O., Cap. 15, Sec. 23. Presented to the Legislature, 26th February, 1894. *Not printed.*
- No. 70 . . . Return to an Order of the House of the twenty-seventh day of February, 1894, for a Return, from the Records of the Votes cast "yes" and "no" on the question of Prohibition on 1st January last under 56 Vict. Cap. 41, showing (1) The number of male votes polled in each Municipality; (2) The number of female votes so polled; (3) The total votes cast; (4) The male and female and total majorities; (5) The number of males and females voting; (6) The number of male and female votes on voters' lists, and number of such votes unpolled; (7) The number of spoiled and rejected ballots; and a further Return showing in detail; (8) The male votes cast in each

electoral district of the Province; (9) The majorities "yes" and "no" in each such electoral district, and the total numbers of male votes cast; (10) The total male votes on voters' lists and unpolled, and (11) A statement of votes polled at the general election for the Legislative Assembly in 1890, with the total votes on voters' lists and unpolled at such election. Presented to the Legislature, 28th February, 1894. Mr. McKay (*Oxford*.) *Printed*.

CONTENTS OF PART X.

- No. 71.. Report of the Inspector of the House of Industry and Refuge of the County of Elgin. Presented to the Legislature, 28th February, 1894. *Not printed*.
- No. 72.. Report of the Directors of the Niagara Falls Park and River Railway Company, with the Financial Statement for the year 1893. Presented to the Legislature, 28th February, 1894. *Printed*.
- No. 73.. Statement of the affairs of the Toronto General Trusts Company for the year 1893. Presented to the Legislature, 1st March, 1894. *Not printed*.
- No. 74.. Return to an Order of the House of the twelfth day of April, 1893, for a Return of all timber berths which have been sold or disposed of which were not under license in the year 1889, and a like Return for each of the years 1890, 1891 and 1892. Presented to the Legislature, 5th March, 1894. Mr. Meredith. *Printed*.
- No. 75.. Return to an Order of the House of the seventh day of March, 1894, for a Return of the number of cases now standing for argument in the Court of Appeal, and the number which were standing for argument on the first days of January, 1890, 1891, 1892, 1893 and 1894. Presented to the Legislature, 13th and 26th March, 1894. Mr. Meredith. *Printed*.
- No. 76.. Correspondence, letters and accounts in connection with the employment of Mr. R. A. Waite as Architect of the new Parliament and Departmental Buildings, and the claim made by him in respect of his services as such Architect. Presented to the Legislature, 15th March, 1894. *Printed*.
- No. 77.. Contract with Messieurs Barber Bros. for the supply of Printing Paper for the five years ending 31st December, 1898. Presented to the Legislature, 19th March, 1894. *Printed*.
- No. 78.. Return to an Order of the House of the twenty-third day of February, 1894, for a Return of a copy of the report made to the Government in 1893, by Mr. J. K. Stewart, Provincial Inspector of Licenses, respecting the operation of the License Law in the City of Hamilton, and the accommodation provided by the places licensed in the city. Presented to the Legislature, 19th March, 1894. Mr. Clarke (*Toronto*.) *Printed*.

- No. 79. . . Return to an Order of the House of the twenty-third day of February, 1894, for a Return of copies of all correspondence and reports with regard to the application or claim of Samuel Spicknell, formerly an employee in the Insane Asylum at London, for a gratuity or allowance, on his ceasing to be employed in the Public Service of the Province. Presented to the Legislature, 19th March, 1894. Mr. *Meredith*. *Not printed*.
- No. 80. . . Return to an Order of the House of the seventh day of March, 1894, for a Return shewing the amounts expended in connection with the Provincial binder twine industry, (1) for buildings, (2) for machinery, (3) for materials, up to 30th September, 1893, (4) for labour and superintendence, with the names of foreman or superintendents employed and the wages or salary paid to each of them up to 30th September, 1893; and showing also, (1) the total output of twine in quantity and the amounts realized therefrom, giving the names from whom the same were received and the dates of the receipt of each sum prior to 30th September, 1893; (2) the total quantity of twine on hand; (3) the total quantity of material on hand on 30th September, 1893; (4) the amounts (if any) remaining unpaid by the purchasers, with names of the persons by whom the same are payable; (5) the names of the agents employed for the sale or disposal of the twine, and the remuneration paid or payable to each of them; (6) and a statement of the number of prisoners employed in connection with the industry and of the time during which they were employed. Presented to the Legislature, 28th March, 1894. Mr. *Preston*. *Printed*.
- No. 81. . . Return to an Order of the House of the twenty-eighth day of February, 1894, for a Return of copies of all correspondence in connection with an application for a supply of timber for a local saw mill in the Township of Tyendenaga, in the County of Hastings, by Mr. Fraser Chisholm, of the said township. Presented to the Legislature, 29th March, 1894. Mr. *Wood (Hastings)*. *Not printed*.
- No. 82. . . Return to an Order of the House of the twelfth day of March, 1894, for a Return shewing to whom the Island at Hamilton Beach is leased; the terms of the lease; the amount of annual rental; how the lease was obtained, whether by public auction or private arrangement. Presented to the Legislature, 29th March, 1894. Mr. *Ryerson*. *Not printed*.
- No. 83. . . Return to an Order of the House of the fourteenth day of March, 1894, for a Return of all moneys paid by the Government for Colonization Roads in the Township of Smith, in the County of Peterborough for the years 1890-91-92-93. Presented to the Legislature, 29th March, 1894. Mr. *Willoughby*. *Not printed*.
- No. 84. . . Return to an Order of the House of the nineteenth day of March, 1894, for a Return of all convictions under the Liquor License Act in the Riding of North Ontario during the year 1893. Also, shewing all moneys paid to the License Inspector for salary and expenses during the same year, distinguishing the amounts paid for salary and the

- amounts paid for expenses. Also, of the particulars of any fines which may have been remitted during the same year. Also, the gross amount of money received by the Inspector, in his official capacity, during the same year, and a detailed statement of the amounts disbursed by him during the same time, shewing to whom and for what purposes they were paid. Presented to the Legislature, 29th March, 1894. Mr. *Glendinning*. *Not printed*.
- No. 85.. Return to an Order of the House of the seventh day of March, 1894, for a Return of the number of Reeves and Deputy-Reeves comprising the several County Councils of the Province for the year 1893. Presented to the Legislature, 12th April, 1894. Mr. *McKechnie*. *Printed*.
- No. 86.. Return to an Order of the House of the twenty-eighth day of March 1894, for a Return giving a copy of the Report of Mr. Stewart, Provincial License Inspector, as to the charge that certain License Commissioners in the County of Elgin were owners of licensed premises, and that licenses were refused certain parties on political grounds. Presented to the Legislature, 2nd April, 1894. Mr. *McCull*. *Printed*.
- No. 87.. Return to an Order of the House of the twenty-first day of March last for a Return of copies of all correspondence, commission report and all other documents and papers relating to certain charges made by Robert McDonald against Detective Thomas McKee, of the City of Windsor, and of the disposition of the matter. Presented to the Legislature, 2nd April, 1894. Mr. *White*. *Not printed*.
- No. 88.. Copy of the Commission issued to the Honourable T. A. Boyd and others to enquire into and to collect and report to the Lieutenant-Governor upon the facts bearing on the various views which have been expressed with respect to the mode of remunerating and appointing certain Provincial Officials, now paid by fees, including the practice and experience of other countries. Presented to the Legislature, 5th April, 1894. *Printed*.
- No. 89.. Return to an Order of the House of the twenty-eighth day of March, 1894, for a Return shewing what system of payment the Government adopted in dealing with stockmen at the Columbian Exposition. The amount each owner received for fares, maintenance, caretaking or for any other purpose, distinguishing each amount and giving the name of each owner. Presented to the Legislature, 5th April, 1894. Mr. *McKay (Victoria)*. *Not printed*.
- No. 90.. Return to an Order of the House of the thirtieth day of March last, for a Return of a detailed statement for 1893 of all fees and emoluments of the Registrars of Deeds for the County of Dufferin in connection with his office. Presented to the Legislature, 5th April, 1894. Mr. *Barr (Dufferin)*. *Not printed*.
- No. 91.. Return to an Order of the House of the fourteenth day of March, 1894, for a Return of copies of all correspondence between Mrs. M. H. M.

Davidson and the Government, or any officer thereof, relating to her application for a license in the years 1892 and 1893, for the Albion Hotel, in the Village of Shannonville. Presented to the Legislature, 6th April, 1894. Mr. *Hudson*. *Not printed*.

- No. 92 . . . Return to an Order of the House of the twenty-sixth day of March, 1894, for a Return shewing amount collected on account of the Municipal Loan Fund from Confederation until 31st December, 1871. Also, collections on account of Crown, Clergy, Common School, Grammar and Mining Lands in the same period, and collections on same lands in the four years ending 31st December, 1893. Shewing, also, collections on account of Municipal Loan Fund in 1872. Presented to the Legislature, 11th April, 1894. Mr. *Gibson (Huron)*. *Printed*.
- No. 93 . . . Return to an Order of the House of the thirtieth day of March, 1894, for a Return of all convictions under the Liquor License Act in the County of Dufferin during the years 1892 and 1893. Also, of all moneys paid to the License Inspector for salary and expenses, giving the amount paid for salary and expenses separately. Also, the particulars of all fines that may have been remitted. Also, the gross amount of money received by the Inspector during the said term, and a detailed statement of the amounts disbursed by him during the said time, shewing to whom and for what such disbursements were made. Presented to the Legislature, 12th April, 1894. Mr. *Barr (Dufferin)*. *Not printed*.
- No. 94 . . . Return to an Order of the House of the fourth day of April 1894, for a Return of copies of all correspondence between the Council of the County of Elgin and the Government with regard to an increased grant to the County, under the provisions of the Act respecting the establishment of Houses of Industry. Presented to the Legislature, 12th April, 1894. Mr. *McCull*. *Not printed*.
- No. 95 . . . Return to an Order of the House of the first day of March, 1894, for a Return shewing (1) the advertisements for the sale of the cattle offered for sale at the Agricultural College in December last; (2) the conditions of sale; (3) a list of the names of the purchasers and the prices paid for the animals sold; (4) a list of the animals of which the purchasers refused to complete the sale; (5) a statement of the animals sold and afterwards returned; (6) a list of the animals in respect of which the test for tuberculosis was applied, and statement of the result in each case. Presented to the Legislature, 13th April, 1894. Mr. *McCull*. *Printed*.
- No. 96 . . . Return to an Order of the House of the ninth day of March, 1894, for a Return giving an itemized statement of all expenditures and disbursements in connection with East Northumberland Registry Office for the years 1891, 1892 and 1893, shewing the number of employees, the name of each employee and the period in each year during which he or she was employed. Presented to the Legislature, 13th April, 1894. Mr. *Willoughby*. *Printed*.

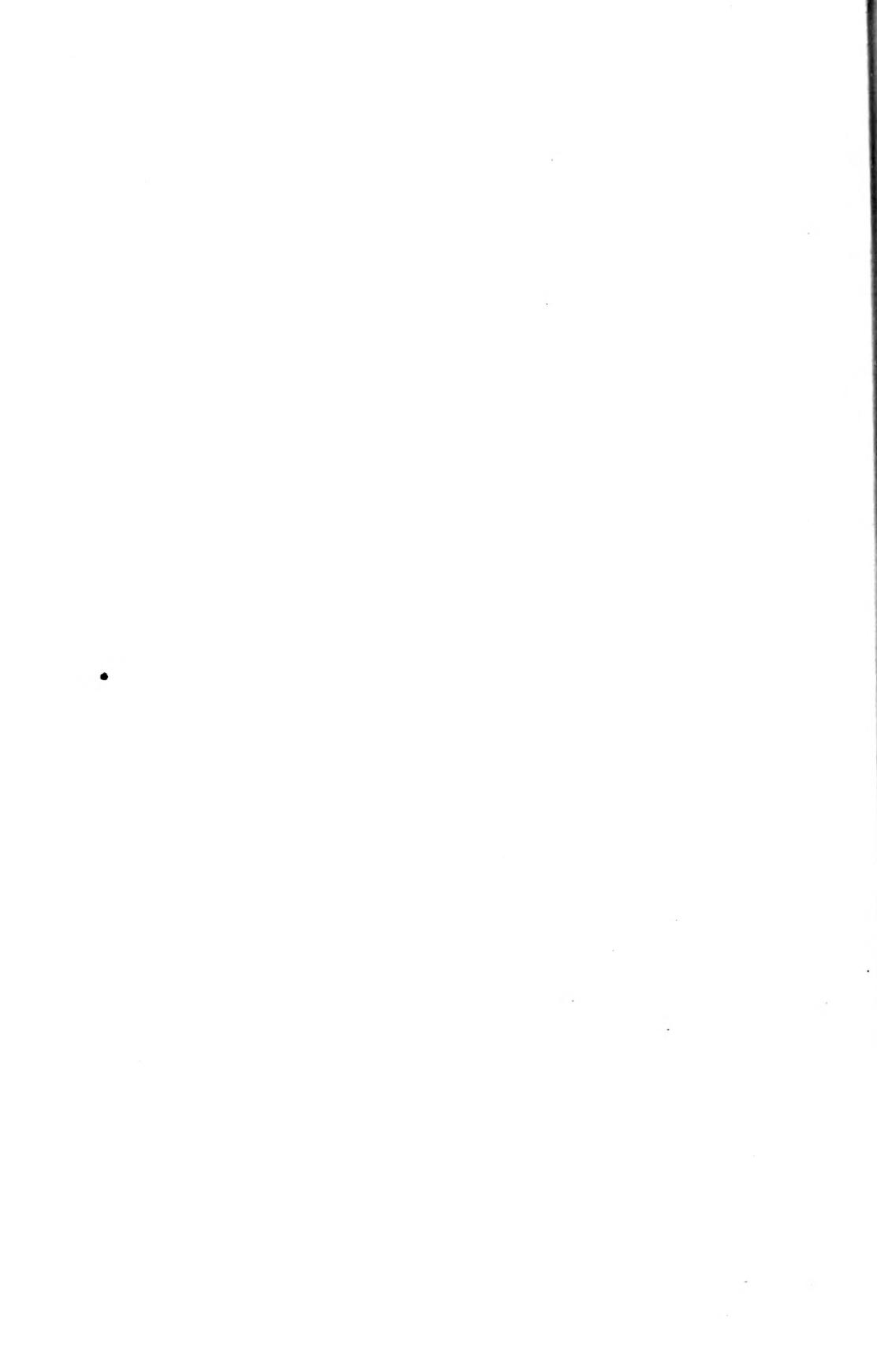
- No. 97 . . . Return to an Order of the House of the twenty-first day of March last for a Return giving the name of the Dam of each Calf offered for sale from the Ontario Experimental Farm and Dairy in the year 1893, and where such Dam was purchased. Presented to the Legislature, 13th April, 1894. Mr. *Ryerson*. *Not printed*.
- No. 98 . . . Report of N. Awrey, Esquire, M.P.P., as Ontario Commissioner to the World's Columbian Exposition, 1893. Presented to the Legislature, 17th April, 1894. *Printed*.
- No. 99 . . . Return to an Order of the House of the twenty-sixth day of February, 1894, for a Return shewing the number of persons employed, temporarily or permanently, by the Government in the service of the Province on the 31st December, 1893, together with their names, ages, nationality, religion, salary, occupation, place of residence and date of appointment; but not including mechanics, artisans, laborers or like employees whose engagement or employment was of a merely temporary character. Also, a similar Return as to all Sessional Clerks employed during the Sessions of 1893 and 1894. Presented to the Legislature, 17th April, 1894. Mr. *Balfour*. *Printed*.
- No. 100.. Return to an Order of the House of the sixteenth day of March, 1894, for a Return shewing the gross fees or emoluments of each Division Court Clerk and Bailiff in the Province for the year 1893; the net emoluments of such clerks as have paid any sum to the Provincial Treasurer in pursuance of Chapter 17, 55 Victoria, intituled, "An Act respecting the Fees of certain Public Officers." Also, the several amounts paid, or to be paid, under the provisions of the Division Courts Act, to the Provincial Treasurer in each year for the ten years ending on the 31st December, 1893. Presented to the Legislature, 17th April, 1894. Mr. *Marter*. *Printed*.
- No. 101 . . . Return to an Order of the House of the sixteenth day of March, 1894, for a Return giving a detailed statement of the receipts and expenditures of the Law Society of Ontario for the year 1893. Also, a statement of the assets and liabilities of the Society on the first day of January, 1894. Also, a statement shewing the objects and purposes to which the funds of the Society are applicable. Presented to the Legislature, 17th April, 1894. Mr. *Balfour*. *Printed*.
- No. 102 . . . Return to an Order of the House of the twenty-first day of March, 1894, for a Return of a copy of the report of His Honour the Junior Judge of the County of Essex which led to the dismissal or resignation of Aurele Pacaud, a bailiff of the 7th Division Court of the County of Essex, together with copies of all correspondence, evidence, statements, reports and other papers and documents relating to the matter. Presented to the Legislature, 17th April, 1894. Mr. *White*. *Not printed*.
- No. 103... Analysis of Reports of County and Township Agricultural and Horticultural Societies for the year 1893. Presented to the Legislature, 18th April, 1894. *Not printed*.

- No. 104... Return to an Order of the House of the twenty-second day of February, 1894, for a Return, duly compiled from the Census Returns for the year 1891, of the Federal Census for the Province, shewing the population for each county and district and the municipalities situate therein, the population of the unorganized territory and the Provincial Electoral Districts. Presented to the Legislature, 18th April, 1894. Mr. Wood (*Brant*.) *Printed*.
- No. 105... Return to an Order of the House of the twenty-sixth day of February, 1894, for a Return shewing the number of inquests held during the past three years on the death of persons committed for vagrancy, in the gaols, prisons, houses of correction, lockups or houses of industry, and the cost in connection with the finding of such inquests. Presented to the Legislature, 18th April, 1894. Mr. Barr (*Dufferin*.) *Not printed*.
- No. 106... Return to an Order of the House of the sixth day of April, 1894, for a Return from the Provincial Inspector of Registry Offices, from his memoranda made at his inspection of Registry Offices in 1892, of the last instrument received for registration in each municipality in each Registration Division; the last instrument copied in each municipality in each division, and the last instrument compared in each municipality in each division, with a like Return from the same memoranda for 1893, with the dates of the inspections in each division in each year. Presented to the Legislature, 18th April, 1894. Mr. Wood (*Hastings*.) *Printed*.
- No. 107... Estimated sales for the year 1894, from the Central Prison Industries. Presented to the Legislature, 19th April, 1894. *Printed*.
- No. 108... Return to an Order of the House of the twenty-eighth day of March, 1894, for a Return shewing (1) the salaries of all City and County Treasurers; (2) the total amount of all fees or other emoluments received by the Treasurers by reason of their offices. Presented to the Legislature, 19th April, 1894. Mr. Bishop. *Printed*.
- No. 109... Return to an Order of the House of the thirtieth day of March, 1894, for a Return shewing the salaries of all City and County Clerks in the Province for the year 1893. Presented to the Legislature, 19th April, 1894. Mr. Clancy. *Printed*.
- No. 110... Return to an Order of the House of the fourth day of April, 1894, for a Return of copies of the evidence in the inquest on one Maton, held at the Village of Carleton on October 3rd, 1893, together with copies of all correspondence between the Coroner and the County Crown Attorney and the County Crown Attorney and the Attorney-General. Presented to the Legislature, 20th April, 1894. Mr. Ryerson. *Not printed*.
- No. 111... Return to an Order of the House of the ninth day of March, 1894, for a Return shewing separately, the total municipal and school expenditure of each County, Township, City, Town and Village in the Province for the years 1883 and 1893, respectively. Presented to the Legislature, 23rd April, 1894. Mr. Balfour. *Printed*.

- No. 112.. Return to an Address to His Honour the Lieutenant-Governor of the nineteenth day of March, 1894, praying that His Honour will cause to be laid before this House a Return of a copy of the original plan shewing the location of Russell Square in the City of Toronto, and of all instructions, Orders in Council, minutes and correspondence relating to the survey or laying out of the Square. Also, of a copy of Letters Patent thereof, and of all Orders in Council, minutes and correspondence relating to the issue of such Letters Patent and relating to any subsequent disposition or appropriation of the land, and of all correspondence, petitions and documents with reference to the claim of the Corporation of the City of Toronto to said Square, and the diversion of it from the purposes for which it was originally designed. Presented to the Legislature, 23rd April, 1894. Mr. *Clarke (Toronto.) Printed.*
- No. 113.. Return to an Order of the House of the fourteenth day of March, 1894, for a Return shewing the full amount of the Government grant to the Agricultural and Arts Board, and a detailed statement of its expenditure for the past five years. Presented to the Legislature, 23rd April, 1894. Mr. *Preston. Not printed.*
- No. 114.. Return to an Order of the House of the fourth day of April, 1894, for a Return of copies of all correspondence in connection with the granting of a shop license for the sale of liquor to one Joseph Aspinall, of the Town of Tilsonburgh, in the South Riding of Oxford, for the years 1893-4. Also, copies of all papers and documents in possession of the Government, or any official thereof, relating to the said license, together with a copy of the Report of the Chief Inspector, who enquired into the complaint that the license was fraudulently granted. Presented to the Legislature, 23rd April, 1894. Mr. *McCleary. Not printed.*
- No. 115.. Petition, correspondence and general information in respect of the application for grants of Public money in aid of the construction of certain portions of the Irondale, Bancroft and Ottawa, the Northern and Pacific Junction, the Ottawa, Arnprior and Parry Sound, and the Ontario and Rainy River Railways. Presented to the Legislature, 25th April, 1894. *Printed.*
- No. 116.. Return to an Order of the House of the sixth day of April, 1894, for a Return from each Registration Division in Ontario, shewing all losses sustained by reason of errors or omissions on the part of officials of said divisions, with the names of parties to whom paid; dates of payment and the nature of error or omission, such Return to extend over the last ten years. Presented to the Legislature, 26th April, 1894. Mr. *Wood (Hastings.) Printed.*
- No. 117.. Return to an Order of the House of the second day of March, 1894, for a Return from each municipality in the Province, other than Counties, showing that the rate of taxation therein (1) for municipal purposes, (2) for school purposes, (3) total. Presented to the Legislature, 26th April, 1894. Mr. *Clarke (Lanark.) Printed.*

- No. 118.. Rules, Orders and Forms of the Division Courts of Ontario, as adopted by the Board of County Judges, 1894. Presented to the Legislature, 26th April, 1894. *Not printed.*
- No. 119.. Return to an Order of the House of the nineteenth day of March, 1894, for a Return, shewing the number of acres sold by the Government in what was called the Disputed Territory, and shewing also the number of square miles of timber limits under license therein, and what has accrued by way of revenue up to the fifteenth day of March, 1894. And what has, during the same period, been expended by the Province within the said Territory. And also, what is the liability of the Province in respect of Indian Lands. Presented to the Legislature, 26th April, 1894. Mr. *Gibson (Huron.) Printed.*
- No. 120.. Return to an Order of the House of the ninth day of April, 1894, for a Return shewing the date of the appointment of F. Maguire, of St. Catharines, as Inspector of immigrants at Niagara Falls, Ontario. Shewing also, what duties he performs; how many hours daily he is on duty and what salary he receives. And if he is still under pay, what allowance he receives; what are his qualifications for the office, and if he has had any medical training. Shewing also, by whom his duties are performed during his absence; who performed similar duties before his appointment, and at what salary. Shewing also, if there are similar officials at other points on the frontier, giving name, dates of appointment and salaries. Presented to the Legislature, 26th April, 1894. Mr. *McCleary. Not printed.*
- No. 121.. A compilation of the Labour Laws. Presented to the Legislature, 27th April, 1894. *Printed.*
- No. 122.. Return to an Order of the House of the fifth day of March, 1894, for a Return shewing the date of the dismissal of William Young, Farm Instructor at the Reformatory for Boys at Penetanguishene. The length of time he was in the service; the cause of his dismissal; the amount paid him as a gratuity, together with the amounts, if any, paid him for rent allowance or otherwise since his dismissal. Also, copies of all correspondence between the said Young and the Government, or any officer thereof, relating to his dismissal, the payment of a gratuity or otherwise. Presented to the Legislature, 27th April, 1894. Mr. *Claney. Not printed.*
- No. 123.. Report of the Provincial Inspector into the charges preferred against J. B. White, License Inspector for the District of Manitoulin, together with a copy of the evidence taken at the investigation. Presented to the Legislature, 27th April, 1894. *Not printed.*
- No. 124.. Commission, evidence and report in respect of the inquiry concerning the Agricultural College and Experimental Farm held by John Winchester, John Watterworth and John S. Pearce, Esquires. Presented to the Legislature, 27th April, 1894. *Not printed.*

- No. 125. Return to an Order of the House of the twenty-third day of April, 1894, for a Return setting forth the Cities, Towns and Incorporated Villages in Ontario in which Free Libraries and Mechanics' Institutes have been established. Shewing, as well, the unincorporated Villages in which Mechanics' Institutes or reading rooms have been established, and shewing the Electoral Districts in which Farmers' Institutes have not been established. Presented to the Legislature, 27th April, 1894. Mr. Wood (*Brant*.) *Not printed.*
- No. 126. Return to an Order of the House of the twentieth day of April, 1894, for a Return of copies of all correspondence and communications which have passed between the Municipal Council of the Town of Goderich, or any officer or member thereof, or any ratepayer of the said town, and any member or officer of the Government, with reference to the appointment of a Police Magistrate for the said town; and also, of all Petitions for or against the appointment. Presented to the Legislature, 27th April, 1894. Mr. Whitney. *Not printed.*
- No. 127. Return to an Order of the House of the thirtieth day of March, 1894, for a Return of copies of all papers, letters, statements and documents in connection with the charges of G. A. Dorian, against Dr. P. H. Bryce, Secretary of the Provincial Board of Health, with a copy of the evidence adduced, and the finding of the Commissioners. Presented to the Legislature, 30th April, 1894. Mr. Ryerson. *Not printed.*
- No. 128. Return to an Order of the House of the eighteenth day of April, 1894, for a Return shewing what amount of the Public School grant—not including the Poor Schools grant—was apportioned to cities, towns and those incorporated villages containing High Schools or Collegiate Institutes for the years 1882 and 1892 respectively, and the amount to the remaining municipalities of the Province. Presented to the Legislature, 30th April, 1894. Mr. Meacham. *Not printed.*
- No. 129. Return to an Order of the House of the twenty-third day of April, 1894, for a Return of a detailed statement, for the years 1890 and 1891, of the fees and emoluments of the Registrar of Deeds for the County of Dufferin in connection with his office, with the dates and amounts of rebates for each year paid to the County. Presented to the Legislature, 30th April, 1894. Mr. Barr (*Dufferin*.) *Not printed.*
- No. 130. Return to an Order of the House of the eighth day of May, 1893, for a Return shewing the names of all persons, firms or companies, indebted to the Province on the first day of January, 1893, on account of timber dues, ground rent or bonuses for timber limits; the amount of indebtedness in each case; the balance, if any, due by such persons, firms or companies on the first day of January, in each year since 1886, and the total amount of such indebtedness on the first day of January, 1893. Presented to the Legislature, 4th May, 1894. Mr. Wood (*Hastings*.) *Not printed.*



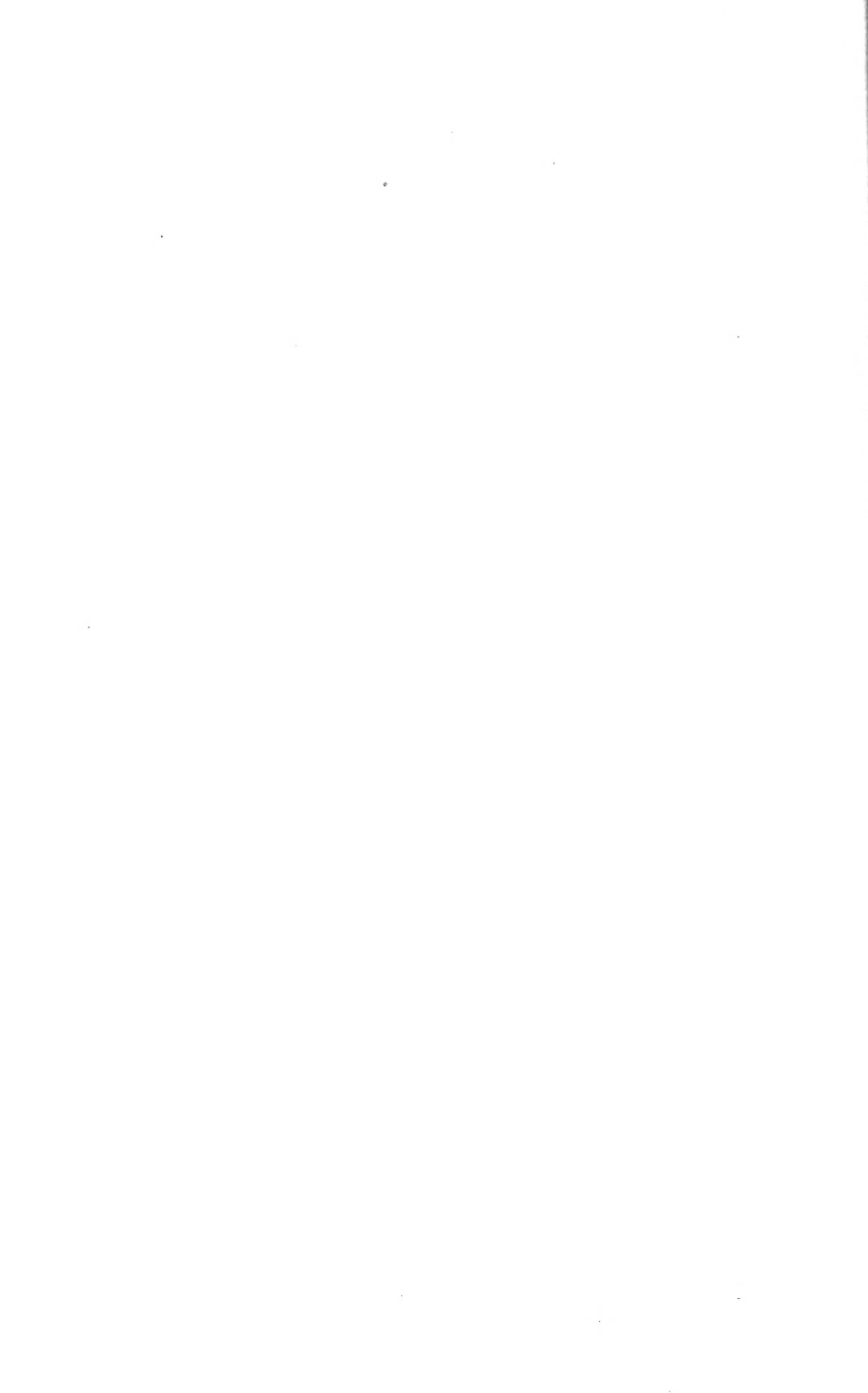
REPORT
OF THE
COMMISSIONER OF CROWN LANDS
OF THE
PROVINCE OF ONTARIO
FOR THE YEAR
1893

PRINTED BY ORDER OF THE LEGISLATIVE ASSEMBLY.



TORONTO:

PRINTED BY WARWICK BROS. & RUTTER, 68 AND 70 FRONT STREET WEST.
1894.



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REPORT
OF THE
COMMISSIONER OF CROWN LANDS
OF THE
PROVINCE OF ONTARIO
FOR THE YEAR 1893.

*To His Honor the Honorable GEORGE AIREY KIRKPATRICK,
Lieutenant-Governor of the Province of Ontario.*

MAY IT PLEASE YOUR HONOR:

As required by law, I submit, for the information of your Honor and the Legislative Assembly, a Report for the fiscal year ending on the 31st December, 1893, of the management, etc., of the Crown Lands of the Province.

CROWN LANDS.

The area of Crown lands sold during the year was 28,135 $\frac{1}{4}$ acres, aggregating in value \$26,841.63. The collections on account of these and sales of former years amounted to \$32,249.39.

Under the leasing clause of the Mines Act, 13,386 $\frac{1}{2}$ acres were leased to various parties, upon which there was paid rent to the amount of \$15,568.69. (See Appendix No. 3, page 6.)

CLERGY LANDS.

The area of these lands sold during the year was 256 $\frac{3}{4}$ acres, aggregating in value \$366.11. The amount collected on account of these and former sales was \$5,079.06. (See Appendix No. 3, page 6.)

COMMON SCHOOL LANDS.

The area of these lands sold during the year was 184 $\frac{1}{8}$ acres, aggregating in value \$598. The collections on account of these and former sales amounted to \$10,472.14. (See Appendix No. 3, page 6.)

GRAMMAR SCHOOL LANDS.

The number of acres sold during the year was 229 $\frac{1}{4}$, aggregating in value \$219.63. The collections on account of these and former sales was \$971.54. (See Appendix No. 3, page 6.)

RAILWAY LANDS.

Under "Railways Aid Act" of 1889, 52 Vict., c. 35, certain lands were set apart to be sold for the purpose of forming a fund to recoup the Province in respect of moneys expended in aiding railways. Of these lands, 888 $\frac{1}{2}$ acres were sold, aggregating in value \$1,540.80. The collections were \$823.05. (See Appendix No. 3, page 6.)

COLLECTIONS AND REVENUE.

The total collections of the Department on account of all sources of revenue were \$1,840,433.31. (See Appendix No. 4, page 7.)

DISBURSEMENTS.

The total disbursements of the Department on account of all services and expenditures were \$242,410.34. (See Appendix No. 6, pages 9 to 16.)

WOODS AND FORESTS.

The total collections for the year under this head amounted to \$1,757,005.46, which includes \$986,372.31 on account of bonuses. The revenue derived from timber dues, ground rent, etc., was \$770,633.15. (See Appendix No. 7, page 17.)

The prosperity which attended the sawn lumber trade last year, and the expectation of larger demand and increased prices this year, stimulated the output of sawlogs last winter, but shortly after the opening of navigation serious financial stringency set in in the United States, money became very scarce and it was impossible to obtain cash for lumber or even satisfactory paper. The effect of this state of affairs was very soon felt. Shipments fell off rapidly, the mill owners preferred to hold their logs and lumber rather than part with them on doubtful security, and large stocks have been held over at the mills in the log and lumber pile. It might have been expected, under such a state of stagnation, that there would have been a break in prices and more or less demoralization, but fortunately the lumbermen, both here and on the other side, have been able to hold their stocks, and no sharp break in prices has taken place. The

financial situation in the United States is improving, confidence is being rapidly restored, the prospects for the removal of the duty on sawn lumber imported into the United States appear to be bright, and there is every reason to hope that the Canadian lumber trade will in the near future be again in a prosperous condition. The effect of holding over lumber and logs of the previous year has been to decrease the output of logs in the bush during the present winter, particularly on the north shore of Lake Huron; and, although the decrease will not be so great as at first appeared probable, it is not expected that the output will be nearly so large as it was last year.

The quantity of logs exported to the United States in the round to be sawn up there was larger than in the previous year, but it did not attain anything like the proportions which were stated by those who assumed to be, but were not, acquainted with the facts. The total output for the Province of sawlogs and round timber for the year was 742,491,791 feet. Of this quantity, 210,682,802 feet were exported in the log to the United States, and, in addition, 24,250,000 feet board measure of the previous season's cut was exported this year, making the total export of logs for the year 1893 cut on the licensed lands of the Crown 234,932,802 feet. This does not include about 10,000,000 feet board measure cut on Dominion lands (Indian Reserves), all of which was exported in the log, to be sawn in the United States. It will therefore be seen that the export from Ontario to the United States will not be more than 50 per cent. of the estimates which have appeared from time to time in the public press as the conjectures of some and the confirmed opinions of others. The Department has taken every pains to ascertain the exact quantities which were exported, and the figures here given are believed to be accurate.

Two examinations of candidates for licenses under The Ontario Cullers' Act were held during the year—one at North Bay, and the other at Belleville. Sixty-four candidates in all attended these examinations, of whom thirty-seven were found proficient, and were duly licensed. The total number now holding licenses under this Act is 544, as per list given in Appendix No. 34, page 87.

FIRE RANGING.

The total cost of this service for the year was \$19,831.33. Of this amount 10 was on account of ranging of previous years, leaving the net cost of the service for 1893 to be \$16,221.33. The refunds from licensees on account of services of this and previous years was \$16,882.44.

The service continues to give satisfaction, and is more largely taken advantage of by limit holders year by year. Forty-six licensees had 106 rangers upon their limits during the past season. The number of fires reported was seven, none of which were of a serious character. The loss of timber caused by these fires was very small.

FISHERIES.

Since my last report a few additional Overseers have been appointed in localities where their services were required. The reports received from the various Overseers, etc., go to show that the law respecting fisheries is now much better observed than formerly.

The revenue from permits, etc., was \$339.

FREE GRANTS.

There are 156 townships open for location under the Free Grants and Homesteads Act, the township of Dorion, in the district of Thunder Bay, having been added since my last report.

During the last year 446 locations were made on 57,440 acres of land, 52 locatees purchased 1,900 acres, and 322 patents were issued to locatees. (See Appendix 9, page 20.)

CROWN SURVEYS.

The following surveys of townships have been carried out this year :

In the District of Nipissing the township of Stratton has been sub-divided into farm lots of 100 acres each ; part of the south boundary of the Algonquin National Park of Ontario, in the District of Nipissing, has been defined upon the ground ; the townships of Capreol, Crerar, Davis, Gibbons, Henry, Loughrin, Norman, and Rathbun, also in the District of Nipissing, have been sub-divided into lots of 320 acres each ; in the District of Algoma, the township of Tennyson into lots of 320 acres each ; in the District of Thunder Bay, the township of Purdom into lots of 320 acres each ; in the District of Rainy River, the townships of Jaffray, McCrosson and Pratt into lots of 320 acres each ; in this latter district, also, base and meridian lines have been run.

The outlines of timber berths in the Districts of Algoma and Nipissing have been surveyed, and several minor surveys have been performed.

The returns of the above-named surveys have, so far as received, been examined and in most cases closed. The particulars of these surveys will be found in Appendices Nos. 14 and 15 and 19 to 32 inclusive, pages 30 and 31, and 36 to 57 inclusive.

MUNICIPAL SURVEYS.

The Department has during the year, on the petitions of the Municipal Councils interested, issued instructions for surveys in the following townships : Nepean, Orford, Pittsburg, Ross, Torbolton and Westmeath ; and in the Village of Waterford ; and has during the same period confirmed seven municipal surveys in the townships of Finch, Flos, Montague, Tecumseth, Tilbury East, Wnchester and Yarmouth.

The particulars relating to these surveys will be found in Appendices Nos 12 and 13, pages 26 and 28.

MINERAL SURVEYS.

The General Mining Act and the Mines Act, 1892, require that applicants to purchase or lease mining lands in unsurveyed territory shall file Surveyor's plans, field-notes and descriptions by metes and bounds, of their locations, in the Department before any sale or lease is carried out. Under these statutory regulations a number of applicants in the Districts of Nipissing, Rainy River and Thunder Bay have filed plans, etc., and an area of 3,585 acres has been sold and patented to them, for which nearly \$10,000 has been received, and an area of 7,506 acres has been leased at \$1 per acre for the first year's rental.

The particulars relating to these surveys and sales will be found in Appendices Nos. 16 and 17, and pages 32 to 34 inclusive.

COLONIZATION ROADS.

During the year, 154½ miles of new road were constructed, 489 miles of road were repaired, 33 new bridges were erected, and a number of others repaired. All the works were carefully inspected by the officers appointed for that purpose, and the reports received show them to have been carried on in an economical and satisfactory manner. The net expenditure of the Department was \$112,166.30. See appendix No. 33, page 58.

Respectfully submitted,

A. S. HARDY,

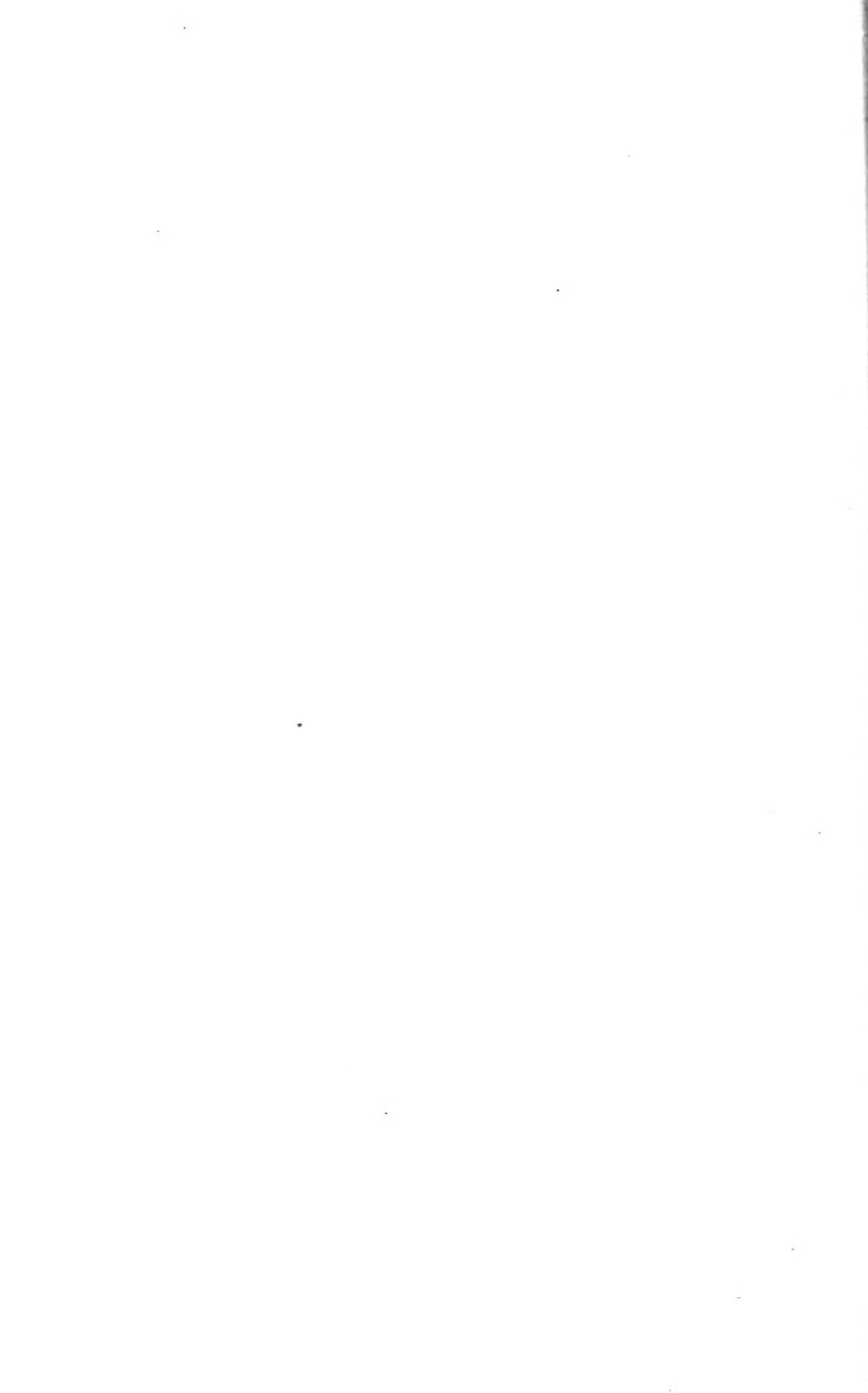
Commissioner.

DEPARTMENT OF CROWN LANDS,

TORONTO, December 30th, 1893.



APPENDICES.



APPENDIX No. 1.

Return of Officers and Clerks in the Department of Crown Lands, for the year 1893.

Branch	Name.	Designation.	When Appointed.	Salary per Annum.	Remarks.
	Hon. A. S. Hardy	Commissioner	1889, January 19th	\$ 4,000 00	
	Aubrey White	Assistant Commissioner	1882, January 1st	2,800 00	
	George Kennedy	Law Clerk	1872, February 1st	2,000 00	
	F. Yeigh	Shorthand writer and Clerk	1880, March 1st	1,250 00	
		Inspector of Agencies		150 00	
	A. Kirkwood	Chief Clerk	1854, March 21st	1,900 00	
	J. J. Murphy	Clerk in charge of Free Grants	1872, May 1st	1,400 00	
	Julian Sale	Clerk	1871, August 5th	950 00	
	E. S. Williamson	"	1889, May 1st	800 00	
	C. J. M. Hardy	"	1890, May 31st	753 00	
	G. B. Kirkpatrick	Director of Surveys	1866, January 30th	2,000 00	
	W. Revel	Clerk	1871, October 2nd	1,300 00	
	W. F. Lewis	"	1872, February 5th	1,000 00	
	J. M. Grant	Chief Clerk Patents	1860, May 12th	1,400 00	
	Pedro Alma	Clerk	1871, August 1st	1,250 00	
	Henry Smith	Superintendent of Colonization Roads	1881, January 1st	1,900 00	
	C. Cushman	Clerk	1872, September 1st	1,150 00	
	J. H. Bradshaw	"	1884, June 1st	850 00	
	J. A. G. Crozier	Chief Clerk	1867, December 1st	1,750 00	
	Theo. C. Taylor	Clerk	1888, August 1st	1,400 00	
	H. R. Hardy	"	1883, November 1st	1,100 00	
	Kenneth A. Miller	"	1891, November 1st	1,000 00	
	J. J. Kelly	"	1888, March 19th	950 00	
	P. J. Durkin	"	1888, October 1st	850 00	Left the service 30th September, 1893.
	Alex. McLaren	"	1890, May 22nd	850 00	
	John Durkin	"	1893, November 15th	850 00	

APPENDIX No. 1.—*Concluded.*

Return of Officers and Clerks in the Department of Crown Lands, for the year 1893.

Branch.	Name.	Designation.	When Appointed.	Salary per Annum.	Remarks.
Accounts	D. G. Ross	Accountant	1861, April 15th	\$ 1,800 00	
	E. Leigh	Clerk	1873, December 20th	1,200 00	
	M. J. Ferris	"	1891, April 1st	850 00	
	C. P. Higgins	"	1873, July 1st	1,100 00	
	C. S. Jones	Registrar	1890, May 22nd	1,500 00	
Bureau of Mines	A. Blue	Director of Mines	1891, May 8th	2,500 00	
	T. W. Gibson	Clerk and shorthand writer	1891, June 19th	1,400 00	
	Aaron Slaght	Inspector	1890, April 18th	750 00	
	F. Franks	Messenger and caretaker	1886, December 1st	600 00	
	D. Kinnan	Night watchman	1873, April 1st	500 00	Transferred to Public Works.
	Harry Lake	Messenger and telephone boy	1891, October 7th	300 00	

D. GEO. ROSS,
Accountant.AUBREY WHITE,
Assistant Commissioner.DEPARTMENT OF CROWN LANDS,
TORONTO, 30th December, 1893.

APPENDIX No. 2.

List of Crown Land Agents for the disposal of Free Grants for 1893.

Name.	District or County.	Date of Appointment.	Salary per Annum.	Remarks.
Armstrong, John	Lake Temiscamingue, District of Nipissing.	1893, October 27th	500 00	
Anderson, D	Part of Peterborough	1870, November 21st	500 00	
Beet, S. G.	" Parry Sound District.	1875, March 23rd	500 00	
Campbell, A.	" Rainy River District.	1881, May 8th	200 00	
Cockburn, J. D	Nipissing District	1881, May 21st	500 00	
Fielding, W.	Part of Victoria.	1882, February 23rd	500 00	Agent for sale of lands.
Gilligan, B. J.	" Nipissing District	1884, March, 26th.	500 00	
Hamilton, G.	St. Joseph Island	1890, September 20th	200 00	
Handy, E.	Part of Parry Sound District.	1879, January 3rd	500 00	
Hollands, C. J.	Town plot of Alberton.	1892, October 12th	100 00	
Kirk, W.	Part of District of Muskoka	1892, July 28th	500 00	
MacKay, T.	" Parry Sound District	1881, December 5th.	500 00	
Macpherson, K.	" Frontenac.	1871, July 18th.	500 00	Agent for sale of lands.
Marsh, R. J. F.	" Rainy River District	1891, May 8th	200 00	
McDonald, D. G.	" Algonia District.	1888, December 3rd.	500 00	Agent for sale of lands.
Nichols, W. L.	" Algonia District.	1885, August 27th.	500 00	
Reeves, J.	" Nipissing District	1872, February 12th	500 00	
Ruttan, J. F.	" Thunder Bay District	1889, May 16th.	250 00	Agent for sale of lands.
Ryan, T. J.	" Algonia District	1888, June 15th	500 00	
Scarlett, J. S.	" Parry Sound District	1880, June 17th.	500 00	
Stewart, C. K.	" Hastings and Peterborough.	1882, May 1st	500 00	
Stewart, James.	" Renfrew	1891, September 26th	400 00	
Tait, J. R.	" Hastings.	1869, May 28th.	500 00	
Turner, William	" Algonia District	1892, October 5th.	200 00	
Whelan, J.	" Renfrew.	1884, September 19th	500 00	
Wilson, Wm	" Rainy River District.	1891, June 19th.	200 00	
Wood, Amos. W.	" Frontenac and Addington	1892, December 31st	200 00	

D. GEO. ROSS,
Accountant.

AUBREY WHITE,
Assistant Commissioner.

DEPARTMENT OF CROWN LANDS,
TORONTO, 30th December, 1893.

APPENDIX No. 3.

Statement of Lands Sold and Leased, Amount of Sales, and Amount of Collections on Sales and Leases for the year 1893.

Service.	Acres Sold and Leased.	Amount of Sales.		Amount collected on Sales and Leases.	
		\$	c.	\$	c.
Railway Lands	888½	1,540	80	823	05
Crown Lands	28,135¼	26,841	63	32,249	39
Clergy Lands	256¾	366	11	5,079	06
Common School Lands	184½	598	00	10,472	14
Grammar School Lands	229¼	219	63	971	54
Rent	13,386½			15,568	69
Total	43,080 ⁷ / ₁₆	29,566	17	65,163	87

AUBREY WHITE,
Assistant Commissioner.

D. GEO. ROSS,
Accountant.

DEPARTMENT OF CROWN LANDS,
TORONTO, 30th December, 1893.

APPENDIX No. 4.

Statement of the Gross Revenue of the Department of Crown Lands for the year 1893.

Service.	\$ c.	\$ c.
<i>Land Collections :</i>		
Railway Lands.....	823 05	
Crown Lands.....	22,249 39	
Clergy Lands.....	5,079 06	
Common School Lands.....	10,472 14	
Grammar School Lands.....	971 54	
Rent.....	15,568 69	
		65,163 87
<i>Woods and Forests :</i>		
Timber Dues.....	707,746 29	
Ground Rent.....	62,886 86	
Bonus.....	986,372 31	
		1,757,005 46
Fishing Licenses.....	339 00	
Cullers' Fees.....	248 00	
Casual Fees.....	733 43	
		1,320 43
<i>Expenditure Refunds :</i>		
Fire Ranging, Refunds of 1893 and previous years.....	16,882 44	
Agents' Salaries.....	7 60	
Inspections.....	43 00	
Surveys.....	10 51	
		16,943 55
		1,840,433 31

AUBREY WHITE,

Assistant Commissioner.

D. GEO. ROSS,

Accountant.

DEPARTMENT OF CROWN LANDS,

TORONTO, 30th December, 1893.

APPENDIX No. 5.

Statement of the Receipts of the Department of Crown Lands, which are considered as Special Funds, for the year 1893.

SERVICE.	c.	\$	c.
<i>Clergy Lands :</i>			
Principal	2,674 03		
Interest	2,405 03		
			5,079 06
<i>Common School Lands :</i>			
Principal	4,400 28		
Interest	6,071 86		
			10,472 14
<i>Grammar School Lands :</i>			
Principal	732 24		
Interest	239 30		
			971 54
<i>Railway Lands :</i>			
Principal	820 99		
Interest	2 06		
Rent	612 29		
			1,435 34
			17,958 08

AUBREY WHITE,
Assistant Commissioner.

D. GEO. ROSS,
Accountant.

DEPARTMENT OF CROWN LANDS,
TORONTO, 30th December, 1893.

APPENDIX No. 6.

Statement of the Disbursements of the Department of Crown Lands for the year 1893.

Service.	\$	c.	\$	c.	\$	c.
AGENTS' SALARIES AND DISBURSEMENTS.						
<i>Salaries—Land.</i>						
Anderson, D.	500	00				
Armstrong, John.....	90	28				
Best, S. G.	500	00				
Campbell, A. G.	200	00				
Cockburn, J. D.	500	00				
Fielding, W.	500	00				
Gilligan, B. J.	500	00				
Handy, E.	500	00				
Hamilton, Geo.	200	00				
Hollands, C. J.	100	00				
Kirk, Wm.	500	00				
Macdonald, D. G.	500	00				
Mackay, Theresa	500	00				
Macpherson, R.	500	00				
Marsh, R. J. F.	200	00				
Nichols, W. L.	500	00				
Reeves, J.	500	00				
Ruttan, J. F.	250	00				
Ryan, T. J.	500	00				
Scarlett, J. S.	500	00				
Stewart, C. R.	500	00				
Stewart, James.	400	00				
Tait, J. R.	500	00				
Turner, Wm.	200	00				
Whelan, J.	500	00				
Wilson, Wm.	200	00				
Wood, Amos. W.	200	00				
			10540	28		
<i>Salaries—Timber.</i>						
Campbell, P. C.	1600	00				
Margach, Wm.	1600	00				
Macdonald, D. F.	1600	00				
Munro, H.	1200	00				
McWilliams, J. B.	2000	00				
Tasé, D.	100	00				
			8100	00		
AGENTS' DISBURSEMENTS.						
<i>Land.</i>						
Anderson, D.	4	51				
Armstrong, John.....	29	00				
Cockburn, J. D.	13	22				
Handy, E.	12	43				
Kirk, Wm.	19	64				
Hollands, C. J.	6	38				
Mackay, Theresa.....	7	60				
Nichols, W. L.	18	25				
Reeves, J.	14	95				
Ryan, T. J.	15	50				
Carried forward	141	48	18640	28		

APPENDIX No. 6.—Continued.

Statement of the Disbursements of the Department of Crown Lands for the year 1893.

Service.	\$ c.	\$ c.	\$ c.
<i>Brought forward</i>	141 48	18640 28	
AGENTS' DISBURSEMENTS.—Continued.			
<i>Land.—Continued.</i>			
Scarlett, J. S.	10 00		
Stewart, C. R.	11 35		
Tait, J. R.	9 15		
Whelan, J.	4 62		
		176 60	
<i>Timber.</i>			
Campbell, P. C.	472 90		
Margach, Wm.	870 96		
Macdonald, D. F.	400 00		
Munro, H.	175 18		
McWilliams, J. B.	469 31		
		2388 35	
<i>Miscellaneous.</i>			
Armstrong, J., inspection	115 00		
Crozier, J. A. G., travelling expenses	13 50		
Dixon, W. H., inspection	3 00		
Hardy, Hon. A. S., travelling expenses	16 00		
Barber Bros., report on Temiscamingue district	20 50		
Jones, C. S., travelling expenses	62 94		
McDonald, D., inspection	5 00		
Ross, Alex., services <i>re</i> Pigeon River Slide	29 45		
Soper, M. L., services at Rondeau Point	25 00		
Stewart, J. W., inspection	3 50		
Taylor, Theo. C., travelling expenses	59 30		
Taylor, Hugh, inspection	15 00		
Yeigh, Frank, travelling expenses	53 00		
White, Aubrey, travelling expenses	75 00		
		496 19	
			21701 42
CROWN TIMBER AGENCY, OTTAWA.			
Darby, E. J., acting agent	1200 00		
Larose, S. C., clerk	900 00		
		2160 00	
Contingencies		748 89	
			2848 89
CROWN TIMBER OFFICE, QUEBEC.			
Nicholson, B., agent	1400 00		
Contingencies	50 00		
		1450 00	
		310 02	
			1760 02
<i>Carried forward</i>			26310 33

APPENDIX No. 6.—Continued.

Statement of the Disbursements of the Department of Crown Lands for the year 1893.

Service.	\$	c.	\$	c.	\$	c.
<i>Brought forward</i>					26310	33
FISHERY SERVICE.						
<i>Salaries of Overseers.</i>						
Bilton, George	50	00				
Bole, Duncan	100	00				
Clarke, Norman	50	00				
Emmons, John	50	00				
Huntington, S. A.	100	00				
Johnson, John A.	200	00				
Little, J. T.	50	00				
Moore, F. J. M.	75	00				
McCann, Peter.	50	00				
McKewen, S. R.	50	00				
McKirdy, William.	50	00				
Seidewand, Geo. E.	11	68				
Sliter, A. E.	50	00				
Sly, Lester.	50	00				
Smith, R. R.	50	00				
Willmott, J. H.	50	00				
			1036	68		
<i>Disbursements of Overseers.</i>						
Johnson, John A.	36	00				
Moore, F. J. M.	24	56				
Willmott, J. H.	33	45				
			94	01		
<i>Miscellaneous.</i>						
Margach, Wm., stocking Otter and Cameron Lakes. .	127	50				
McCallum, G. A., expenses re Fishery Convention, Chicago	100	00				
McCallum, G. A., stocking Grand River	44	46				
North Bay <i>Despatch</i> , advertising	1	50				
O'Brien, A. H., digest of game laws	25	00				
Willmott, Chas., speckled trout fry	148	35				
			446	81		
					1577	50
WOOD RANGING AND INSPECTION OF TIMBER LANDS.						
Bremner, J. L.			585	50		
Brady, John			865	00		
Christie, W. P.			684	72		
Cunningham, John			84	00		
Fraser, Duncan.			427	65		
Garrow, E.			1105	66		
Gardner, John.			628	06		
<i>Carried forward</i>			4380	53	27887	83

APPENDIX No. 6.—Continued.

Statement of the Disbursements of the Department of Crown Lands for the year 1893.

Service.	\$	c.	\$	c.	\$	c.
<i>Brought forward</i>			4380	53	27887	83
WOOD RANGING AND INSPECTION OF TIMBER LANDS.—						
<i>Continued.</i>						
Galbraith, W.			24	00		
Henderson, Chas.			856	50		
Halliday, Frank.			1371	00		
Halliday, James.			985	00		
Hanes, J. L.			185	70		
Johnson, S. M.			1543	19		
Kennedy, John.			889	92		
Lewis, Clifford.			287	25		
Ludgate, Theo.			1304	60		
Moore, D. H.			1280	00		
Malone, W. P.			75	00		
McSherry, P.			212	55		
McCogherty, P.			1230	00		
McGown, W.			1335	00		
McGown, Thos.			678	00		
Paget, Geo.			1150	00		
Regan, John.			1519	66		
Russell, Wm.			1533	66		
Robinson, Wm.			153	95		
Sullivan, John.			1925	83		
Smith, J. W.			1307	05		
Sinclair, F.			935	00		
Turgeon, J. B.			435	50		
White, J. B.			1094	50		
Workman, John.			231	20		
Wickware, P. A.			54	00		
					26978	59
FIRE RANGING.						
Bell, John H. 1892			260	00		
Bell, Alfred. 1892			44	00		
Bruce, George. 1892			256	00		
Blanchette, O. 1892			262	00		
Bremner, Wm.			176	00		
Bartlett, G. W.			264	00		
Bailey, Samuel.			70	00		
Bowland, John M.			160	00		
Barber Bros., copies of Act.			4	10		
Bowland, Wm.			240	00		
Cole, John.			240	00		
Crombie, John. 1892		252	00			
" " 1893		186	00			
			438	00		
Caddy, E. F.			130	00		
Cole, Geo.			234	00		
Conway, James.			238	00		
Carter, Robt.			188	00		
Campbell, James.			168	00		
Dufond, Ignace.			204	00		
Dunn, P.		210	00			
Disbursements.		133	50			
			343	50		
<i>Carried forward</i>			3919	60	54866	42

APPENDIX No. 6.—Continued.

Statement of the Disbursements of the Department of Crown Lands for the year 1893.

Service.	\$	c.	\$	c.	\$	c.
<i>Brought forward</i>			3919	60	54866	42
FIRE RANGING.—Continued.						
Dwyer, James.....			246	00		
Driver, Jos.....			246	00		
Dawkins, John.....			264	00		
Fairhall, Ed.....			212	00		
Francois, Antoine.....			82	00		
Flaherty, Ed.....			228	00		
Grawberger, Tho.....			212	00		
Grozelle, A. D.....			102	00		
Gouldie, E. J.....			66	00		
Graham, Ed.....			144	00		
Goldie, Stewart.....			120	00		
Gallagher, James.....			252	00		
Hanna, Samuel..... 1892			210	00		
Hanes, J. L.....			212	00		
Henderson, James.....			126	00		
Humphrey, T. W.....			226	00		
Harvey, Thos. R.....			120	00		
Harvey, Albert.....			100	00		
Hoff, J. S. M.....			181	50		
Inwood, Albert.....			90	00		
Johnston, R. W.....			264	00		
Johnson, Ed.....			214	00		
Kelly, J. M..... 1892	118	00				
"..... 1893	192	00				
			310	00		
LaSelle, H. W.....	60	00				
Disbursements.....	16	50				
			76	50		
Lunan, D. M.....			172	00		
Lawson, Alex.....			37	00		
Latour, A.....			264	00		
McNab, J. W.....			252	00		
McQuey, D..... 1892	262	00				
"..... 1893	262	00				
			524	00		
McIntyre, Wm..... 1892	262	00				
"..... 1893	262	00				
			524	00		
McNeil, Alex..... 1892			248	00		
McGown, Wm.....			82	00		
McDougall, D.....			234	00		
McFarlane, John W.....			206	00		
McCarthy, John.....			262	00		
McCormick, J. C.....			120	00		
McGuire, Jerry.....			236	00		
McGuire, James F.....			246	00		
McDonell, Alex.....	262	00				
Disbursements.....	125	73				
			387	73		
McWilliam, W.....	12	00				
Disbursements.....	5	00				
			17	00		
<i>Carried forward</i>			12035	33	54866	42

APPENDIX No. 6.—Continued.

Statement of the Disbursements of the Department of Crown Lands for the year 1893.

Service.	\$ c.	\$ c.	\$ c.
<i>Brought forward</i>		12035 33	54866 42
<i>FIRE RANGING.—Continued.</i>			
McKay, Angus	264 00		
Disbursements.....	54 00		
Mulligan, John		318 00	
Mulligan, E.....		158 00	
Main, Samuel	1892	186 00	
"	1893		
			472 00
Miller, Robt.....		228 00	
Maguire, A. H.....		52 00	
Maves, Wm.....		184 00	
Nevers, Chas.....		264 00	
O'Neil, A. J.....	310 00		
Disbursements.....	9 50		
O'Connor, P.....		319 50	
Osborne, Thos.....		156 00	
Patnote, Jos.....		264 00	
Patterson, John		212 00	
Reynolds, Chas.....	1892	84 00	
Rouse, John.....		60 00	
Ruston, Fred.....		258 00	
Seidewand, G. E.....		162 00	
Shiels, John A.....		262 00	
Shiels, John J.....	1892	112 00	
Streatfield, L. E.....		210 00	
Snarth, W. J.....		62 00	
Stahl, David.....		204 00	
Sheehan, Peter		118 00	
Slade, Wm.....		240 00	
Scantlin, Jas.....	62 00		
Disbursements.....	183 75		
Smith, G. O.....		245 75	
Stephens, R.....	36 00		
Disbursements.....	15 00		
Simpson, M.....	264 00		
Disbursements.....	13 75		
Thaxter, R.....	1892	277 75	
Tremblay, O.....		262 00	
Taylor, James.....		252 00	
Vankoughnet, John.....		228 00	
Wilson, John.....	1892	72 00	
Wells, John R.....		210 00	
Whelan, Jas.....		16 00	
Wilcox, G.....		204 00	
Wright, Cecil.....		18 00	
Young, Wm.....		120 00	
		264 00	
Less amount refunded by limit-holders		19411 33	
		16882 44	
<i>Carried forward</i>			2528 89
			57395 31

APPENDIX No. 6.—Continued.

Statement of the Disbursements of the Department of Crown Lands for the year 1893.

Service.	\$	c.	\$	c.	\$	c.
<i>Brought forward</i>					57395	31
BUREAU OF MINES.						
Blue, A., salary.....	2500	00				
Gibson, T. W. ".....	1400	00				
Slaght, A. ".....	750	00				
			4650	00		
Blue, A., disbursements.....	522	45				
Gibson, T. W. ".....	25	90				
Slaght, A. ".....	233	08				
			781	43		
Printing and stationery.....			261	26		
Postage and telegraphing.....			231	85		
Books.....			114	05		
Subscriptions and advertising.....			552	47		
Census returns.....			52	50		
Supplies.....			172	46		
Sundries.....			68	80		
					5884	82
Refunds.....					14194	08
Colonization Roads.....					112166	30
Surveys.....					39357	80
Board of Surveyors.....					150	00
ALGONQUIN NATIONAL PARK.						
Thomson, Peter, Chief Ranger.....	242	46				
Waters, Stephen, Under Ranger.....	183	30				
Geall, Wm. ".....	181	89				
O'Leary, Timothy ".....	183	30				
Fitzgerald, E. ".....	79	06				
			870	01		
Laborers and carpenters for the erection of buildings.....			451	66		
Supplies, disbursements, etc.....			2076	27		
					3397	94
CULLERS' EXAMINATIONS.						
Aylesworth, W. R.....	15	00				
Garrow, E.....	25	69				
Gardner, J.....	9	00				
Mather, D. L.....	6	00				
Moore, D. H.....	22	35				
McCogherty, P.....	33	10				
McWilliams, J. B.....	8	35				
Tait, J. B.....	26	00				
			145	49		
Advertising.....			19	25		
					164	74
<i>Carried forward</i>					233710	99

APPENDIX No. 6.—*Concluded.*

Statement of the Disbursements of the Department of Crown Lands for the year 1893.

.Service.	\$ c.	\$ c.	\$ c.
<i>Brought forward</i>			233710 99
CONTINGENCIES.			
Printing and binding	1519 71		
Stationery	1873 25		
Postage, express and telegraphing		3392 96	
Advertising and subscriptions		1408 96	
Cab hire		420 45	
Extra clerks and temporary writers <i>re</i> timber returns		152 65	
		2042 10	
Messenger and Caretaker	600 00		
Messenger and telephone boy	300 00		
Sundries		900 00	
		256 28	
			8573 40
<i>Timber Sale, 1892.</i>			
Advertising			125 95
			242410 34

D. GEO. ROSS,
Accountant.AUBREY WHITE,
Assistant CommissionerDEPARTMENT OF CROWN LANDS,
TORONTO, 30th December, 1893.

APPENDIX No. 7.

WOODS AND FORESTS.

Statement of Revenue collected during the year ending 31st December, 1893.

	\$	c.	\$	c.
Amount of Western District collections at Department	1,444,165	68		
“ “ “ at Quebec	68,304	25		
			1,512,469	93
Amount of Belleville collections	65,679	12		
			65,679	12
Amount of Ottawa collections	166,818	56		
“ “ at Quebec	12,037	85		
			178,856	41
Total			1,757,005	46

AUBREY WHITE,
Assistant Commissioner.

J. A. G. CROZIER,
Chief Clerk in Charge.

DEPARTMENT OF CROWN LANDS,
WOODS AND FORESTS BRANCH,
TORONTO, 30th December, 1893.

APPENDIX

WOODS AND

Statement of Timber and Amounts accrued from Timber Dues, Ground

Agencies.	Area covered by Timber Licenses. Square Miles.	Quantity and					
		Saw Logs.				Boom and	
		Pine.		Other.		Pine.	
		Pieces.	Feet.	Pieces.	Feet.	Pieces.	Feet.
Western Timber District...	8790	5453389	528081688	29710	2058386	57141	13124792
Belleville Timber District...	1696	710597	80354372	7893	3685580	13661	3292222
Ottawa Timber District....	6758	1127453	109779211	33506	2351158	54047	7859506
Total	17244	7291439	718215271	142109	8095124	124849	24276520

APPENDIX No.

Agencies.	Quantity and description								
	Square Timber.				Cedar lineal feet.		Cordwood.		Pulp Wood.
	Tamarac and Spruce.		Cedar and Hemlock.		Pieces.	Feet.	Hard cords.	Soft cords.	Cords.
	Pieces.	Feet.	Pieces.	Feet.					
Western Timber District...			C	21907			2689	12599	1711
Belleville Timber District.	{ T. 19 S. 2 }	{ 646 64 }	H. 849	37376		151651	126	538	26
Ottawa Timber District....						51479	750	110	1980
Total	{ T. 19 S. 2 }	{ 646 64 }	{ C H. 849 }	{ 21907 37376 }		203130	3565	13247	3717

J. A. G. CROZIER,
Chief Clerk in Charge.

DEPARTMENT OF CROWN LANDS, WOODS AND FORESTS BRANCH,
TORONTO, 30th December, 1893.

No. 8.

FORESTS.

Rent, and Bonus during the year ending 31st December, 1893.

Description of Timber.

Dimension Timber.		Square Timber.							
Other.		White Pine.		Red Pine.		Birch, Ash and Elm.		Maple and Oak.	
Pieces.	Feet.	Pieces.	Feet.	Pieces.	Feet.	Pieces.	Feet.	Pieces.	Feet.
1509	151833	21499	1092519	932	40704	{ A. 47 B. 77 E. 25 750 }	{ 1675 2594 750 }	.....	.....
1536	293422	1164	59409	.....	.....	{ A. 10 E. 34 B. 81 }	{ 419 681 1765 }	{ O. 106 M. 105 }	{ 2171 1962 }
2535	306520	14151	715412	8	279	A. 6	186	.....	.....
5580	751775	36814	1867340	940	46983	{ A. 63 B. 158 E. 59 }	{ 2280 4359 1431 }	{ O. 106 M. 105 }	{ 2171 1902 }

S.—Continued.

of Timber.							Amounts Accrued.				
Tan Bark.	Railway Ties.	Posts.	Single Bolts.	Telegraph Poles.	Hop Poles and Traverses.	Piles and Head Blocks.	Interest and Trespass.	Timber Dues.	Bonus.	Ground Rent.	Total.
C'ds	Pieces.	C'ds.	C'ds	P'ces.	Pieces.	Feet.	§ c.	§ c.	§ c.	§ c.	§ c.
60	1011849	2687	1342	1520	.....	{ P. 144600 H.B. 85120 }	34641 80	609021 20	958538 60	34675 00	1636876 60
...	14921	1449	44	1147	.....	.....	194 75	89006 32	.....	5608 00	94809 07
.....	103635	683	576	.....	{ T. 4334 H.P. 900 }	{ P. 13500 }	4138 81	140652 51	.....	21395 00	166186 32
60	1130405	4819	1962	2667	{ T. 4334 H.P. 900 }	{ P. 157500 H.B. 85120 }	38975 36	838680 03	958538 60	61678 00	1897871 99

AUBREY WHITE,
Assistant Commissioner.

APPENDIX No. 9.

RETURN of the number of locatees and of acres located; of purchasers and of acres sold; of lots resumed for non-performance of the settlement duties; and of patents issued under the "Free Grants and Home-steads Act" during the year 1893.

Township.	District or County.	Agent.	Number of persons located.	Number of acres located.	Number of acres sold.	Number of lots resumed.	Number of patents issued.	
Baxter	Muskoka	Wm Kirk, Bracebridge	1	100		1	4	
Brunel			1	97			3	3
Chaffey			6	697			1	2
Draper			1	149	2	118	4	2
Franklin			7	801			2	2
Macatlay							2	2
Medora			7	917	1	20	13	4
Monk			5	556		10		2
12 Morrison			4	631			2	1
10 Muskoka			9	1,273				2
McLean			4				5	2
Oakley			4				3	1
Ridout			2	198			3	3
Ryde			1	100	1	15	1	4
Sinclair	13	1,885			9	3		
Sherborne	3	311			2	2		
Stephenson	4	423			4	4		
Shised	3	306	3	111	5	5		
Watt	3	280	1	4	2	4		
Wood	8	941	3	69	12	1		
Cardwell	Parry Sound	Theresa Mackay, Parry Sound	3	433			3	
Carling			2	165			1	2
Christie			1	170				1
Ferguson			3	426			2	2
Foley					1	6		2
Hagerman			1	113			1	2
Humphrey			7	885	2	287	6	2
Montfeth			1		1	54		1
McDonkey								3
McDougall			1	100				1
McKenzie								2
McKellar								2
Shawanaga			2	299	1	6		2
Wilson			1	100				1

Bonfield								1,373					6	
Calvin								9					6	
Ferris								11					10	
Mattawa	Nipissing	B. J. Gilligan, Mattawa						2					9	
Mattawan								2					4	
Papineau								5					5	
Korah	Algoma	Wm. Turner, Sault Ste. Marie												
Parke									6					6
Prince														
Plummer	Algoma	Wm. L. Nichols, Thessalon						2					4	
St. Joseph's Island	Algoma	Geo. Hamilton, Richard's Landing						9					5	
Crooks	Thunder Bay	J. F. Rutta, Port Arthur												
Dorion														
Dawson Road														
Oliver														
Parpouge	Rainy River	R. J. F. Marsh, Rainy River						1						
Gillies								1						1
Atwood	Worthington							2						
Ble														
Curran									3					
Dilke									4					
Morley	Rainy River	R. J. F. Marsh, Rainy River						9						
Nelles								3						
Patullo	Worthington							1						
Roseberry														
Shenston									1					
Tait									9					
Aylesworth	Rainy River	Wm. Wilson, Fort Frances												
Barwick														
Crozier														
Devlin														
Lash	Rainy River	Wm. Wilson, Fort Frances												
McEvine														
Reddick														
Woodyatt														
Totals								446		52	1,900	356	322	

AUBREY WHITE,
Assistant Commissioner.

JOSEPH J. MURPHY,
Clerk in Charge.
DEPARTMENT OF CROWN LANDS,
TORONTO, December 30th, 1893.

APPENDIX No. 10.

FISHERY OVERSEERS.

UNDER THE ONTARIO FISHERIES ACT.

Name.	District.	Post Office Address.	Salary.
John H. Willmott	Muskoka District	Beannaris	Per annum. \$ 50 00
Francis James Moore	Peterborough, Victoria and Haliburton	Lakefield	75 00
Norman Clark	Lanark and parts of Frontenac and Addington	Mississippi Station	50 00
John T. Little	Part of Algoma District	Iron Bridge	50 00
Samuel Robert McKewen	Manitoulin Island	Telkumamah	50 00
Robert R. Smith	Kennew County	Eganville	50 00
William McKirdy	River and Lake Nepigon and tributaries.	Fort Arthur	50 00
Joseph Whalen	Thunder Bay District	Rat Portage	200 00
John Emmons	Rainy River District	Parry Sound	50 00
John A. Johnson	Parts of Parry Sound and Muskoka	Charleston	50 00
Justus B. Smith	Charleston Lake	London	100 00
Peter McCann	Thames River and Waters tributary	North Bay	100 00
S. A. Huntington	Lake Nipissing, etc.	Belleville	100 00
H. K. Smith	Hastings County	Sault Ste. Marie	50 00
Duncan Bole	Algoma District	Morton	50 00
Lester Sly	Parts of Frontenac and Leeds	Newborough	50 00
George Bilton	do	Morton	50 00
A. E. Sliter	Gananoque River and Lakes	Sundridge	50 00
George E. Siedeward	Stony Lake, South River and tributaries		

A. KIRKWOOD,
Assistant Commissioner.

DEPARTMENT OF CROWN LANDS,
TORONTO, 30th December, 1893.

APPENDIX No. II.

Statement of the number of letters received and mailed by the Department in 1891, 1892 and 1893.

Years.	Sales and Free Grant	Accounts.	Surveys.	Woods and Forests.	Colonization Roads.	Totals.	Names indexed.	Enclosures.	Orders in Council.	Returned letters.	Mailed from Department.
1891.....	7068	929	2432	5862	2086	18385	24600	34600	51	16	28292
1892.....	6649	1014	2558	6389	1721	18331	24600	34600	53	16	28988
1893.....	6478	839	2464	5480	2084	17345	24100	34000	33	32	28406

AUBREY WHITE,
Assistant Commissioner.

CHARLES S. JONES,
Registrar.

DEPARTMENT OF CROWN LANDS,
TORONTO, 30th December, 1893.

APPENDIX No. 12.

Statement of Municipal Surveys confirmed during the year 1893.

No.	Name of Surveyor.	No.	Date of Instructions.	Description of Survey.	Date when Confirmed.
1	C. A. Bigger	582	4th August, 1892.....	To survey the line between the 11th and 12th concessions of the township of Winchester, and to mark said line by permanent stone or iron monuments	5th June, 1893.
2	A. W. Campbell.....	576	8th September, 1891.....	To survey the south boundary of lots numbers 1, 2 and 3 in the 7th concession of the township of Yarmouth, and to plant permanent stone or iron monuments at the front angles of said lots.....	5th June, 1893.
	John H. Moore.....	577	4th February, 1892.....	To survey that part of concession line between the 4th and 5th concessions of the township of Montague, from the original post at lots 2 and 3, westerly to the nearest point where the concession line can be established, and to mark the same by permanent stone or iron monuments.....	8th June, 1893.
4	D. R. Brown.....	585	28th October, 1892.....	To survey the road allowance between concessions 11 and 12 in the township of Finch from the western boundary of said township across lots numbers 1, 2 and 3 to an established post between lots 3 and 4 in the 12th concession and to mark the road allowance on each side thereof by permanent stone or iron monuments.....	9th June, 1893.
5	Charles E. Fitton	578	8th April, 1892.....	To survey the road allowance between the north halves of lots numbers 15 and 16 in the 9th concession of the township of Flos, and to plant stone or iron monuments to define each side of said road allowance.	22nd August, 1893.

APPENDIX No. 12.—(Continued.)

Statement of Municipal Surveys confirmed during the year 1893.

No.	Name of Surveyor.	No.	Date of Instruction.	Description of Survey.	Date when Confirmed
6	Henry Creswicke	529	4th August, 1885.....	To survey that part of the concession line between the 8th and 9th concessions of the township of Tecumseth from the western boundary of said township to lot No. 2, inclusive; also of that part of the concession line between the 9th and 10th concessions from the western boundary to lot No. 7, inclusive; also of that part of concession line between the 10th and 11th concessions from the western boundary to lot No. 4, inclusive, all in the said township of Tecumseth, and to plant durable monuments along said parts of said concession lines.....	4th October, 1893.
7	Joseph M. Tieman.....	575	1st July, 1891.....	To survey the concession line between the 1st and 2nd concessions of the township of Tilbury East, and to mark the same by stone or iron monuments	3rd November, 1893.

AUBREY WHITE,
Assistant Commissioner.

GEO. B. KIRKPATRICK,
Director of Surveys.

DEPARTMENT OF CROWN LANDS,
TORONTO, 30th December, 1893.

APPENDIX No. 13.

Statement of Municipal Surveys for which instructions were issued during the year 1893.

No.	Name of Surveyor.	No.	Date of Instructions.	Description of Survey.	Date when Confirmed.
1	Richard Coad	586	14th July, 1893	To survey the road allowance between the first concession and the rear of the lots north of the Talbot Road in the township of Orford from side-road between lots numbers 66 and 67 north of Talbot Road to the town line between Orford and Aldborough, and also of the road allowance between the 3rd and 4th concessions of Orford from the town line between Orford and Aldborough to the limit between lots numbers 16 and 17, and to define said road allowances by permanent stone or iron monuments on each side thereof .....	.....
2	Frank Purvis	587	14th July, 1893	To survey that part of the road allowance between the 4th and 5th concessions of the township of Pittsburgh (reckoned from the west boundary) from the Rideau Canal easterly to side road between lots numbers 18 and 19, and to define the said road allowance by permanent stone or iron monuments on each side thereof .....	.....
3	Frank Purvis	588	15th September, 1893	To survey the line between the 1st and 2nd concessions of the township of Torbolton from the town line between the townships of March and Torbolton, across lots numbers 1, 2 and 3, or to the nearest point beyond these lots where the concession line can be satisfactorily ascertained, and to define the road allowance across lots 1, 2 and 3 by planting stone or iron monuments on each side thereof .....	.....
4	Frank Purvis	589	15th September, 1893	To survey that part of the town line between the townships of Ross and Westneath lying westerly of Muskrat Lake, and to plant stone or other durable monuments on each side of the road allowance or town line .....	.....

APPENDIX No. 13.—*Concluded.*

Statement of Municipal Surveys for which instructions were issued during the year 1893.

No.	Name of Surveyor.	No.	Date of Instructions.	Description of Survey.	Date when Confirmed.
5	E. J. Rambold	590	7th November, 1893.	To survey the road allowance between the first and second concessions Rideau Front across lots numbers 31 and 35 inclusive in the township of Nepean, and to define the road allowance across said lots by permanent stone or iron monuments	
6	T. H. Jones	591	21st December, 1893.	To survey part of Main Street in the village of Waterford, county of Norfolk, and plant permanent stone or iron monuments at the north-easterly and south-easterly angles of store lots numbers 3, 4, 5 and 6 being sub-divisions of village lot number 7 in Block B in the said village of Waterford	

AUBREY WHITE,
Assistant Commissioner.

GEORGE B. KIRKPATRICK,
Director of Surveys.

DEPARTMENT OF CROWN LANDS,
TORONTO, 30th December, 1893.

APPENDIX No. 14.
Statement of Crown Lands Surveys, completed and closed during the year 1893.

No.	Date of Instructions.	Name of Surveyor.	Description of Survey.	Amount paid.	No. of Acres.
1	June 27, 1892	B. J. Saunders	Township of Booth	\$	30,911
2	July 4, "	H. B. Proudfoot	" " " " " "	6,163 77	19,391
3	October 11, "	James Dickson	Inspection of Surveys, 1892	261 57	29,451
4	November 21, "	Demorest & Johnson	Timber Berths	647 75	
5	December 27, "	Alex. Niven	Expenses re investigating disputes re land, Point Abino	211 00	
6	February 20, 1893.	Joseph Cozens	F. Pedley, investigating disputes re land, Point Abino	157 02	
7	June 15, "	Alex. Niven	Boundaries of Timber Berths, Batchevanag Bay	168 71	
8	" 15, "	J. W. Fitzgerald	Base and Meridian lines, Rainy River District	272 81	
9	" 15, "	H. B. Proudfoot	Township of Stratton	4,480 00	63,246
10	" 15, "	" " " "	" " " "	4,457 22	
11	" 16, "	" " " "	" " " "	1,357 37	19,391
12	" 27, "	T. B. Speight	Pratt	1,642 06	23,458
13	" 27, "	Coad & Robertson	" " " "	1,848 35	27,094
14	" 27, "	J. S. Laird	" " " "	1,848 35	26,405
15	" 27, "	E. J. Rainboth	" " " "	1,716 19	24,517
16	" 27, "	E. J. Saunders	" " " "	1,474 83	21,069
17	July 22, "	J. K. McLean	" " " "	2,312 45	33,035
18	" 22, "	W. M. Davis	" " " "	1,627 64	23,904
19	" 25, "	L. Bolton	" " " "	1,622 46	23,252
20	" 25, "	E. Stewart	" " " "	2,539 30	23,178
21	" 25, "	Seager & Deacon	Outlines of townships in Algoma	33 10	
22	" 24, "	" " " "	Certain claims north of Rat Portage	140 70	
23	August 4, "	James Dickson	Part of south boundary of The Algonquin National Park of Ontario	661 62	
24	November 1, "	T. B. Speight	Limits of marsh lands, Long Point, Lake Erie	77 60	
25	" 1, "	James Dickson	Inspection of Surveys, 1893	789 26	
26	" 6, "	W. S. Davidson	Line between Concession 7 and 8 Simbra	47 45	
27	" " " "	G. B. Kirkpatrick	Expenses, investigating surveys in Simbra, Tilbury East and Tecumseth	69 00	
28	" " " "	" " " "	Drawing maps	1,300 00	
29	" " " "	" " " "	Copp, Clark Co., maps	237 13	
30	" " " "	" " " "	Toronto Lithographing Co., maps	30 18	
31	" " " "	" " " "	Map and School Supply Co., mounting maps	266 40	
				34,082 80	367,911

GEORGE B. KIRKPATRICK,
Director of Surveys,
DEPARTMENT OF CROWN LANDS,
TORONTO, 30th December, 1893.

AUBREY WHITE,
Assistant Commissioner.

APPENDIX No. 15.

Statement of Crown Lands Surveys in progress and Amounts advanced up to date, during the year 1893.

No.	Date of Instructions.	Name of Surveyor.	Description of Survey.	Amount advanced. \$ c.
1	27th June, 1893	David Beatty.....	Township of Rathbun.....	1,450 00
2	3rd August, 1893	Francis Bolger.....	" Henry	1,500 00
3	6th October, 1893	T. R. Deacon.....	" Jaffray	1,400 00
4	22nd September, 1893..	J. W. Fitzgerald ..	Residue of the Township of Wylie	525 00
5	1st November, 1893.....	Jas. Dickson	Inspection of surveys, 1893	200 00
6	25th September, 1893...	James F. Whitson	Expenses on account of survey of marsh lands along Rainy River	200 00
				5,275 00

GEORGE B. KIRKPATRICK,
Director of Surveys.

AUBREY WHITE,
Assistant Commissioner.

DEPARTMENT OF CROWN LANDS,
TORONTO, 30th December, 1893.

APPENDIX NC 16.

Statement of Lands which have been patented in unsurveyed territory in the District of Rainy River during the year 1893.

No.	No. of Description.	Patentees.	Designation of Land.	Acres.	Amount \$ c.	Date of Patent.	
1	246	M. C. Knight	Knight's location, south of Rat Portage	63	189 00	25th Jan., 1893	
2	247	A. M. Hay, P. Semple, J. S. Whiting	339P being part of an island, Pearnigan Bay, Lake of the Woods.	170	510 00	8th Feb., "	
3	248	Edward Kipping	443P south of Quarry Island	11	33 00	20th "	
4	249	M. W. Bates	AL66, AL67, Lynx Head Falls, La Seine River	159	397 50	15th "	
5	249½	G. R. Howard	451P, 452P, Devil's Gap	5	15 00	21st "	
6	250	E. Gibbins, T. Hanson	Boilder Island, Bigstone Bay	5	10 00	21st March,	
7	251	E. Gibbins	465P, at west end of Rat Portage Bay,	57	171 00	20th "	
8	252	J. S. Whiting	454P, pt. of isld in Pearnigan Bay, 455P on Echo Bay,"	111	333 00	20th "	
9	253	J. S. Whiting	333P, 419P, 453P, Corkscrew Island, Pearnigan Bay,"	74	148 00	20th "	
10	254	J. S. Whiting	T1, T2, on Pearnigan Bay,	142	426 00	20th "	
11	255	J. S. Whiting	306P, 307P, Clear Water Bay, 309P Pearnigan Bay,"	141	425 00	21st "	
12	256	J. S. Whiting	305P, north east part of Treaty Island,	1,472	00	21st "	
13	257	W. G. Scott	459P, island in Rat Portage Bay,	36	5 00	18th "	
14	258	Essie Gibbins	Parts of 85P and islets A & B west-end of Rat Portage Bay,"	22	41 00	21st "	
15	259	R. H. Agar	Islands 423P, 424P, Rat Portage Bay,	38,60	193 00	6th April,	
16	260	W. P. Sweatman	Islands 425P, 426P, Rat Portage Bay,	6,669	36 75	7th "	
17	261	W. F. Ireland	Islands 427P, 428P, Rat Portage Bay,	3,26	18 00	6th "	
18	262	R. H. Agar	448P on Coney Island,	3,89	38 90	6th "	
19	263	W. V. Colpitts	Islands D19, D21, Green's Bay,	1,61	10 00	5th "	
20	264	Joseph Smith	Island K182, northwesterly of Bare Point,	2	10 00	12th "	
21	265	D. McMurphy	53K, Clear Water Bay,	78	234 00	19th "	
22	265	W. Ross, J. W. C. Jeleugh	Island, K67, west of Yellow Girl Point,	5	12 00	24th "	
23	267	W. T. Gibbins, G. W. Murray, J. McDiarmid	The Slate Location, west of Hay Island,	65	130 00	1st May,	
24	268	J. M. Savage	Island K51 in Andrew Bay,	2	20 00	2nd "	
25	269	E. Arnold	D39, north east of Rat Portage,	80	80 00	30th "	
26	270	James Thompson	Island 110P, east of Pipestone Point,	1	20 00	30th "	
27	271	C. A. Moore, T. R. Deacon	Island 146, east of Middle Island,	3	20 00	30th "	
28	272	Joseph Jette	Island 26, Bald Indian Bay,	6	18 00	30th "	
29	273	J. Eastwood, G. Faulkner	Island D14, north of Old Fort Island, Winnipeg River	7	21 00	30th "	
30	274	A. McInnes	Island 61P, south of Shamuis Island, Lake of the Woods.	6	18 00	30th "	
31	275	T. R. Deacon	Island D50, south-east of Treaty Island, "	1	5 00	30th "	
32	276	G. Faulkner, J. Eastwood	Island D51, below Old Fort Island, Winnipeg River	20	60 00	30th "	
33	277	John S. Whiting	457P, 458P, Clear Water Bay	83	249 00	16th June,	
34	278	E. Desmarais	331P on Spruce Lake, west of Rat Portage,	60	180 00	2nd "	
35	279	C. A. Moore	Islands D47, D48, D49, Matheson Bay,	22	65 00	23rd "	
36	280	Dudley Smith	508P or Britannia Island, east of Gull Island,	63	75	160 00	22nd "
37	281	T. W. Dobbie	93P, Pine Portage Bay,	57	114 00	22nd "	
38	281½	C. P. Wilson	Location, W. McC., Coney Island,	142,50	498 00	27th "	
39	283	T. W. Dobbie	93P, near Pine Portage Bay,	28	56 00	22nd "	
40	282½	John Nash	West part of K8, near Bulmer's location	6	12 00	29th "	
41	283	J. H. Henesay, F. Campbell, G. Drewry	East part of K8, near Bulmer's location	27	54 00	28th "	

42	284	Octave Fortin	4130A, part of an island in Rat Portage Bay, Lake of the Woods.	13 50	67 00	4th August,
43	285	Arthur Woods	K52, east of H. B. Co's reserve, Rat Portage.	86 50	260 00	8th "
44	286	David Goux	K5 on west shore of Rat Portage Bay.	121	363 00	4th "
45	287	D. S. Curry	104P, 106P, Islands in Clear Water Bay.	13 70	53 00	4th "
46	288	F. M. Wade	D56 on southerly shore of Coney Island.	5 50	55 00	4th "
47	289	Alex. Dawson	35K, near Bigstone Bay.	85	255 00	8th "
48	290	John A. McClean	561P on southerly shore of Coney Island.	7 86	80 00	14th "
49	291	G. A. Chapman, R. H. Stewart	241X, 245X, Islands 246X, 247X, 248X, 249X with the water-power at Island Falls, La Sene River.	38 50	160 00	11th "
50	292	William Heaney	Island 97P, north of Point Aylmer, Lake of the Woods.	21	63 00	12th Sept.,
51	293	H. S. Stead	D57 on west end of Coney Island.	6 60	66 00	12th "
52	294	Canadian Pacific Railway	Block of land at Ignace Divisional Station.	40	120 00	13th "
53	295	Richard Gould	K17, east of Rat Portage.	24	24 00	12th "
54	296	Henry Langford	K17, east of Rat Portage.	6 30	63 00	13th "
55	297	Angus Kirkland	568P on northwesterly end of Coney Island, Lake of the Woods.	2	10 00	25th "
56	298	F. Beck	Island 461P, south of Devils Gap.	28	110 00	25th "
57	299	Angus Kirkland	600P, northerly part of Devils Gap.	1	5 00	23rd "
58	300	R. H. Acour	Island 462P, south of Devils Gap.	99	99 00	25th "
59	301	W. M. Shaw	K31, on east side of Winnipeg River, North of Rat Portage.	2	5 00	27th "
60	302	May Hamilton	D60.	10	20 00	29th "
61	303	H. S. Barnes	D61, east side of Winnipeg River.	6	12 00	25th "
62	304	Mary A. Faulkner	D64, east side of Winnipeg River.	37	2 00	27th "
63	305	W. H. Laird	D59, D63, D62, east side Winnipeg River.	50	5 00	16th October
64	307	W. W. Scott	Lot 8, Norman, in municipality of Rat Portage.	1 30	6 00	16th "
65	308	William Morrisette	Lot 18, Norman.	3 75	20 00	16th "
66	309	Alfred J. Tarsous	Lots 16, 17, 19, 20, 21, 22, at Norman, municipality of Rat Portage.	90	5 00	16th "
67	310	Public School Board, sec. 1	Lot 13, Norman.	20	5 00	16th "
68	311	A. E. Milligan	Lot 14, Norman.	3 20	17 00	16th "
69	312	John Kay	Lots 7, 11, 21, Norman.	25	5 00	16th "
70	313	Angus Morrison	Lot 5, Norman.	30	5 00	17th "
71	314	Henri Bihacheau	Lot 3, Norman.	50	5 00	17th "
72	315	Angus Carmichael	Lot 1, Norman.	25	5 00	17th "
73	316	Catharine Smith	Lot 6, Norman.	89	222 00	17th "
74	317	Paul Messiah	AL68, AL69, Lynx Head Falls, La Sene River.	192 00	20 00	14th "
75	318	F. W. Moore	Island 271P, west of Sultana Island, Lake of the Woods.	55	5 00	23rd "
76	319	John A. Macdonell	Island 9, 10, 12, locations 65, 66, Norman, municipality of Rat Portage.	50	5 00	24th "
77	320	James B. Davis	Lot 1, Norman.	27	20 00	28th "
78	321	John W. Humble	Island 168K, Bigstone Bay, Lake of the Woods.	25	5 00	31st "
79	322	John McCann	Lot 23, Norman, municipality of Rat Portage.	40	40 00	31st "
80	323	Isabella Sweger	Location 255P, north east of Rat Portage.	47 50	47 00	9th Dec.,
81	324	W. W. Colpitts, Jas. Robinson	Location 585P, south east of Treaty Island, Lake of the Woods.	35	122 00	9th "
82	325	Robert E. Preston	Preston's location, adjoining Western Lumber Co. loc'n, Rat Portage.	67 50	67 00	23rd "
83	326	Henry D. Q. Sewell	W ₁ location K13, south of Rat Portage.	69 50	69 00	23rd "
84	327	Maurice Cosgriff	E ₁ location K13	50	5 00	30th "
85	328	John Milliard	Lot 15, Norman, in the municipality of Rat Portage.	322 60	9 037 15	

DEPARTMENT OF CROWN LANDS,
 TORONTO, 30th December, 1893.

GEORGE B. KIRKPATRICK,
 Director of Surveys.

AUBREY WHITE,
 Assistant Commissioner.

APPENDIX No. 17.

Statement of Mineral Lands which have been patented in Unsurveyed Territory in the Districts of Nipissing, Algoma and Thunder Bay, during the year 1893.

No.	No. of Description.	Patentees.	Designation of Mining Tract.	Acres.	Amount.	Date of Patent.
1	3000	H. S. Sibley, J. J. Marvin...	Islands A to Z in front of Ryan Location, Lake Superior	163.50	\$ c. 408 75	5th April, 1893.
2	3003	A. J. Macdonell, D. O'Connor.	W. R. 12, west of Lake Wahnapijia.	40	80 00	15th February, 1893.
3	3008	George H. Macdonell.	R. 480 on Mattawin River, west of Conmee	13	80 00	12th April, 1893.
4	3011	Alphonse Mondoux.	W. R. 37 Spar Lake, Township of Scadding	36	108 00	2nd May, 1893.
5	3012	R. G. Hamilton	R. 511, north of Mattawin River, west of Conmee	80	160 00	16th June, 1893.
				362.50	842 75	

GEORGE B. KIRKPATRICK,
Director of Surveys.

AUBREY WHITE,
Assistant Commissioner.

DEPARTMENT OF CROWN LANDS,
TORONTO, 30th December, 1893.

(Appendix No. 19.)

TOWNSHIP OF McCROSSON.

DISTRICT OF RAINY RIVER.

TORONTO, ONTARIO,

November 6th, 1893.

SIR,—I have the honor to submit the following report of the survey of the township of McCrosson, in the district of Rainy River, made during the past summer, in accordance with instructions from your Department, dated June 15th, 1893.

The township of McCrosson is situate on the south-east shore of the Lake of the Woods, and is bounded on the west by the said lake and part of the township of Spohn, surveyed by me during the summer of 1892; on the south by the township of Pratt, surveyed by me during the present summer; on the east by unsurveyed lands of the Crown, and on the north by the Lake of the Woods and the 49th parallel of latitude or 1st base line of the Dominion Government system of survey, established by D.L.S., A. L. Russell in 1874.

Part of Indian Reserve, 35 E., surveyed by D.L.S., C. F. Miles in 1880, occupies a point containing one square mile, at the north-west angle of the township of McCrosson.

I found the old lines of survey and posts of the reserve, and connected them with the lines of the township, leaving an allowance for road of one chain to the east and south of the reserve boundaries, as instructed by letter from the Director of Surveys, subsequent to the date of general instructions; Indian Reserve, 35 G, or those parts of said reserve that are shown to lie in part of the area covered by the township of McCrosson, not having yet been surveyed by the Department of Indian Affairs, Ottawa, and no accurate knowledge being obtainable of exactly where the lines should be on the ground, no attention was paid to the said reserve in making this survey; the lines crossing the area where it is supposed to be were surveyed to the shore of the Lake of the Woods, and to the boundaries of Indian Reserve, 35 E. The reserve may now be described as lots or parts of lots of the township of McCrosson.

The Little Grassy River and two of its branches flow through the township, but the height of the water in the Lake of the Woods has deprived this river of its current for most of the distance it was surveyed. A considerable fall is met with near the east boundary, on which improvements have been made some years ago for the purpose of driving timber and logs; at the time of the survey a very small quantity of water was flowing over it. Springs of good water, which are not usually found in this district, occur frequently along the banks of the south-east branch.

The soil, with the exception of a few lots, is clay loam of excellent quality, and the timber being not only large, but at present in good demand for ties, stave bolts, etc., etc., makes this a first-class township for the settler.

The timber consists principally of tamarac spruce, poplar, and cedar; a few scattered red and white pine occur, but not in any quantity.

Considerable swamp is shown on the plan, but I do not consider it detrimental to the value of the township for farming purposes. The season being unusually dry, it was very difficult to decide what was or what would be swamp during an average season. In this district much excellent land, growing nothing but spruce, tamarac and cedar, and which appears at first, on account of the deep moss, to be swamp, makes the best arable land on clearing with nothing but the ordinary surface drainage.

The winter road to Rainy River, cut out by order of your Department a few winters ago, leaves the little Grassy River in this township, and I have no doubt that, with the establishment of a stopping place thereon, it will in a short time be used as the mail route after the freezing of the lake, saving, as it will, a considerable number of miles in the distance to be travelled, as well as the long cold drive over that part of the Lake of the Woods locally called the Big Traverse.

I began the survey on the east boundary of the township of Spohn, at the north-east angle of the township of Pratt, an astronomical observation having been taken two miles north thereof. The concession lines are run due east and west astronomically, and the side lines due north and south astronomically. The lots were made forty by eighty chains, containing three hundred and twenty acres.

No allowances for roads were made.

Iron bars one and one-half inches in diameter and from three feet to four feet six inches in length, were planted at the north-east, south-east and south-west angles and one on the 49th parallel or north boundary, near the water's edge of the Lake of the Woods. They were marked with a cold chisel with the name of the township on the side facing it, and the number of the concession and lot on the the other sides.

In all cases where an iron bar was planted, a wooden post was driven beside it and marked with the numbers of the lots and concession, as described below.

The lot posts were marked in the usual manner, namely, with the numbers of the lots on the east and west sides and the numbers of the concessions on the north and south sides. The posts, however, between lots numbers one and two, three and four, five and six, etc., had the concession numbers marked only on the north side, as the said posts do not govern the lot lines in the concessions to the south of them.

I made a micrometric traverse of the Little Grassy River, but it is not navigable for steamboats, on account of the bar at its mouth, and has no appreciable current.

The 49th parallel I found very much grown up with small timber, and very few blazes visible. I reopened the two miles and a quarter forming the north boundary of McCrosson, but could not find any traces of posts or bearing trees.

The east boundary of the township of Spohn, having been reopened last year by me, required very little work done on it, a few brush to break and intersections to chain.

The season was one well adapted for surveying operations, but in this district, as elsewhere, the want of rain was very severely felt.

No frost occurred till well on in September. Game, such as duck, partridge, moose and caribou, is plentiful, and I am informed that fish abound in the Little Grassy River.

Accompanying I forward plan, field notes, etc.

I have the honor to be, Sir,

Your obedient servant,

H. B. PROUDFOOT,

Ontario Land Surveyor.

The Honorable A. S. HARDY,

Commissioner of Crown Lands,

Toronto.

(Appendix No. 20).

TOWNSHIP OF PRATT.

DISTRICT OF RAINY RIVER.

TORONTO, ONTARIO,

December 13th, 1893.

SIR,—I have the honor to submit the following report of the survey of the township of Pratt, in the district of Rainy River, made in accordance with instructions, dated the 14th day of June, 1893.

The township of Pratt is bounded on the north by the township of McCrosson, surveyed by me during the present summer, on the west by the township of Spohn, which was surveyed by me during the year 1892, on the south by the townships of Blue and Nelles, surveyed by the Dominion Government in 1876, and on the east by unsurveyed lands of the Crown.

The township of Pratt has been surveyed into lots of 320 acres each. The concession lines were run due east and west astronomically and the side lines due north and south astronomically. Posts were planted at the corners of the lots on the various concession lines and marked with the numbers of the lots on the east and west sides, and the concession numbers on the north and south sides—the posts, however, between the lots numbers one and two, three and four, etc., etc., in the different concession lines were not marked with the concession numbers on the south side. Iron bars $1\frac{1}{2}$ inches in diameter and 4 feet 6 inches in length were planted at the corners of the township and marked with the name of the township on the side facing it, and the number of the concession and lot on the other sides.

The south boundary of this township is one chain and fifty links north of the line surveyed, there having been a road allowance of that width laid out, when the first correction line south was surveyed. The lots posts were planted by me on the north limit of the road allowance, one chain and fifty links north of the line surveyed upon the ground. I was able to find a few of the posts on the surveyed line, but did not find any that were planted one chain and fifty links north thereof. The west boundary was surveyed by D. L. S. Reid some years ago, and opened up by me last year when surveying the township of Spohn; so that no work was necessary on that line this year.

Two branches of Little Grassy River take their rise in the big swamp in this township and flow in a northerly direction through the township of Pratt into the township of McCrosson.

This township is mostly swamp with the exception of a few lots in the north-east corner, and will not be fit for settlement without extensive drainage works being first constructed.

The first four lots in the fifth and sixth concessions are of excellent quality. Lots numbers five to eleven in the sixth concession, and lots numbers five to eight in the fifth concession are also very fair lots. The high land in the south-easterly part of the township is rocky and sandy and not of much value for agriculture. The timber is mostly tamarac and spruce in the swamps. On the high lands poplar, tamarac, spruce, birch, balsam, balm of Gilead, and in the very wet swamp lands the timber is chiefly stunted tamarac and spruce.

The winter road to Rainy River passes through the north-east corner of the township.

White pine in small quantities is met with in some places, but not in sufficient quantities for a timber berth.

A small lake is crossed on the east boundary in the second concession and I am informed by the Indians, that there are twelve more to the east and north thereof.

I have the honor to be, Sir,

Your obedient servant,

(Sgd.) H. B. PROUDFOOT,

Ontario Land Surveyor.

The Honorable A. S. HARDY,

Commissioner of Crown Lands,

Toronto.

(Appendix No. 21).

TOWNSHIP OF CAPREOL.

DISTRICT OF NIPISSING.

ESSEX, ONTARIO.

December 22nd, 1893.

SIR.—I have the honor to submit the following report of the survey of the township of Capreol, in the district of Nipissing, performed under instructions from your department, dated 27th day of June, 1893, together with field notes, plans and account of the same, transmitted herewith, all of which, I trust, will be found satisfactory.

From here I proceeded to the city of Windsor, thence by boat to Algoma Mills, and from thence by rail to Wahnapietoe Station on the Canadian Pacific Railway, from thence I proceeded by the colonization road through the township of Dryden and by the Holland and Emery Company's railway in the township of Garson near the north-east angle of the last named township, following along the east boundary of the township of Garson, from where this railway crosses it. I found the cedar post standing at its north-east angle marked on the north side, concession I. Maclellan, on east side, lot XII., and on south side, concession VI., Falconbridge, and from this post I retraced and rechaind the north boundary of the township of Garson as the front of my first concession, and from the same post I chained north along the west boundary of the township of Maclellan as the east boundary of my township, planting the posts for the depth of the concessions at regular intervals of eighty chains and from these posts I ran due west astronomically, planting the lot posts at intervals of forty chains until I reached my west boundary, which boundary I ran due north, astronomically, from a cedar post and balsam post, I found standing together at the north-west angle of the township of Garson, until I reached the front of the sixth concession, where I deflected $3^{\circ} 30'$ to the west in order to strike the cedar post and iron tube planted by Ontario Land Surveyor D. Beatty last year, at the south-east angle of timber berth number sixty-six, from which post Mr. Rainboth had run the south boundary of the township of Norman, which was to form my north boundary.

The greater portion of the south half of the township is low and swampy but when drained, will, in my opinion, make excellent farming land. The north half is undulating and rocky, more especially the north-eastern portion, where the rocky ridges attain the greatest elevation.

The soil in the low-lying portions of the township is a dark, sandy loam and gravel, and on the higher land a reddish sand and a fine quality of gravel.

The timber is chiefly pine, spruce, tamarac, cedar, birch, hard maple and balsam. A large amount of good, fairly large pine was seen throughout the township, in the swamps the spruce, tamarac and cedar is of a fair size and good and also the birch and hard maple found on the ridges. The balance of the timber is small and scrubby.

The township is well watered with lakes and creeks, in the former abound pike, perch, pickerel and black bass.

A number of moose, red deer, and mink were seen during the survey, and signs of bear, beaver and otter existing in the township are very prominent in many places.

The variation of the magnetic needle was found to be $6^{\circ}, 45'$ west and very regular throughout the survey.

I have the honor to be, Sir,

Your obedient servant,

JAMES S. LAIRD,

Ontario Land Surveyor.

The Honorable A. S. HARDY,

Commissioner of Crown Lands,

Toronto.

(Appendix No. 22.)

TOWNSHIP OF CRERAR.

DISTRICT OF NIPISSING.

WOODSFOCK, ONTARIO,

November 29th, 1893.

SIR,—I have the honor to report as follows regarding the survey of the township of Crerar, in the district of Nipissing, under instructions from your Department, dated the 22nd day of July, 1893.

I left Sturgeon Falls on Friday, the 25th day of August, with a party of thirteen and proceeded to the work *via* the Sturgeon River.

The first camp in the township, at the mouth of the Tamagamingue River was reached on the evening of the 26th day of August.

On the 28th day of August, the survey was commenced at the south-east angle of the township, and carried on without intermission until Saturday, the 7th day of October, when the work was completed. I reached Sturgeon Falls again on the 9th day of October.

The lines were run with transit and solar compass—the rivers traversed with compass and micrometer. The variation of the magnetic needle ran from $6^{\circ} 30'$ W in the eastern part of the township to $7^{\circ} 30'$ W in the western part.

The township is very rocky and much broken by hills. It is well watered by a number of creeks with rocky beds and rapid fall. The land is in my opinion, not adapted for agriculture, but some exploration for minerals has taken place. The water is quite soft and usually of a reddish color: the streams contain very few fish.

Game is not plentiful, but some moose, deer and many partridges were seen.

The Sturgeon River which is a stream of considerable importance with a moderately swift current has only one rapid that necessitates a portage, the part of the river above the rapids is very deep.

The Tamagamingue River is a succession of chutes and shallow lakes and at the north-east corner of the township narrows rapidly. Lumbering operations have been carried on in the township for many years, and what timber remains with the exception of that on the tract of land between the Sturgeon River and the Tamagamingue River is of little value.

I have the honor to be, Sir,

Your obedient servant,

(Sgd.) WILLIAM MAHLON DAVIS,

The Honorable A. S. HARDY,

Ontario Land Surveyor

Commissioner of Crown Lands,

Toronto.

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(Appendix No. 23.)

TOWNSHIP OF DAVIS.

DISTRICT OF NIPISSING.

GLENCOE, ONTARIO,

December 28th, 1893.

SIR,—We beg to state that in accordance with your instructions, dated the 27th day of June, 1893, we have made a survey of the township of Davis, in the district of Nipissing and to report thereon as follows:—

We left Glencoe on Monday, the 24th day of July and proceeded by railway to Sturgeon Falls, where we got our party together and supplies for the work.

From Sturgeon Falls, we went by canoe up the Sturgeon River and entered the township by Murray Lake at noon, on Wednesday, the 2nd day of August, and immediately set to work retracing the east boundary, which had grown up considerably to underbrush since being first cut out. We might also say that in the first concession, the line had also been burnt over since first cut and many of the blazed trees destroyed. In fact none of the bearing trees at the south-east angle were to be found, although the corner post was standing marked as stated in my instructions. Beside it as at the other corners of the township we planted 3 feet of 1½ inch gas pipe marked with name, number of lot and concession, also number of adjoining townships on the proper sides.

We took an observation for meridian at the south side of Murray Lake on the night of the 2nd of August and at other places and times throughout the survey as shewn in the notes. From the south-east corner of the township, we worked west and north till the survey was completed.

The township throughout is very rough and rocky, particularly towards the south and north. The part being least so, is in concessions three and four, lots eight to fourteen.

The township is well watered. In the north-east part by Lakes Washkigamoy and Murray connected by a fall 25 to 30 links wide and 12 to 15 feet high—affording splendid water power for mill purposes.

At the north-west is Lake Kookagaming with an outlet through a chain of lakes in the township north into Lake Washkigamoy and at the south-west is lake Ashgaming with its outlet by a creek through concessions numbers one and two, thence to the Sturgeon river. This creek varies in width from twenty-five to thirty links to four or five chains and in depth from a few inches to eight or ten feet. It is generally sluggish, but must at times, carry a large amount of water.

The shores at places are rocky, at others marshy, a considerable part being covered with alders for a chain or two on either side. Besides these waters are numerous small creeks and beaver ponds.

The islands in the lakes, with only a few exceptions are only small barren rocks, containing less than one quarter of an acre each.

Nearly all of the township has been burned over in recent years. That part, however, in the north-east corner, except along the lake shore is green bush, as is also a part along the north boundary for some distance west of the lake.

Where burnt over, there is an undergrowth of birch, poplar and jack pine on the high land, and alder, cedar and spruce in the low land.

The green bush consists of mixed timber, being pine from fifteen to thirty inches, birch, whitewood, spruce and tamarac in places, but there is very little marketable timber.

As may readily be supposed where burnt over there is a good deal of exposed rock surface and the remainder for the greater part has very shallow, sandy soil. There are, however, several places of small extent where the soil is deeper and of a clayey nature.

The township is adapted chiefly for mining purposes as shown by the number of locations already taken up and surveyed.

Throughout the township there was more or less local attraction, or magnetic variation—not particularly great, but from 1 to 2 degrees in short distances.

The best way to open up the township will be by means of roads constructed from the railroad to the south.

In addition to this report, we have prepared a plan and timber map of the township together with field notes of the survey in full.

All of which is respectfully submitted.

We have the honor to be, Sir,

Your obedient servants,

(Sgd.) COAD & ROBERTSON,

The Honorable A. S. HARDY,
Commissioner of Crown Lands,
Toronto.

Ontario Land Surveyors

Appendix No. 24)

TOWNSHIP OF GIBBONS.

DISTRICT OF NIPISSING.

ELORA, ONTARIO,

November, 1st, 1893.

SIR,—I have the honor to submit the following report of the survey of the township of Gibbons, in the District of Nipissing, performed under instructions from your Department, dated the 25th day of July, 1893.

I proceeded by railway to Sturgeon Falls, thence by canoes up the Sturgeon River to the scene of operations carrying out the survey according to instructions the details of which are shown on the accompanying plan and field notes.

I commenced the survey of the township at the south-east corner, retracing the boundary between this township and the township of Badgerow, westerly, planting posts at each forty chains for the lots on concession number one. I continued retracing this line to where it crosses the Sturgeon River, to which point I moved my camp. Any posts of the township of Badgerow, which I saw I noted and connected with my posts. At the end of each eighty chains, I ran north eighty chains the depth of concession one. From the side line between lots numbers two and three, I ran east to the township of Bastedo. Then I continued west planting posts at each forty chains except where I intersected the side lines running north. I planted the posts at the intersection of the lines owing to the position of the Sturgeon River, and the different lumber roads. I was able to continue this system without moving camp, until I had retraced the whole of the south boundary: had run the lines between concession one and two and concession two and three, and completed each side line to the front of concession four.

I made a micrometer survey of the Sturgeon River as soon as I had all lines run across it.

I then moved by road to the south-west corner of lot number four, concession number four, completing the concession lines easterly to the township of Bastedo, and west to McCarty Creek along which there is a fair road. I also ran the intervening side lines north to the next concession line. I then moved north repeating this method until I reached concession number six, where I completed the north-east corner of the township. I then moved by road to the south-west corner of lot number six, concession number six from where I was able owing to the road along McCarty Creek to extend the different side lines north to the north boundary. I also retraced and reblazed the north boundary east to the north-east angle of the township and west to the Tamagaming River. I then moved camp to where the concession line between concessions three and four crosses McCarty Creek from which point I completed all that portion south of the Tamagaming River, with a flying camp across the Tamagaming River. I retraced the north boundary westerly, continued the side lines north and completed the west boundary.

Sturgeon River runs through the south westerly part of this township, entering at the south-west corner of lot number twelve, concession number three and leaving at the south-west corner of lot number six in concession number one. This is a large, deep river generally with clay banks twelve to fifteen feet high. It is about three chains in width—but at this distance from the mouth numerous shallows with a strong current occur.

McCarty Creek runs from the north-east corner of the township, along and parallel with the north boundary about two miles, thence south westerly into the Sturgeon River, near the south-west corner of lot number eleven concession number three. This creek is about twenty-five links wide and has been improved for lumbering purposes.

The Tamagaming river also runs across the north-west portion of the township, entering in lot number nine, concession number six and leaving in the fifth concession.

This is a stream of beautiful clear water about two chains wide, from three to five feet deep, with a rapid current; in fact so strong is the current that myself and party came down a mile on a raft in twenty-eight minutes.

Nearly one-half the township has been burnt over. Of the remainder nearly all the pine has been taken off by lumbermen, spruce, balsam, birch, cedar and tamarac being the remaining timbers with an occasional maple on the higher lands and elm along the streams.

There is a considerable area of good agricultural land, especially along the streams, notably along the Sturgeon River, where it extends back a considerable distance. The whole of this land is easy of access: a fair waggon road running from the river to lot number five in concession number one, then northerly to lot number one in concession number six; another road also runs from this lot to lot number four, concession number five, with a branch to the mouth of McCarty Creek. Thence following McCarty Creek north-easterly nearly four miles.

Several settlers have already made considerable clearings and in most cases, have comfortable barns and houses. They had good crops of hay, oats and potatoes, the latter being remarkably good. I also saw small areas of wheat and peas and considering that they were not sown until nearly June, they were looking very well.

Garden stuff also does well, cabbage, beans and radishes were all of fine quality, while I never saw finer cucumbers than were growing here at the time of my arrival about the 20th day of August.

No traces of any minerals of economic value were seen, I enclose statement of squatters found in the township.

I have the honor to be, Sir,

Your obedient servant,

(Sgd.) J. K. McLEAN,

Ontario Land Surveyor.

The Honorable A. S. HARDY,
Commissioner of Crown Lands,
Toronto.

(Appendix No. 25.)

TOWNSHIP OF LOUGHRIN.

DISTRICT OF NIPISSING.

TORONTO, ONTARIO,

October 26th, 1893.

SIR,—I have the honor to submit the following report on the township of Loughrin, in the District of Nipissing, surveyed by me during the present season, under your instructions, bearing date the 27th day of June, 1893.

Leaving the Canadian Pacific Railway at Warren station, I proceeded north-westerly through the township of Ratter by way of the Imperial Lumber Company's Timber railway, and by trail to the north-east angle of the township of Hagar.

Owing to the action of bush fires, considerable difficulty was experienced in locating this corner, and having found the balsam post planted by Ontario Land Surveyor Purvis partially destroyed by fire, I replaced it by a cedar post 8 inches square, planting on its west side an iron bar. My instructions being that this angle should form the south-east angle of the township of Loughrin, I commenced the survey at this point.

I retraced and reblazed the south boundary, opening out the line and planting posts at every half mile according to instructions. The east boundary I also opened out and reblazed, planting posts at every mile to mark the fronts of the several concessions. From the points thus established I ran north and west respectively, sub-dividing the township into lots of about three hundred and twenty acres each.

I planted iron bars with the name of the township marked thereon at all the angles of the township, with the exception of the north-west angle, where I found one had already been placed.

The township of Loughrin is drained by the north-east and north-west branches of La Veuve river and watered by numerous springs, but contains no large lakes. As will be seen from the field notes, this township is generally rough, broken and rocky, and cannot, as a whole, be considered good for agricultural purposes. Some tracts of good clay land occur along the flats adjoining La Veuve river.

Brulé dating back about twenty years covers the entire township, and there is consequently no large timber of value.

The second growth timber is dense, and consists of jack pine, poplar, spruce, birch and tamarac, amongst which, in some places, numerous dead white pine trees are found.

Indications of valuable minerals were met with in the north-east and south-west parts of the township. These were iron, copper and mica—the former causing considerable magnetic disturbance.

The prevailing rocks are granite and gneiss.

Game was abundant, and included moose, bear, beaver and partridge.

Abundance of blueberries, raspberries and other small fruits were found.

Accompanying this report is a general plan, a timber plan, and field-notes of the survey.

I have the honor to be, Sir,

Your obedient servant,

To the Honorable A. S. HARDY,
Commissioner of Crown Lands,
Toronto.

(Sgd.) T. B. SPEIGHT,
Ontario Land Surveyor.

(Appendix No. 26.)

TOWNSHIP OF NORMAN.

DISTRICT OF NIPISSING.

OTTAWA, ONTARIO,
December 11th, 1893.

SIR.—I have the honor to submit the following report of the survey of the township of Norman, in the district of Nipissing, in conformity with instructions from your Department dated June 27th, 1893.

I proceeded from Wahnapiatae station on the Canadian Pacific Railway in canoes up the Wahnapiatae river to Lake Wahnapiatae and across the same to its most westerly bay which lies in the township surveyed by me.

Having reached the south-west corner of the township of Norman, which corner was located by O. L. S. Beatty. I ran the south boundary on the bearing east astronomically, to its intersection with the west boundary of the township of Maclellan.

I ran the side lines north astronomically, and the concession lines I ran east and west astronomically as I proceeded, as shown on accompanying plan and field notes which contain all the details of the survey.

The variation of the magnetic needle I ascertained to be six degrees and thirty minutes west.

The surface of the township is rough, broken, and rocky, and not very suitable for agricultural purposes, many mining locations, however, have been surveyed, and there is a number of mining locations in this township partly developed. The ore in question is said to be a gold-bearing quartz.

The rock formation is chiefly Laurentian with occurrences of greenstone.

The northern part of the township from the fourth concession northward is well timbered with white and red pine of medium size which could be taken down the stream known as Post creek, to Wahnapiatae Lake.

The southern part is covered with a scrubby growth of spruce, balsam, pitch pine and birch, and some scattered white and red pine of medium size.

The burnt area in this township is comparatively small, a portion being in and about the mining locations, and the remainder towards the north-west corner. In concessions five and six, from about lot nine westerly to township boundary the land is only partly burnt.

The lakes are numerous and large, especially in the south-east part, some of which are well stocked with trout as well as the common varieties of fish.

Game is fairly abundant, the moose particularly so. There are a few red deer as well as bear, beaver in some of the small lakes, towards the western part of the township, and other small fur-bearing animals. Partridge are also numerous.

This township being contiguous to the Indian reserve No. XI, upon which only two families live, accounts for the preservation of the beaver, as it is a well-known fact that Indians preserve their hunting grounds, when not encroached upon by white hunters, never entirely exterminating the species, but leaving sufficient for reproduction.

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

The Honorable A. S. HARDY,
Commissioner of Crown Lands,
Toronto.

(Sgd.) ED. J. RAINBOTH,
Ontario Land Surveyor.

(Appendix No. 27.)

TOWNSHIP OF STRATTON.

DISTRICT OF NIPISSING.

PETERBOROUGH, ONT., December 29th, 1893.

SIR,—I have the honor to submit herewith the plan and field notes of the survey of the township of Stratton, in the District of Nipissing, performed under your instructions of date the 15th day of June, 1893.

The township lies north of the township of Master, east of parts of the townships of Guthrie and Barron, south of township of Bronson, and west of parts of the old townships of McKay and Wylie.

The lots number from east to west and the concessions from south to north, thus placing the initial point at the south-east angle of the township.

After due preparation, and having taken the necessary astronomical observations for azimuth and getting the magnetic variation, I commenced the survey at this point. I first ran out, as nearly as practicable, the east half of the township from south to north, and then the west half, in the same way.

The chief features of the township are the two main branches of the Petewawa river, known as the "North" and "South" branches.

The north branch flows in a south-easterly direction, from lot number fifteen, concession number fifteen, on the north boundary, to lot number one, concession number eight, east boundary. The south branch, in a tortuous course, flows in a more easterly direction through the south half of the township, from the west boundary to lot number four in concession number one, south boundary.

Along the course of this branch there is a chain of lakes which vary considerably in outline and extent. They are connected by long, narrow streams and rapids upon which are several dams and chutes for the passage of logs.

At many points the narrows are formed by clefts in the rock (gneiss), perpendicular in places to a height of 100 feet or more, the stream not exceeding 50 feet in width.

In freshet or flood times the water rushes through them with great force.

The north branch, which carries the larger body of water, is within the township, more direct and uniform in its course, presenting long, unbroken navigable stretches, varying from ten to twenty chains wide.

The north easterly shore is rock-bound and prominent, rising in places, more or less abruptly from the water's edge, to a high elevation, but at intervals it recedes a short distance before attaining the same general level.

Much of this part has been burnt over and denuded of its timber, so that a comparatively bald and barren landscape has taken the place of what must at one time have been beautiful natural scenery.

The westerly, or southerly, shore of this branch is for the greater length low and swampy, and is covered with a fair growth of mixed woods, the soil being of a sandy loam, resting generally on stiff clay bottom, but occasionally on coarse sand, gravel and stone.

Between these two main branches of the Petawawa river there are two lesser streams, Forbes and Lone Creeks. They flow diagonally, and nearly parallel from north-west to south-east through the township, dividing the country traversed into three belts of nearly equal average width and areas.

There are no open lakes or water stretches upon them, their supply coming from the adjacent swamps, marshes and ponds through which they flow.

Forbes' Creek joins the south branch in lot number twenty-one, in concession number four, and Lone Creek, the north branch, outside the township a short distance east.

The two branches of the main river unite about nine miles east of the township of Stratton, and thence flow nearly due east about seven miles into the Ottawa river.

It can be said that nearly all this district has been extensively lumbered over during many years, yet there remains a considerable amount of average and smaller pine trees, scattered over the country, suitable for commercial use, besides an almost inexhaustible quantity of other marketable woods—basswood, maple, spruce, tamarac, etc., etc. Taking the township as a whole, it is not suitable for farming purposes.

Excepting in the low flat lands and swamps, where the soil, a sandy loam, is usually of some depth and fertility, though necessarily requiring drainage, the land is light and stony, and the arable patches met with too few and far between to make anything like compact, productive farms, or prosperous settlement.

There are large areas of brulé and burnt land, frequently covered with a dense growth of young poplar, white birch, willow, cherry, balsam, etc., causing progress through them very slow and often difficult.

The Pembroke Lumber Company have a central depot on lots numbers twenty-seven and twenty-eight, in concession number seven, and about ten acres cleared. There are two lumber camps in operation this winter taking out pine saw logs.

There is no permanent settler in the township.

As might be inferred from the foregoing, the timber remaining is scattered and very mixed, rendering it impossible almost to classify or to locate on a plan, the various kinds and qualities.

The lakes and rivers are all plentifully stocked with fish—maskinonge, pike, pickerel, trout, bass, etc., etc.

Thanks to the protection secured by the Game Laws, fur-bearing animals, deer, moose, etc., are rapidly increasing in numbers.

Of the total area of the township, probably twenty per cent. will be found fairly adapted for cultivation, while undoubtedly a large portion is capable of being converted into grazing and pasture lands.

Hoping the returns, etc., will be found satisfactory to the Department,

I have the honor to be, Sir,

Your obedient servant,

(Sgd.) J. W. FITZGERALD,

Ontario Land Surveyor.

The Honorable A. S. HARDY,
Commissioner of Crown Lands,
Toronto.

(Appendix No. 28.)

TOWNSHIP OF TENNYSON.

DISTRICT OF ALGOMA,

LISTOWEL, ONTARIO,

November 22nd, 1893.

SIR,—I have the honor to submit the following report of the survey of the township of Tennyson, in the district of Algoma, as surveyed by me, according to your instructions, dated the 25th day of July, A.D. 1893.

Leaving Listowel on the 10th day of August last, I proceeded by railway to Warton, thence by boat to the village of Massey, in the township of Salter, which lies south of the township of Tennyson, where I completed my outfit, and then by wagon into the township, a distance of about fifteen miles.

I commenced the survey at the south-west angle of the township of Gough, surveyed by me last season, by planting an iron post alongside of the cedar one in the stone mound marking said angle, this being the south-east angle of this township. I marked the iron post with the names of the contiguous townships. I then retraced and reblazed the north boundary of the township of Salter, making it the front of my first concession, planting posts at regular distances of forty chains each until I reached the line run by Ontario Land Surveyor W. Beatty, forming the west boundary of my township, leaving lot number twelve in the first concession, thirty-four chains, thirty one links. There was no post marking the south-west angle of the township. The fire that has passed over this part of the township a number of years ago had destroyed all trace of it. I closely traced both boundaries, finding their intersection, and planted an iron post, marked "Salter" on south-east side, and "Tennyson" on north-east side. The north boundary of the township of Salter has been burnt over a number of years ago, destroying all traces of the old posts, with the exception of that marking the north-west angle of section number one, it being in the green timber. I found sufficient evidence, such as old stumps from the trees that had been cut down when the line was new, pine and cedar stubs bearing blaze marks, to retrace the old line very closely.

I made my concessions eighty chains in depth, leaving the overplus in the sixth concession. I ran my concessions east and west astronomically, and my side lines north and south astronomically. At the north-east angle of the township I found the cedar stake in the stone mound and planted an iron stake alongside of it marked "Gough" on south-east side and "Tennyson" on south-west side. I retraced and reblazed the north boundary, finding at the north-west angle of the township a cedar post marked XIV. M. apparently on the east side. The post had been bent over by a falling tree and might have been turned thereby. I marked the cedar post with XII. on the east side and C VI. on the south side, and planted an iron post on the south side of it marked "Tennyson," as directed in your instructions; due west of this post, at the distance of three chains and fifty links, I found another cedar post marked CXXX. on west side and CXXIII. on east side, being the numbers of the timber berths, the marks however were not very distinct. From this post there was a line run northward and another westward. I retraced and reblazed the west boundary; that portion in the first concession was principally through brule, and difficult to find, especially as the bearing was different to the other portion. The east boundary I had retraced and reblazed last year, while making the survey of the township of Gough.

The soil throughout the township is generally clay loam, in some places it rather inclines to sandy loam, and along the banks of Cameron Creek in many places it is sandy, but not to any great extent, and in a few places along the Sable river as well; in some places it is rather stony for agricultural purposes, even where the soil is good clay loam; but a great portion of the township will be very fair for that purpose. There are some rock ridges running through the township, but not near so many as in the township of Gough, lying to the east.

There are no lakes within the boundaries of the township worth mentioning, but there are numerous small streams of good water. The Sable river enters the township on the north boundary on lot number five in the sixth concession, and takes a very winding course through the township, leaving it on lot number eight in the first concession. There are numerous falls and rapids on it affording any amount of power. Cameron Falls situate on lot number eight, concession number one, has a descent of about fifty feet.

Cameron creek, a stream of an average width of about sixty links, enters the township on the west boundary on lot number twelve in the fourth concession, running easterly through lots numbers twelve, eleven, ten and nine in concession four; thence southerly through concessions three and two into the Sable river. The water in this stream is very dark colored and not at all pleasant to the taste.

The township has been very valuable as a timber limit, but the greater portion of the pine has been cut. The township is very heavily timbered, with the exception of that portion burned over, and shown on the timber map. Pine, tamarac, spruce, balsam and cedar are the chief timbers, with maple, birch, poplar and hemlock scattered through them. These timbers grow promiscuously and it would be unnecessary to furnish a timber map, excepting to show the burnt portions of the township.

There is a fair (bush) wagon road leading from the village of Massey on the Canadian Pacific Railway, up through the township, farther north to the lumber camps, and some other wagon roads through portions of the township, built by the lumbermen, which may in time be of service to settlers in the township. The location of these roads I have shown by dotted lines on the plan.

The chief rocks met with are of Huronian formation. No minerals of any economic value were met with during the survey.

Magnetic influences were found in a few places. One worthy of note was on the line between lots numbers six and seven in concession number six, at the sixty-five chain point.

Several observations were taken for azimuth, the average variation being $4^{\circ} 40'$ west.

There are no settlers in the township excepting one person by the name of Bishop, who is keeping a stopping place for teamsters and men going to and from the lumber camps. His place is situate on lot number ten, concession number two. He made enquiries as to when the township would be opened for settlement, and signified his intention of taking a portion of land in the township.

Accompanying this report I beg to submit the plan, field notes and accounts.

I have the honor to be, Sir,

Your obedient servant,

(Sgd.) LEWIS BOLTON,

Ontario Land Surveyor.

The Honorable A. S. HARDY
Commissioner of Crown Lands,
Toronto.

(Appendix No. 29.)

TOWNSHIP OUTLINES.

DISTRICT OF ALGOMA.

COLLINGWOOD, ONTARIO,

December 28th, 1893.

SIR,—I have the honor to submit the following report on the survey of township outlines along the line of the Canadian Pacific Railway in the district of Algoma during the past summer, under instructions from your Department dated the 25th day of July, 1893.

This work is a continuation of that begun by myself in 1891, and continued in 1892 by Ontario Land Surveyor John McAree, and consists in a traverse along the railway track as a basis from which to locate the boundaries of the townships adjacent thereto. In addition to the traverse and location of these township boundaries, portions of the latter were run to their nearest corners.

I commenced my survey this year at the intersection of the north boundary of township number thirty-seven with the centre of the railway track, being as nearly as possible identical with Mr. McAree's station 344.

Having this and the bearings and lengths of his two intermediate courses between this point and his station 345 in the railway track in front of the platform at Windermere station, I reproduced these courses and found the iron bolt planted by Mr. McAree at his station 345. This latter I made my station "O," and continued the work westerly to station 701, where I intersected the base line run in 1886 by Ontario Land Surveyor E. F. Miller. This line was run east from the front of the seventh concession of the township of Pic, and at station 701 is 15.048 chains east of Mr. Miller's thirty-first mile post, the distance due east from the east boundary of the township of Pic to my last station would be 31 miles and 15.048 chains.

I would judge that my work terminated about two miles easterly along the track from Bremner station. I drove down an iron plug marked E. S. at station 701, and planted wooden posts with iron gas pipe alongside on each side of the railway right of way on the aforesaid base line. These were marked R. on the side next the railway, and "Base Line" on the sides opposite thereto.

Posts made of iron gas pipe 1 5-16 inches in diameter, plugged and pointed, were planted alongside of wooden posts at all township corners to which I ran, as well as at the intersections of the township boundaries with the limits of the railway right of way. Both the iron and wooden posts were marked with the numbers of the townships on their respective sides, the former with a cold chisel, and in most cases stones were piled around the posts and bearing trees taken wherever obtainable.

In four cases the township corners to which I was running fell in lakes and the posts were planted on the shores but marked in the same manner as if they were in their proper positions. The distances to these posts are shown both in the notes and on the plan furnished herewith. In addition to the posts above mentioned, flatted mile posts were planted on the portion of township boundaries run. They are numbered from the south and east angles of their respective townships.

At White River station I had no difficulty in connecting with Ontario Land Surveyor Duchesnay's survey of the Canadian Pacific Railway property at that place. Numerous astronomical observations were taken during the progress of the work and the bearings checked and corrected.

I had the latitudes and departures worked out by two members of my staff, one using the natural and the other logarithmic sines and cosines. They also checked each other in their additions and other work. This I considered necessary in order to guard against mistakes, and in going over the work in the office since I am glad to say that no errors were found.

The plan furnished herewith is on two sheets. Owing to the course of the railway it would have been unwieldy to have made it on one sheet of paper.

The physical character of the country embraced in this survey is similar to that of the greater part of the district lying north of Lake Superior—a succession of rocky hills with innumerable lakes in the valleys between. In some parts very fair soil was met with, and near the close of the work its general character showed a decided improvement over what we had passed through further east. We used potatoes grown at Grasett station, which were of first-class quality, and at White River vegetables were grown with considerable success. Many fine lakes were met with, the most noticeable being Birch and Dog Lake—the former a lovely sheet of water of from a mile to a mile and a half in width with a length of about four miles along the railway, surrounded by green woods, principally birch, and dotted with islands similarly wooded. It presents a pleasant relief to the eye after so many miles of rugged and mountainous country. Dog Lake is important as being on the highway between Moose Factory on James Bay and the mouth of Michipicoton River on Lake Superior.

During our stay at Missanabie station a fleet of canoes arrived from Moose Factory. They made the trip in about two weeks, but the trip down can be made in eight or ten days. The waters of Dog Lake flow into Lake Superior through the Michipicoton River, while Birch Lake finds its way into the same great basin through White River. Both lakes abound with white fish, trout and pickerel, while the small streams in the vicinity contain brook trout of the finest quality.

The timber is that common to the whole of this district, viz: Spruce, white birch, tamarac, poplar, balsam, cedar, pitch pine and occasionally Norway and white pine. The only extent of the last two varieties met with was in townships numbers forty-six and forty-seven, where there appears to be a considerable extent of both red and white pine. I understood from a party who had explored that part of the country that the quality and quantity of the timber improved very much as he went north, and that for twenty miles in that direction considerable pine of both varieties was met with.

I have the honor to be, Sir,

Your obedient servant,

(Sgd.) E. STEWART,

Ontario Land Surveyor.

The Hon. A. S. HARDY,

Commissioner of Crown Lands, Toronto.

(Appendix No. 30.)

TOWNSHIP OF BOOTH.

DISTRICT OF THUNDER BAY.

BROCKVILLE, ONTARIO,

February 13th, 1893.

SIR,—I have the honor to submit the following report of the survey of the township of Booth in the district of Thunder Bay, surveyed in accordance with instructions from your department bearing date the 27th day of June, 1892.

This township lies along the Nepigon River and is in extent seven miles north and south, and from six and a quarter to seven and a quarter miles east and west.

Mining location 1P and 7P with lakes Polly and Helen form its east boundary, while the township of Nepigon, surveyed in 1873 by P.L.S., A. B. Scott, forms three miles of its south boundary. The remaining outlines adjoin unsurveyed territory, with the exception of a mining location, 47T, on the north boundary and on the Nepigon river.

Within the township there is an Indian reserve and a number of mining locations.

The survey was commenced at the intersection of the north boundary of the township of Nepigon with the west shore of Lake Helen, by opening out and reblazing three miles and ten chains of that line to the north-west angle of the portion of that township already surveyed. Having then taken an observation for azimuth, this line was carried four miles further west to the south-west angle of the township of Booth.

The line between concessions numbers five and six was made the base for the interior work of sub-dividing the township along with side lines six and seven and twelve and thirteen in the several concessions.

Generally speaking, the township lies upon an elevated plateau which has numerous outcroppings of columnar basaltic hills of from two hundred to three hundred feet in height. Granite rock outcrops in a great many places also, especially between the Nepigon River and Lake Helen. There are large areas of excellent clay and sandy loam soil throughout the township, and at least sixty per cent. of its whole area is fit for agricultural pursuits.

The face of three-fifths of the township is covered with small mixed scrubby timber with larch and poplar prevailing. There is a skirting of green bush along the southern and western boundaries consisting of spruce, tamarac, balsam, birch and poplar with some sections of very fine spruce timber. Only an occasional white pine was noticed.

Caribou abound in the woods in large numbers.

The average magnetic declination was 2° to the east and was very constant.

There are no large lakes wholly within the tract surveyed. Lake Helen on the east has a length of seven miles with an average width of three-fourths of a mile. It is connected at the north with Lake Polly by a narrow crooked channel. The Nepigon River flows into Lake Helen on its west side three and one-half miles north of the Canadian Pacific Railway bridge. There is a lake of four and a half miles to two miles in length near the north-west angle of the township of Booth, two of its bays being crossed by the north boundary of concession number seven. It is studded with numerous small and beautiful islands, and lies upon a winter portage route from Nepigon station to Lake Nepigon.

The Nepigon River enters the township at the north boundary of concession number four, and flows in a generally south-easterly course, emptying into Lake Helen. It has an average width of from five to seven chains, and is deep and rapid. Its waters are clear and sparkling and abound with the finest of speckled trout. The river has become a noted summer resort, and large numbers of tourists visit it annually during the fishing season.

The projected and partially constructed Government road from Nepigon station to Lake Nepigon enters the township on lot number one on concession number two, and extends about one and one-half miles northerly into the township. As far as it goes the road is well constructed and little difficulty should be experienced in pushing it ahead as far as camp Alexander near the north boundary of the township of Booth.

No economic minerals were met with other than a few specimens of iron ore on mining location 124E.

Fur-bearing animals were quite numerous and are of the species usually met with in that country.

The only persons residing within the township are Indians and half-breeds. Some of the latter have taken up locations, cleared lands, and erected good substantial buildings thereon.

Their locations are shown upon the plan and accompanying form for squatters' claims.

I have the honor to be, Sir,

Your obedient servant,

(Sgd.), B. J. SAUNDERS,
Ontario Land Surveyor

The Hon. A. S. HARDY,
Commissioner of Crown Lands,
Toronto.

(Appendix No. 31.)

TOWNSHIP OF PURDOM.

DISTRICT OF THUNDER BAY.

BROCKVILLE, ONTARIO,

December 26th, 1893.

SIR,—I have the honor to submit the following report on the survey of the township of Purdom, in the district of Thunder Bay, surveyed by me under instructions from your Department dated the 27th day of June, 1893.

This township is situated on the Nepigon River and its widenings, under the names of Upper and Lower Lakes Jessie, and lies immediately to the north of the township of Booth. The lands adjoining the north, east and west boundaries are unsurveyed, with the exception of a small portion of the east boundary adjoining Mining Location 1P.

The survey was commenced at the north-east angle of the township of Booth, on the 30th day of August last, by retracing the west boundary of Mining Location 1P to its north-west angle, where an observation was taken. The remainder of the east boundary was then produced north astronomically—a total distance of seven miles as the front of the first concession.

This line, with the lines between the second and third concessions, the fifth and sixth concessions, and the side lines between lots six and seven and lots twelve and thirteen, were made bases of the survey.

Iron tubes marked with the name of the township and the number of the concession and lot were planted at the four angles of the township, in addition to the regular posts, and all posts where stones were available have stone mounds placed about them to permanently fix their location.

The physical features of the township of Purdom are very rugged, especially so in the north-eastern part, where a large mass of trap rock rises to a height of from 500 to 700 feet above the level of the Nepigon River. This mountain extends to the north, and can plainly be seen from the Canadian Pacific Railway bridge near Nepigon Station.

Generally speaking, the rock formation is Laurentian and Huronian.

The available land for agricultural purposes is less than in the township of Booth. To the east of the southern portion of the township of Purdom, I was informed, there is a large tract of excellent clay land.

The surface of a large portion of the area surveyed is *brulé*. Still, there are some small sections of very good spruce, tamarac and cedar. Only an occasional white pine was seen.

The Nepigon River flows through the township, entering at the north boundary on lot number fourteen, in concession number four, and flowing southerly into Upper Lake Jessie, which is about two and one quarter miles long, then contracting at the narrows on lots numbered ten and eleven, in the same concession, where it is deep and rapid for half a mile, widening again into Lower Lake Jessie, which is three and one-half miles long, with a maximum width of one mile, then contracting again into a rapid, foaming river on lot number three, concession number four, at the head of the "Long Portage," from which point to Camp Alexander, in the township of Booth, a distance of two miles, it has a fall of about 140 feet.

The waters of the Nepigon River are clear and pure, and abound with a species of large speckled trout.

At the south-west corner of the township there is a beautiful sheet of water called Bass Lake. Its surface is dotted with a large number of islands, about 50 in number. At the north-west corner, parts of two large lakes lie within the township of Purdom, the largest extending from one and one-half to two miles beyond the north boundary. Their waters flow into Fraser Creek, which empties into the Nepigon River a short distance above Camp Alexander.

No economic minerals were met with, but there are four mining locations in the township. Iron is said to be found in Mining Locations 122E and 123E.

The average magnetic declination was $1^{\circ} 45'$ east of astronomic north.

A winter road from the head of Lake Polly to Lake Nepigon enters concession number one on lot number four, and leaves it again on lot number seven. It was constructed by the Hudson Bay Company, who send in large supplies to their posts on Lake Nepigon.

I have the honor to be, Sir,

Your obedient servant,

(Sgd.) B. J. SAUNDERS,
Ontario Land Surveyor.

The Honorable A. S. HARDY,
Commissioner of Crown Lands,
Toronto.

(Appendix No. 32.)

BASE AND MERIDIAN LINES.

DISTRICT OF RAINY RIVER.

HALIBURTON, ONTARIO,

November 18th, 1893.

SIR,—I have the honor to submit the following report on the survey of meridian and base lines in the Rainy River district, surveyed under instructions from your Department dated June 15th, 1893.

The survey was made during the months of July, August, September and October.

I reached the work *via* Rat Portage and Fort Francis, and commenced at an iron post planted by myself in 1891, at the end of my north "Sixty Mile Base Line," and 6 miles north of the base line which I produced across Rainy Lake last year, and ran north astronomically 54 miles, to a point about a mile north of the Canadian Pacific Railway, and about 4 miles west of Taché Station.

Returning to my 54 mile post (48 miles on this year's work), I ran west astronomically 18 miles, or to a short distance west of the canoe route from Wabigoon to Rainy Lake.

Again returning to said 54 mile post (*via* Wabigoon Lake and the Canadian Pacific Railway), and thence south on 5th meridian line, I ran east astronomically 30 miles, crossing the Canadian Pacific Railway on the 8th mile, and running 1 mile north from the 6 mile post to tie in the said railway line.

From the end of the 30 mile line I then ran south 9 miles, terminating the survey at the Canadian Pacific Railway.

Mining locations D 40, 41, 42, 43, west of Taché Station; E 88, 91, 92, 93, 99, 107, 166, 170, east of Taché Station; and farm locations 15 E, 16 E, 87 E and 54 V, near Ignace Station, were connected with the survey. The details of the work will be found in the field notes.

Wooden posts were planted at every mile, and iron posts 3 feet long, of 1½ inch gas pipe, pointed and closed at the top, and painted red, were planted alongside of the wooden posts at every three miles. The number of miles was marked on wooden posts with a scribe, and on the iron posts with a cold chisel. Stone mounds were built around all posts wherever practicable, and bearing trees taken.

The posts on the 5th meridian line are marked on the south side, and numbered from VI. miles (the point of commencement) to LX. miles. Those on base line (west) were marked on east side, from I. to XVIII. Those on base line (east) were marked on west side, from I. to XXX.; and those on meridian line (south) on the north side, I. to IX.

Astronomical observations were taken when necessary, the details of which will be found among the field notes.

The magnetic declination of the needle averaged 7° 30' east.

When the end of a mile came in a lake or river, the post was planted on the line on the nearest land, and distance noted in field notes and marked on the wooden post. In such cases the iron post was marked with the nearest mile and a plus or minus sign, as the case might be.

By reference to the plan, it will be seen that the survey lines passed through considerable water, some of the lakes being of large area.

Large tracts of the country have been burnt at various times, as indicated on plan (now called *brulé*), but timber of fair size, in tracts of considerable area, is often met with.

There is not much pine timber along the lines of survey beyond that which has already been surveyed into limits.

The swamps and flat land generally contain spruce, tamarac and sometimes cedar.

Pitch or banksian pine of fair size, fit for railway ties, was sometimes met with.

The *brulé* is generally covered with young poplar, white birch, pitch pine, spruce, cherry, etc., and is often almost impenetrable.

The character of the country is rolling, and in many places broken by rocky hills of considerable height.

The geological formations prevailing are the Laurentian and Huronian.

Going north on 5th meridian line, we leave the granite and enter the Huronian on the 37th mile, again entering granite on the 48th mile, which continues to the beginning of the 57th mile. From this to the end of the 60 mile line, and along the Canadian Pacific Railway line, east and west for a long distance, the formation is the Huronian.

Going west from the 54 mile post, the Huronian extends from the 3rd mile to the termination of the line at 18 miles. The country along this line is in many places mountainous, the hills being all rock, while excellent clay land is found in the flats, and perfectly free from stone.

Going east from the 54 mile post, we enter the Huronian at the end of the 7th mile, and this formation then prevails to the end of the 11th mile, where we get into a flat and swampy tract of country, drained by the Little Wabigoon River.

The water within the limits of the survey is tributary (by different routes) to Hudson's Bay, *via* Lake Winnipeg.

The soil throughout the survey generally is a sandy loam, and excepting the west base line, is not of much consequence from an agricultural standpoint. Along the west base line, and north to the Canadian Pacific Railway, and around Wabigoon Lake, there seems to be a large area of good clay land. I also noticed along the Big Turtle River, between Martin River and Little Turtle Lake, that the soil was of excellent quality, and seemed to extend a long distance back on both sides of the river.

I found no minerals, but numerous mining locations have been taken up at various places, those adjacent to my survey lines being connected therewith.

The lakes are generally full of fish of the usual kinds—pike, pickerel, etc. A few moose and caribou were seen. Partridges were numerous, and prairie chickens were seen in the vicinity of the Canadian Pacific Railway.

My party consisted of thirteen all told. The summer was favorable for the work, the weather being all that could be desired until the 20th day of September, when we had rain and stormy weather until the 7th day of October.

Herewith are plan and field notes of survey, and account.

I have the honor to be, Sir,

Your obedient servant,

(Sd.) A. NIVEN,
Ontario Land Surveyor.

The Honorable A. S. HARDY,
Commissioner of Crown Lands,
Toronto.

(Appendix No. 33.)

REPORT
OF
THE SUPERINTENDENT
OF
COLONIZATION ROADS.

To the Honorable A. S. HARDY,
Commissioner of Crown Lands,
Ontario.

SIR,—I have the honor to submit my report of the work done during the year 1893, under the supervision of the Colonization Roads branch of your Department.

The number of miles of new road opened during the season was one hundred and fifty-four and a half; and of roads repaired or otherwise improved, four hundred and eighty-nine. There were also some thirty-three new bridges built, representing a total length of four thousand seven hundred and twenty-nine feet; besides the repair of some very large bridges which extraordinary spring freshets had very materially injured, and many of smaller proportions; all aggregating an amount of work which I venture to think ought to be regarded as highly satisfactory for the sum voted by the House and spent by this Department. The various works were as follows, and the summary at the end of which gives the amount paid on account of each undertaking:

NORTH DIVISION.

ALGOMA MILLS BRIDGE.

A bridge over a small stream running through Algoma Mills village and separating one portion from the other. The new structure, which replaces one previously built, and which freshets had entirely carried away, is eighty-nine feet long, having one opening of forty-seven feet, and two of twenty-one feet each, all resting upon bents bolted to the rock to guard against future danger.

ANSONIA BRIDGE.

A substantial structure about one-hundred feet long built over Thessalon river on the Lefroy road.

It consists of a fifty-feet clear span and two others of twenty-two feet each with a sub-structure of piles thoroughly driven, and covering of three inch plank,

BARWICK AND DOBIE ROAD.

A road in the Rainy River District, and being an extension from the town line between Barwick and Roseberry into Dobie, a mile and a half.

BASSWOOD LAKE ROAD.

In order to avoid a very large hill more than one mile of heavy side cutting was made from lot number one in the sixth concession of Day township southward.

Some three miles of brushing and repairs were made upon the Mississaga road in addition.

BATCHAWANING ROAD.

Repairs were made over what is called "The Mountain," amounting to two and three-quarter miles of very substantial work over a very rough section.

Upon another section of the road one mile in length stones were picked up and other improvements made.

BRIDGE REPAIRS, WEST ALGOMA.

Kaministiquia bridge was seriously damaged during the extraordinary spring freshet, which carried away the railway bridge above it, and its repair, including the raising of the entire structure about four feet, cost a little more than \$1,500.

Point De Meuron bridge, which was demolished during the same freshet, cost \$738.65 in saving a large amount of the timber and iron and efforts to save the bridge. A considerable quantity of the timber secured was used in raising and repairing the first named bridge and in renewing a bridge over Strawberry creek, on the old main road north of Port Arthur, and done at a cost of \$69.93.

CHELMSFORD ROAD.

Almost half a mile opened on the line between concessions three and four of Balfour, from near the centre of lot number two westward and northward. A bridge was also built over Chelmsford creek, with a span of twenty-six feet, and was the cause of the chief expenditure.

COFFIN ROAD.

Three and a half miles of substantial repairs made from lots one and two Plummer northward, and the balance of the road to Ophir mines more or less improved, making the whole road, the inspector says, very passable.

On the boundary between Coffin and Galbraith on the third concession, a bridge one hundred and twenty-eight feet long, was built over a ravine, some of the bents of which were twenty-three feet high.

COYNE AND KIRKWOOD ROAD.

Beginning at the line between lots ten and eleven of concession five, Kirkwood, this road has been opened west two miles and a half to connect with Coyne road.

The work is said to be of a very substantial character.

CROZIER AND LASH ROAD.

A new work in the Rainy River District, and being the opening and grading of two miles and three-quarters from the southeast corner of section ten of Crozier to the southeast angle of section eight, together with a mile and a quarter of tap drains which were required for proper drainage.

DAY MILLS AND DAYTON ROAD.

A considerable amount of work was done on this road for the sum spent, in raising and largely renewing three bridges aggregating a length of one hundred and sixty-four feet, and repairing something like a mile of the road.

GASSE'S CREEK BRIDGE.

The renewal of a bridge on the Kirkwood and Lefroy road, in the township of Kirkwood.

It was originally two hundred and ten feet long, but is now reduced to one hundred and sixty feet. The main span is sixty-five feet, the substructure being of piles well driven. With some voluntary labor from settlers the work was done at a comparatively cheap rate.

GRAND PORTAGE ROAD.

A continuation of repairs commenced last year extending northeasterly. Only a mile and a quarter was wrought over, but the inspector reports the work as of the most substantial character over one of the worst pieces of road in that district, but now perhaps one of the best portions.

HAUGHTON ROAD.

Three miles and three-quarters of this road opened from the line between lots nine and ten in the third concession of Haughton east half a mile, and thence north two and a quarter miles, which were chopped, grubbed and graded; the work being reported as very well done.

HONORA BAY ROAD.

This is the continuation of a road on Manitoulin Island, the opening of which was commenced last year.

This season a further length of a mile and a quarter was constructed, half a mile of which was opposite lots twenty-four and twenty-five, between the sixth and seventh concessions of the township of Howland, and the balance along the lake shore towards Honora Bay. Two and a quarter miles of ditching was done, and a substantial log bridge ninety-eight feet long built near Honora Bay bridge.

LARCHWOOD ROAD.

A little over four miles of this road were opened continuing southward from last year's work, and a mile and three quarters of the older portion was repaired. Five small bridges aggregating a length of two hundred and thirty-six feet were built in connection with the work, and the whole reported as workmanlike in all particulars.

LARCHWOOD BRIDGE.

This bridge spans Vermillion river on the line of the above named Larchwood road in the township of Creighton.

It is comprised chiefly of a one hundred and four feet clear span with a forty feet approach at the west end, sixteen feet at east end, or with piers about one hundred and seventy feet long, and is reported an excellent structure.

MURILLO ROAD.

For this outlay which was an unspent sum granted previously by the municipality of Shuniah for use in conjunction with an amount voted by the Government, two miles and three quarters of the Murillo road were brushed out and properly levelled while two bridges and some culverts were renewed.

OLIVER TOWNSHIP ROADS.

A new bridge was built between lots twelve and thirteen in the third concession, one hundred and fifty-three feet long, and many other bridges and culverts in the township were renewed or repaired, mostly in the third, fourth and fifth concessions.

OUMET AND BLACK BAY ROAD.

This work amounted to a quarter mile of grading, half a mile of levelling and the erection of five new bridges, representing a length of one hundred and eighty-five feet.

PATTON ROAD.

The extension of road from point of ending last year—namely the south-east angle of north half of lot number ten, concession four Patton—a mile and a half north and nearly half a mile east; the whole length being chopped, grubbed and graded.

PIGEON RIVER ROAD.

This was the opening of four miles and three-quarters of new road from near Point De Meuron up and down the Kaminstiquia River for the use and convenience of settlers.

PINE RIVER ROAD.

A road on the town line between Nelles and Patullo in Rainy River District along which nearly a mile of repairs were made; and in addition, a bridge was built across Pine river about ninety feet long.

RABBIT MOUNTAIN AND WHITEFISH LAKE ROAD.

New covering was put upon seven bridges and general repairs made over three miles, namely, between sixteen and eighteen and between twenty and twenty-one mile posts.

RAINY RIVER ROAD.

A considerable length of brushing and ditching was done amounting to a mile or more, and two bridges were built; one over Lyon's creek one hundred and seventy feet long, and a second over Rice's creek one hundred and thirty-two feet long, both bridges being in the township of Lash. Some bridge abutments were also renewed and other structures re-covered.

RAT PORTAGE ROAD.

Three and a half miles opened in unsurveyed lands some three miles north of Rat Portage. The work is reported as having been well and economically done.

SLATE RIVER VALLEY ROAD.

The opening of four and a half miles, namely, on the thirteenth and fourteenth side line of concession A Paipouge eighty-five chains; along the south bank of the Kaministiquia river through lot thirteen, twenty chains; between lots ten and eleven, one hundred and twenty-four chains; and on concession A one hundred chains.

SPANISH RIVER ROAD.

Commencing a mile and a quarter east of Massey station on the south side of the railway track this road was chopped twenty-two feet wide and grubbed to Webbwood, a distance of eight and three quarter miles, following the railway the whole distance.

SUDBURY AND WHITEFISH ROAD.

Seven miles of excellent repairs from Copper Cliff mine (four miles west of Sudbury) to Norton; and for another mile and a half, brush and timber was cleared off and the road made passable.

TWO TREE CREEK BRIDGE.

A bridge on Huron line, St. Joseph Island. It is one hundred and thirty-seven feet long, pile sub-structure, and cedar covering.

V. LINE ROAD.

A mile and a half of grading, with ditching one side throughout. This road is also on St. Joseph Island.

WEBBWOOD ROAD.

Last year nine miles of this road were repaired from Webbwood northward, and this season a further distance of twelve miles was wrought over and very much improved.

WHITE RIVER BRIDGE.

A bridge in the fourth concession of the township of Parkinson, built over White River, on the line of the colonization road opened to and beyond this point two years ago.

The structure is three hundred and sixty feet long comprised mainly of a one hundred feet clear opening, two of twenty four feet each, and the balance trestle work and approaches, the main piers are twenty-two feet long, seventeen feet high and fifteen feet above low water.

For the protection of the bridge against extraordinary freshets a boom and pier were constructed at a cost of about \$380 and the fact that while many railway and other large bridges were carried away by the last spring floods this work remained undisturbed has shown the necessity for the extra precaution taken.

WOODYATT ROAD.

A new road in Rainy River District of which two miles were opened to the Crozier and Lash road in Devlin and two more opened as a winter road west to the south-east angle of section seven of the last named township.

WEST DIVISION.

BAYSVILLE AND HUNTSVILLE ROAD.

Repairs over about four miles, including deviations through concessions ten, eleven and twelve of Brunel to improve work partly done by the municipality.

BEAR LAKE ROAD.

The opening, grubbing and partial grading of two and a quarter miles through a very rough district, completing a main highway between the railway station on Montieth and Perry road to Missionary road in the township of Spence. The total length is five and a half miles or over, the first portion of which was opened last year as Beaver Lake road and in the report fully described as to its position.

BETHUNE 5 SIDE LINE ROAD.

Between lots five and six from the road allowance between the tenth and eleventh concessions one mile was opened northward to Beaver lake at a cost of less than \$250. A bridge at the north end of the lake mentioned was largely renewed, new stringers having been put in (four in number) its entire length of one hundred and sixty-two feet.

BOYNE RIVER BRIDGE.

A new bridge one hundred and thirty-seven feet long built over Boyne River on lot number thirty in the tenth concession of Foley. The total cost was \$95.65 of which the municipality contributed \$20.65.

BRACEBRIDGE BRIDGE.

A new structure over Muskoka river at Bracebridge built by the municipality and on account of which the sum of \$2000 was voted by the House and paid by the Department.

It is comprised of one iron span of one hundred and thirty-two feet, resting upon iron trestle piers, the approaches being of earth and making a total length of about two hundred and sixteen feet or length of the bridge which was replaced.

The whole work is understood to have cost about \$2700.

BRENNAN'S BRIDGE.

Repairing approaches and raising the central position, and towards which the Imperial Lumber Co. gave lumber to the value of \$20. The bridge is over South river in the township of Joly.

BURK'S FALLS ROAD.

Six miles of repairs in the township of Armour from two miles west of Burk's Falls westward.

CARDWELL ROAD.

This work was chiefly a deviation of about three quarters of a mile (3540 ft.) to avoid some almost impassable hills. Two large stone and three wooden culverts were built in connection with the work, the whole of which is reported as well done.

CARLING ROAD.

Over two miles of repairs, dating from work done two years ago, westward—a very beneficial work.

CHAFFEY 30 SIDE LINE BRIDGE.

Repairs to abutments and approaches which has made the bridge safe but the inspector says new planking is required.

CHAPMAN AND STRONG T. L. ROAD.

Between Distress river road and Denville swamp road, that is to say, through concessions five and eight inclusive, two miles and a half were constructed and was a much desired road.

COMMANDA LAKE ROAD.

Very effective repairs made from the Northern road at Commanda towards Commanda lake for a distance of two and three quarter miles. Traffic over this road is very heavy in consequence of lumbering operations northward.

DENVILLE SWAMP ROAD.

This road is between concessions four and five of Chapman, a mile and a half of which has been opened westward from the west boundary of Strong. A high crossway two hundred feet long was also built opposite lot number eleven to let settlers out to the new road.

DISTRESS RIVER ROAD.

A mile and a half of repairs made in Chapman and in Strong townships, and the road very much improved.

DOE LAKE ROAD.

Repaired over three and a quarter miles from the town line between Draper and Muskoka townships westward.

DRAPER AND RYDE TOWN LINE ROAD.

A continuation of what was in 1890 designated as the Longford and Oakley town line road. Two miles have this year been chopped, grubbed and graded beginning at lot number twenty-four of concession one Draper, and angling from thence through Ryde, Oakley and into Longford to meet the road opened three years ago. The road is not yet finished but when fully opened will be a useful one.

EAGLE LAKE ROAD.

A bridge was built over Commanda creek to replace one which was dangerous ; and nearly three miles of road improved by removing stones and other obstructions to travel.

EAST ARMOUR ROAD.

About one mile of repairs between lots thirteen and nineteen between the second and third concessions of Armour ; the chief work however being on a heavy hill opposite lot number fourteen.

EAST RIVER BRIDGE.

A bridge one hundred and thirty-nine feet long renewed on the Muskoka road in Chaffey. There is one clear span of forty-eight and a half feet, and two of thirty feet each, with necessary approaches. The piers under the main span are twenty-five feet high.

GURD AND HIMSWORTH ROAD.

On the town line between Gurd and Himsworth through the third and fourth concessions, a mile and a quarter was repaired ; and on Westphalia road a mile and a half, including deviations about East river which were absolutely necessary ; the latter work involving the removal of six hundred cubic yards of earth.

HIMSWORTH 15 AND 16 SIDE LINE ROAD

A mile and a quarter of road constructed through the seventh and eighth concessions of Himsworth, on the side line named, and said to be well opened through thickly timbered land.

INDIAN PENINSULA ROADS.

Several portions of roads on this Peninsula, in the county of Bruce were improved and opened, amounting to about three and a half miles of construction, and twelve and a half of repairs, namely : eight miles and three quarters of repairs upon four sections of the main road between Warton and Tobermory ; two miles repaired on the town line between Amable and Albermarle ; two miles improved substantially on the Bury road proper across lots seven to sixteen of St. Edmunds, leading to Tobermory ; and three and a half miles opened and levelled beginning at lot number thirty-five between concessions four and five Lindsay—end of last year's work—and from thence angling through lots thirty-five and thirty-six to about middle of the third concession ; thence through lots thirty-six to forty-one, about the east end of a small lake ; thence through lot number one, concession three, St. Edmunds ; and thence northward on the road allowance to lot number six. The sum of \$400 was spent on this latter work and the opening of another mile would, it is understood, complete the opening of the road as intended.

 JUNCTION No. 1 ROAD.

This mile and a quarter of construction is through lot number fifteen in the eighth and ninth concessions of Christie, and opens a road to the new railway station for McKellar and other settlers.

KEARNEY No. 1 ROAD.

This road connects with Burk's Falls road in Bethune and was this year opened for two miles southward from the sixth and seventh concession line. It had been opened as little more than a trail some fifteen years ago and untouched since that time but now an excellent outlet is given to the main road.

KELLEY'S SWAMP ROAD.

Between concessions three and four of Gurd township and opposite lots twenty-nine and thirty, half a mile of road is chopped out and sixty rods of cross-way built.

KOSHEE BRIDGE.

A new bridge fifty-five feet long and clear span of forty-nine feet, in the township of Morrison on the Muskoka road. The work was under the supervision of the reeve of the township and the work is reported as generally satisfactory. The township, it is understood, spent \$70 in making the approaches.

LAKE JOSEPH ROAD.

Repairs rendered necessary by reason of the raising of water in a lake near the road. The work was from Parry Sound road southward, and consisted chiefly in filling a length of five hundred feet to a depth of three feet, and width of fourteen feet, with side timber protection.

LAKE SHORE AND DANE'S ROAD.

Three miles of repairs from lot eighteen concession seven Monck, along the said road to lot twenty-six, concession ten of the same township.

MACHAR 12 AND 13 CON. ROAD.

Four and a half miles of construction extending from last season's operations on lot number ten of Laurier through lot nine, concession thirteen; thence through lots seven and eight, concession twelve; thence through lot six, concession thirteen; thence through lot five, concession twelve; thence through lots four to one inclusive to the road allowance between concessions twelve and thirteen at the town line between Laurier and Machar, and continuing thence westward to lot number four in Machar along the road allowance. The country is rough and broken, but the road is a fairly good one, and will be most useful to the inhabitants.

McDOUGALL AND FOLEY ROAD.

Repairs extending between the Christie road and the McDougall road, and amounting to three miles of work.

MCMURRICH ROADS.

Two roads were improved, one being near the outlet of Axe lake, where a quarter of a mile was opened; and the second work being between concessions six and seven across lots twenty-four and twenty-five, where an eighth of a mile of crosswaying and ditching, and a quarter of a mile of grading were done. The latter work is through what is known as Alderdice's swamp.

MAGANETAWAN No. 1 BRIDGE.

A bridge one hundred and six feet long, with main span of sixty feet in the clear, built over the Maganetawan river, on the twelfth and thirteenth concession line of Perry. The municipality of the township gave \$100 towards the work, making the cost to the country only \$380.

MAGANETAWAN No. 2 BRIDGE.

This bridge was built on the side line between lots twenty and twenty-one of concession thirteen, Chaffey, and is seventy-six feet long, with a main opening of fifty feet. It may be characterized as a cheap, rough, substantial structure.

MAGANETAWAN ROAD.

From lot number twenty-two in the second concession of Chapman this road was improved eastward a mile, and three-quarters of a mile. Seventeen culverts were renewed.

MUSKOKA ROAD.

Opened between lots fifteen and sixteen, from the Westphalia road northward through concessions four and five—over a mile of new road through a very heavily timbered country and well grubbed and graded.

MUSKOKA AND BOBCAYGEON ROAD.

This road is now opened between Huntsville and the Bobcaygeon road which leads to Dorset. This season two and a half miles were opened, mainly through lot one of concession one of Franklin and concession A, McClintock, and through lots thirty-four and thirty-five of A concession, Sherbourne, where it unites with McClintock road.

Seven miles of substantial repairs were also made between Huntsville and Dwight.

NEIGHIC LAKE BRIDGE.

The purpose of this bridge is to connect at Ah-mic lake P.O. the Croft road, which is made in the township of Croft to the water at each side. The crossing is over a neck between Crawford and Neighic lakes, and requiring a long, low structure upon a pile foundation, and which is not yet completed, as it was found necessary to do the work after the ice had formed. It may cost \$300 more than the sum now spent to complete the work. The length of the bridge will be about three hundred feet.

NIPISSING ROAD.

Three miles of repairs between concessions seventeen and twenty of Hims-worth.

NORTH CARDWELL ROAD.

Two miles of work from lot number eight to lot number seventeen, between the second and third concessions of the township of Monteith, making now a connection with Axe Lake road, that settlers may reach Rosseau and other markets.

This may be characterized as half new work and half repairs.

NORTHERN ROAD.

Altogether twenty-two miles of this road were repaired, fifteen being between Parry Sound and Dunchurch, and seven between Dunchurch and Glenila. As the whole road is now put into very fair condition, it ought perhaps in future be maintained by the inhabitants.

NORTHERN ROAD BRIDGES.

Two bridges were repaired; one over Commanda creek near Commanda, and another over Dry or Big Valley creek, about seven miles from Commanda, on the Northern road. On the former seven new stringers twenty-six feet long were introduced, besides a new hand rail; the latter is now practically a new bridge seventy-five feet long, composed of two piers ten feet high, two abutments six feet high, and the superstructure, with three hundred feet of approaches.

PERRY 5 AND 6 SIDE LINE ROAD.

Nearly one mile of road chopped out through concessions one and two, and, with work promised, and which may be done by the settlers, will open a way to Novar station, and be of great advantage to the district.

PERRY 8 CON. ROAD.

Across lots one to six in the eighth concession of Perry one mile of grading was done, and will be most serviceable to settlers.

PERRY AND CHAFFEY ROAD.

The opening of nearly two miles as a good winter road, beginning at lot twenty-five, concession one, Perry, and angling through lots twenty-four to twenty-one, about Fish lake, in the same concession.

PICKEREL RIVER BRIDGE.

The repair of a bridge on the Northern road, in the township of Ferrie, and the improvement of three and a half miles of the road through concessions eleven to fourteen.

PORTAGE ROAD.

This is the road between Peninsula lake and Lake of Bays or Trading lake, in the township of Franklin.

Seventy to eighty loaded teams, it is stated, pass over this short road daily during the summer months, and in consequence requires almost annual repairs. \$306 were this season spent upon it.

POVERTY BAY ROAD.

One mile of repairs between the Northern road and the fourth and fifth concessions of Ferrie township.

RAINY LAKE ROAD.

The construction of two miles and five eighths of a mile about the west side of Rainy lake from Missionary road (between concessions four and five, Ryerson) to the north town line of McMurrich, the right of way being secured and paid for by the municipality of Ryerson.

ROSSEAU AND NIPISSING ROAD.

Substantial repairs over four miles in the township of Spence between lots forty-six and sixty-four of the Rosseau and Nipissing road survey.

RYDE CENTRE ROAD.

Two and a half miles of light repairs made between concessions six and ten of Ryde, in which one hundred and six rods of crossway were clay covered to hold it against flooding, which annually disturbed the road.

RYERSON JUNCTION ROAD.

About a mile of repairs from Muskoka Road westward, the principal outlay being, however, upon a heavy hill known as "Phillip's Hill."

SINCLAIR ROAD.

In the township of Sinclair, from the road allowance between concessions three and four westward, two and a half miles of repairs were made over a portion of the road which was well-nigh impassable. A bridge was also largely renewed on the same road farther northward.

SOUTH RIVER BRIDGE.

A new structure two hundred and thirty feet long built over South river, on lot twelve in concession thirteen of Joly, at what is called "Cutchie's Narrows," a most favorable point for a bridge. It has a main span of forty feet, and eleven bents to complete the length, and all done for less than \$400.

STEPHENSON TOWNSHIP ROADS.

In this township the sum of about \$185 was spent in making a deviation of the Stisted road, amounting to nearly half a mile of work. A second road was a spur to connect the Brunel road with the fourth concession line by opening through the fifth and sixth concessions. The latter was through a beaver meadow nearly three-fourths of a mile long, and was double ditched almost the entire length, while another quarter mile was ditched on one side only. A short length still remains unopened, but the Inspector suggests that the municipality may complete it, when it will be of great advantage to the township.

STRONG 12 CON. ROAD.

This work is across lots twenty-one and twenty-two, and also lot twenty-seven. A bridge was built over a deep creek, requiring four bents over twenty feet high and a length of sixty-three feet, the balance of the work being chopping, grading and crosswaying across the three lots mentioned, and representing three-quarters of a mile.

The township of Strong contributed \$150 of the cost, reducing the expenditure by the Department to \$451.88.

STRONG AND MACHAR ROAD.

A mile and a quarter of new road opened through the first and second concessions of Machar, on the road allowance between lots twenty-five and twenty-six, and is reported as excellent work.

WESTPHALIA ROAD.

This important highway is now completed between Trout Creek, on the railway, and Commanda, on the Rosseau and Nipissing road, and is one of the chief roads in that vicinity.

This season three-quarters of a mile was opened through very heavy timber and rough country, and two and a quarter miles of a portion in Gurd, partially made some years ago, were properly graded.

EAST DIVISION.

ABINGER AND MILLER T. L. ROAD.

A continuation of last season's work to the first concession on the town line between Abinger and Miller, chopped thirty-five feet wide for a mile and one-third, and graded throughout. Over Buckshot creek a bridge was constructed two hundred and sixty feet long, and thirty feet main span.

ADDINGTON ROAD.

Nine miles of repairs were effected from Kaladar southward, and the road extended two miles to the Opeongo road, from lot number twenty, concession eleven, Brudenel, easterly between concessions ten and eleven to Gorman's lake, and from thence on the north side of the lake. A bridge seventy feet long was built over Brennan's creek, the outlet of the lake, and on the road line.

ALICE 20 AND 21 SIDE LINE ROAD.

The construction of one mile on the side line named, from the concession road allowance between twelve and thirteen southward, the greater distance being through a cedar and tamarac swamp.

ALICE 8 AND 9 CON. ROAD.

These improvements were over a road previously opened in a rough manner by the settlers, and are a mile and a quarter long, extending from lot five to lot ten, both inclusive, and along the concession line mentioned, with another half-mile opened northward between lots four and five in the eleventh concession.

ANSTRUTHER ROAD.

A general course of repairs, extending over ten miles, from Apsley northward.

BARRIE ROAD.

Four miles of repairs from Addington road eastward to Perry's mills and outlet of Marble lake. A deviation one mile long was made to avoid a rough, rocky section.

BARRY BAY ROAD.

The portion repaired this season—a mile and a half—is on the tenth and eleventh concession line of Alice, and extended from the road allowance between lots thirty and thirty-one westward.

BONFIELD 25 AND 26 SIDE LINE ROAD.

The opening of a new road for one mile, and substantial repairs of an additional mile and a quarter, the work beginning at lot twenty-seven, concession twelve, and continuing to lots twenty-one and twenty-two of the eighth concession. The original road allowances could not be adhered to with economy.

BOOTH ROAD.

A road in the township of Anstruther, of which one mile was repaired and two miles opened as a good winter road, the new work beginning at lot twenty-eight, concession fifteen, and continuing westward.

BROMLEY 24 AND 25 SIDE LINE ROAD.

The construction practically of a mile of road through the third concession of Bromley, it having been roughly opened previously by the settlers, but quite unfit for travel.

BROMLEY AND STAFFORD TOWN LINE ROAD.

Two miles completed on the town line mentioned from lot number one westward. The principal timber had been cut before, otherwise the work was new.

BUCKHORN ROAD.

Repairs were made from near Buckhorn northward towards Scott's mills, in Harvey, and again north of the said mills, covering a length of three miles altogether, the cost of which was \$364.82, of which sum the County of Peterborough contributed \$100, and the municipality of Harvey \$50.

From the eighth concession of Harvey northward fifteen miles were also repaired, included in which is a mile and a half of new work, the result of several deviations from the old travelled road which it was deemed desirable and necessary to make.

BUCK LAKE BRIDGE.

A bridge south of Devil lake, in Bedford, which it was found desirable to build during the winter. It has not yet been inspected or reported upon, and the payment of \$200 is only on account upon an estimated cost of \$400, as in supplementary estimates.

BURLEIGH ROAD.

Repairs from Burleigh Locks northward to lot number seven in the twelfth concession of Chandos, a distance of twenty-six miles. It is the main road and stage route, and the work was badly needed.

BURNT MILL BRIDGE.

A bridge built over the river at the foot of Round Lake (lot nineteen, con. six, Belmont), with about half a mile of road improved upon each side. The County of Peterborough contributed \$100, making the Departmental expenditure only \$211.97.

CALDWELL ROAD.

An extension of road from Warren Station of the Canadian Pacific Railway (lot two, con. six, Dunnet) westward to Messrs. Keeling and Bower's mill, on lot number four. The length is three-fourths of a mile, costing \$307.35, of which the Department paid \$200, as a contribution and under certain conditions.

CALVIN AND PAPINEAU TOWN LINE ROAD.

A mile and a quarter of most substantial repairs from the main road in that district—the Mattawa and Callender road—south.

CAVENDISH ROAD.

This road which connects the Monck and Buckhorn roads was repaired from lot sixteen, concession eighteen of Galway eastward nine miles to the Buckhorn road. Being two and a half miles distance from the Galway and Cavendish road, and in order to connect these two leading roads the road allowance between lots thirty and thirty-one in Galway was opened through concessions fifteen, sixteen and part of seventeen, involving a mile and a half of construction and one mile of repairs.

CHANDOS ROAD.

General repairs from the village of Apsley eastward twelve miles to lot number thirty, concession two, Chandos.

CLARENDON BRANCH ROAD.

This road was opened by settlers some time since and is about six miles long. Its position is from the Frontenac road, about a mile and a half south of Mississippi road, or from Plevna eastward again meeting the Mississippi road about three miles west of Ompah. The road this season received very careful repairs the first four miles from Frontenac road, when, over Buckshot creek a bridge of considerable length was renewed in cedar, and the remaining two miles improved to some extent by clearing away stones and other difficulties.

CLARE RIVER BRIDGE.

About two hundred dollars spent in making up the approaches which had sunk about two feet.

COBDEN AND EGANVILLE ROAD.

Three miles of repairs between Eganville and Mink lake.

CRUSE ROAD.

A very great improvement was made over three miles and a half from the Lavant road—about two miles west of Lavant station on the Kingston and Pembroke railway northward to Trout Lake and Folger road.

DALTON 25 AND 26 SIDE LINE ROAD.

This is the completion of work begun last year and is chiefly the finishing of "Kehoe's" bridge mentioned in last season's report. The bridge is now finished and nearly a mile of repairs made upon the road in addition, for the sum of \$239.92.

DALTON AND RAMA TOWN LINE ROAD.

Three miles of repairs from the Monck road southerly. It is in reality a continuation southward of the Ryde road, which is between the two townships named above.

DISTRICT LINE ROAD.

The line or road allowance between Wilberforce and Bromley, and main highway between Douglas and Eganville. The work was largely the improvement of a very steep hill on lot number one in the fifth concession of Wilberforce, where a filling of twelve feet was made in order to reduce the grade.

FERRIS ROAD

About three miles of work over a road chopped out some years ago leading to south-east bay of lake Nipissing. It is on the tenth concession line of Ferris and the improvements referred to between lots nineteen and twenty-nine, and understood to be highly satisfactory. A second work was the opening of four and a half miles, beginning at lot ten in the seventh concession; thence southward a mile and a quarter; thence westerly following near the shore of lake Nosbonsing to lot twenty-one in the third concession. This will be a valuable highway when fully opened to meet that leading to south-east bay.

FLINTON ROAD.

The repairs upon this road were extended south-westward from Flinton to the boundary between Kaladar and Elziver—about four miles. Many culverts were renewed and crossways covered and raised.

GALWAY 4 AND 5 CON. ROAD.

From lot number two to lot number seventeen, on the road allowance between concessions four and five, there were opened of new road three and three-quarter miles and said to be highly satisfactory.

GALWAY AND CAVENDISH ROADS.

Eight miles of work, one of which was new, and was from lot number fifteen in the fourteenth concession of Galway eastward to lot number five, concession fifteen, Cavendish.

GANNON'S NARROWS ROAD

Repairs from Gannon's narrows leading southward, six miles, together with a mile and a half repaired in the fourth concession between lots five and six of Harvey, a total of seven and a half miles.

GOLDEN LAKE ROAD.

A mile and three quarters of work altogether, a mile being a diversion to avoid a rough rocky hill which is on lot twelve in the fourth and fifth concessions of north Algona. A bridge across Cochrane's creek is included in the above.

GOODERHAM BRIDGE.

A bridge built on lot twenty-six, con. five Glamorgan, and roads to the bridge from the Monck and Buckhorn roads to give access to the station of the Bancroft Irondale and Ottawa Railway. The total cost of the work was, according to statements received, \$293.14 of which the Department paid \$212, the railway company doing the balance of work.

GRATTAN ROAD.

This road begins at Perrault Settlement road and is from thence eastward along the sixteenth concession line across lots twenty to sixteen of Grattan—a mile and a quarter of new work.

GULLIE'S ROAD.

A mile and a half of improvement of the line between lots fifteen and sixteen from the twelfth concession southward in Galway. It was a rough line and for want of repair impeded settlement.

HAGARTY 5 AND 6 SIDE LINE ROAD.

One mile repaired between concessions four and five across lots twenty-six to thirty, and one mile constructed on the same line from lot number fourteen westerly.

HARVEY ROAD.

The repair of two miles and a half between Nogey's creek and Bobcaygeon road; work beginning at lot twenty-one of the seventeenth concession, and continuing westward in Harvey.

HASTINGS ROAD.

Repaired from Maynooth southward to Selby's hill, about four and a quarter miles, and between Rathbun station and Bancroft, fifteen miles.

HYDE'S CHUTE AND SANSON'S ROAD.

This work is from Hyde's Chute bridge over the Madawaska river northward twelve miles towards Opeongo road.

LAVANT BRANCH ROAD.

From the third and fourth concession line of Darling eastward along or near the line between lots ten and eleven to concessions four and five, and thence angling through ten and nine to the concession line between five and six, a little over a mile and a half of new road was opened. Another half mile of construction is required before a connection with the main line of road is effected as was intended.

LUTTERWORTH ROAD.

Two and a quarter miles of repairs, beginning between lots five and six, concession two, and ending between lots ten and eleven of concessions three and four Lutterworth. Seven or eight stone culverts were introduced, being considered necessary.

McKIM AND NEELON ROAD.

The construction of a mile and a half as a continuation of McKim road of last year on the line between concessions five and six of McKim. One-half the above length is properly graded and ditched, the balance being only chopped out and levelled.

MANION LAKE ROAD.

A mile and a quarter of repairs on the ninth concession line of Admaston between lots twenty-five and twenty-six.

MATTAWA AND CALLENDER ROAD.

These operations were from lot twenty-one, concession four, to lot thirty concession three of Calvin, three and a half miles of general repairs, and well reported of.

MATTAWA 12 AND 13 CON. AND OTTAWA RIVER ROADS.

The first-named work is between lots nineteen and twenty-eight, being two miles of construction; the second was three and three-quarter miles of repairs between concessions nine and thirteen, on or near lot number twenty-one, all in Mattawa township.

METHUEN ROAD.

Repairs between lot twenty-three, concession eight Belmont, and lot thirty-one, concession three Methuen, about twenty-one miles of general improvement.

MISSISSIPPI BRANCH BRIDGE.

A new bridge built over Mississippi branch river on Mississippi road, and is one hundred feet long, with centre pier eleven feet high. A truss bridge over Otter creek on the same road was also repaired.

MISSISSIPPI AND HASTINGS JUNC. ROAD BRIDGE.

A new bridge over York river, in the township of Dungannon; length one hundred and twelve feet, main span fifty-two feet, and main piers twenty feet high.

MONTEAGLE ROAD.

The construction of about two and one-eighth miles between lots ten and eleven of Monteagle through concessions seven and eight; and the repair of six and a half miles of the same road, one mile being south and the balance north of the new work, the latter repairs extending to the Peterson road.

MURCHISON BRIDGE.

Built in 1891, but carried away by the heavy freshets of this spring. It has been renewed, and is of the same character as the first structure described two years ago.

NOGEY'S CREEK ROAD.

Four miles have been wrought over from lot twenty-three of Harvey northward to the south boundary of the township of Galway.

NORTH ALGONA 5 AND 6 SIDE LINE ROAD.

This road had been opened roughly by the settlers in previous years. The expenditure this season graded and improved four miles from the third concession northward, the grade averaging fifteen feet in width.

NORTH BAY AND WIDDIFIELD ROAD.

Five miles of repairs, dating from lot number twenty, concession three, south, to lot twenty, concession B, Widdifield.

NORTH BAY AND TEMISCAMINGUE ROAD.

This road was improved in a greater or less degree over eleven and a half miles of its length.

NORTH HARVEY ROAD.

The construction of two miles through the fifth and sixth concessions, and the repair of two miles of last year's work. It is an east and west road, and makes a valuable connection between Burleigh Falls and Buckhorn, and is on or near the line between lots ten and eleven of Harvey.

NORTH METHUEN ROAD.

Repairs extending over eight miles from lot twenty-five, concession two, to lot twenty-seven, concession sixteen of Chandos.

NOSBONSING ROAD.

Two miles of construction from the termination of last year's work westward to lot number fourteen, concession two Ferris, the whole being well ditched and graded. A bridge with a forty-foot clear span was built over Depot creek, the full length of the bridge being ninety feet.

NOSBONSING AND THORNCLIFFE ROAD.

Repairs over a length of eight miles, five of which were fairly graded. The work was from lot number five in the eighth concession to lot twenty-seven, concession fourteen of the township of Ferris.

Other necessary repairs were made in the vicinity of Nosbonsing station where the road is yet a rough one.

OPEONGO ROAD.

Eight miles of repairs were made of this road, three miles being from about four miles west of D'Aere westward and four miles again westward from a point about two and a half miles west of Brudenel.

OSO AND OLDEN ROAD.

This road begins in the township of Oso, south of Sharbot lake, where the Kingston and Pembroke railway crosses the road allowance between lots ten and eleven of the first concession, and from thence it is westward along the side line mentioned to the boundary between Oso and Olden; and thence again on the same numbered side line in Olden to connect with existing roads in the vicinity of Mountain Grove. Two miles of new road were opened under the direction of this department in Olden.

The townships of Oso and Olden granted amounts almost equal to the Ontario grant, which were spent by the respective municipalities on the same road.

PALMER RAPIDS AND ROCKINGHAM ROAD.

Five miles of repairs from Peterson road south towards Palmer Rapids.

PAPINEAU 10 AND 11 CON. ROAD.

A road between concessions ten and eleven Papineau opened this season across lots twenty-five to thirty-two, a length of two and a quarter miles. Three miles of the same road were also more or less repaired.

PEMBROKE AND MATTAWA ROAD.

Repairs from the town line between Clara and Maria, five miles eastward.

PERRAULT SETTLEMENT ROAD.

On this road proper, repairs were made over a length of four miles in the township of Sebastopol from lot number seventeen, concession thirteen, northward towards Eganville. Also a very steep hill on the eighteenth concession of Grattan, —between Perrault settlement road and Eganville and Foy road—was very substantially improved and the road, which is a mile and a quarter long and crosses lots twenty-one to twenty-five inclusive, made passable throughout.

PETEWAWA 6 AND 7 CON. ROAD.

A mile and a quarter of new road opened on the above line between lots ten and fifteen in Petewawa.

POWASSAN AND CALLENDER ROAD.

Three miles of work of last year were repaired and a mile and three quarters of new road opened from lot twenty-four, concession eleven, Chisholm, south-westward towards Powassan. The work was very heavy and less was accomplished than expected, but the Inspector says it is of an excellent character.

RADCLIFFE AND BRUDENELL ROAD.

A new road opened on the town line between Radcliffe and Brudenell from lot thirty-two northward four miles.

RAYSIDE ROAD.

Repairs between lots four and five, concession five Rayside, and being five hundred yards of crosswaying through a low, wet swamp.

REID ROAD.

The Reid road which begins near Kinmount runs in a southerly direction about six miles to the eastern limit of Swamp Lake Settlement, and not only shortens the distance to market but opens up some fairly good farming country. The work this year was commenced between concessions sixteen and seventeen, Galway, on the west side of lot nine and continued easterly across lots nine and ten, and thence southerly ending between lots thirteen and fourteen on the fifteenth concession line, altogether two and a quarter miles of new road, leaving still a distance which about \$400 would complete. The County of Peterborough gave \$100, and the united townships of Galway and Cavendish \$50 to aid in the above work.

RIDEAU LAKE ROAD.

This was a deviation of three quarters of a mile east of Fermoy, about the west side of Rideau lake, and largely rock excavation and filling. The municipality of Bedford contributed a moiety of the cost as per agreement.

ROLPH ROAD.

Work was begun at Des Joachim bridge on the Ottawa river and extended westward to Moor lake station of the C. P. R., a length of about two and a half miles; one mile being a deviation for the purpose of shortening the main road.

ROUND LAKE ROAD.

Between lot twenty-three, concession eight, and lot twenty-nine, concession ten, Belmont, three miles of new work was done; the County of Peterborough contributing \$100 and the united municipalities of Belmont and Methuen \$50 leaving the Government expenditure but \$216.38.

RUTTAN ROAD.

Instead of building a bridge on this road in the township of Hinchinbrooke as at first contemplated, but which the municipality felt obliged to do owing to its dangerous condition in advance of departmental instructions, the road leading from and in connection with the bridge was repaired southward two and a half miles, as it was in very bad condition.

RYDE ROAD.

This work is on the town line between Rama and Dalton and is about one mile altogether, including some one hundred and twenty rods of crosswaying; and now completes the opening of a highway begun some years ago between Monck road and Dalton and Washago road, a most valuable connection.

SANDY POINT ROAD.

About two miles of substantial work from between lots five and six, concession sixteen, Harvey, westward towards Pigeon lake. Deviations were made and the road straightened to a considerable extent, but it will require \$200 more to open it to the water.

SCOTT ROAD.

Beginning at lot number four, concession twelve, Chandos, repairs were continued eastward six miles and very substantial work reported.

SHIELD'S PIT ROAD.

Four and a half miles of new road and one and a half of repairs and being from lot thirteen to lot thirty-two between concessions eight and nine, Calvin, opened as a good winter road.

SILVER LAKE ROAD.

A road extending from lot fifteen, between concessions five and six of south Algona, eastward along the last-named line for about three miles, and was more or less repaired throughout.

SOUTH ALGONA 30 AND 31 SIDE LINE ROAD.

A mile and a quarter of construction through concessions ten and eleven, between lots thirty and thirty-one. In addition to the foregoing, two miles of the Killaloe road were repaired, from its intersection with the above-named side road westward.

SOUTH BUCKHORN AND SOUTH BURLEIGH ROADS.

On the Buckhorn road the work was about five miles of general repairs from Buckhorn southward, while on Burleigh road three miles were well repaired between Young's Point and Burleigh Falls. Towards this work the county of Peterborough and township of Smith contributed \$75 each.

SOUTH CALDWELL ROAD.

A road from Verner station, on the Canadian Pacific Railway, southward towards lake Nipissing. It is made between lots eight and nine of Caldwell, through concessions four to one inclusive, except in the second concession, where a deviation into lot number eight was necessary, owing to a rocky ridge. Four miles and a half were wrought over, one and a half being new work, and the balance the better formation of a road chopped out roughly in 1891.

STONE DAM ROAD.

A road about two and a half miles north of Verona, beginning at Stone Dam and Desert Lake road, and extending eastward to the boundary between Portland and Hinchinbrooke, a distance of about two miles. It had been cut out by settlers, but was in a very rough condition; now it is reported a good waggon road.

STURGEON RIVER ROAD.

Some five miles of road previously opened were repaired, and a mile and a half of new work continued eastward, in the township of Springer.

SUDBURY ROAD.

Repairs have been made over eight miles, namely, between Chelmsford and Murray mines.

SUDBURY AND NEELON ROAD.

A continuation of work from lot two, con. three McKim, to lot ten, con. three Neelon, a length of four and a quarter miles of new work, more than half of which has been very well graded and ditched.

SUDBURY AND BLEZARD ROAD.

Four miles and a half improved, and the distance between Sudbury and the Blezard mine now in fair order, and much appreciated.

SWAMP ROAD.

This is a road in the north-westerly corner of the township of Portland, a portion of which was low and swampy, and to obviate the annual flooding of more than a mile it was necessary to raise this distance about three feet with broken stone and other material. A bridge one hundred feet long on the road was also repaired.

The municipality of Portland contributed \$300.

TRAFFORD AND TAMWORTH ROAD.

Improvements were continued westward from the ending of last year's work a mile and a quarter, beginning between lots two and three, concession twelve of Sheffield. The whole road is about five miles long.

WAHNAPIŦAE ROAD.

North of the railway three miles of new work were done, and five and a half of repairs made. There are yet three miles or thereabout to complete the whole length to the lake, which, with some necessary repairs, would cost about \$1,500, when an excellent highway would exist between the C. P. Railway and lake Wahnapitae.

South of the railway nearly two miles have been opened and four and a half repaired, the chief work being, however, the building of eight bridges of various lengths, one being one hundred and thirty-six feet long, over Whitefish creek, about five miles south of Wahnapitae station.

WEST MOUNTAIN ROAD.

This road is from lot number one, concession twelve, Brougham, westward. The repairs were over the first two and a half miles, a good waggon road being the result.

WIDDIFIELD 1 AND 2 CON. ROAD.

Two miles constructed across lots ten to fourteen.

WILBERFORCE 12 AND 13 SIDE LINE ROAD.

On this line a bridge was built across the outlet of Green's lake, with main span of twenty-six feet, and a total length, including approaches, of three hundred and twenty feet. There was also about half a mile of work done on the twenty-second concession line from between lots twelve and thirteen westward, upon three heavy hills, the gradients of which were materially reduced, and an impassable section made into a good waggon road.

WISAWASA ROAD.

Somewhat less than a mile of the road of last year was repaired, and a mile and a half of new road made, the work being heavy construction.

SUMMARY OF EXPENDITURE ON COLONIZATION ROADS AND BRIDGES IN THE YEAR 1893.

Name.	Departmental expenditure.			Municipal and other grants and refunds.
	Cash.	Supplies.	Total.	
North Division.	§ c.	§ c.	§ c.	§ c.
Algoma Mills Bridge			300 00	
Amsonia "			758 78	
Barwick and Dobie..... Road			750 00	
Basswood Lake "			500 14	
Batch-waning..... "			750 29	
Bridge repairs, West Algoma.....			2,323 72	
Chelmstord Road			450 00	
Coflin..... "			1,261 47	
Coyne and Kirkwood..... "			526 60	
Crozier and Lash..... "			1,800 00	
Day Mills and Dayton..... "			300 04	
Gasses Creek..... Bridge			773 20	
Grand Portage..... Road			510 86	
Grassy River (balance)..... "			20 00	
Great Northern (balance)..... "			50 45	
Haughton..... "			492 72	
Honora Bay..... "			754 28	
Inspection (balance).....	116 00			
Inspection.....	2,204 45		2,320 45	
Larchwood Road			1,493 72	
Larchwood Bridge	1,600 99	210 25	1,811 24	
Murillo Road			322 05	
Oliver Township Roads			675 39	
Onimet and Black Bay..... Road			421 91	
Paipouge Bridge			500 00	
Patton Road			503 25	
Pigeon River..... "			1,513 10	
Pine River..... "			470 00	
Rabbit Mountain and Whitefish Lake..... "			662 73	
Rainy River (balance of 1892)..... "	21 92			
..... "	1,287 00		1,308 92	
Rat Portage..... "			950 00	
Slate River Valley..... "			752 80	
Spanish River..... "	801 84	252 40	1,054 24	
Sudbury and Whitefish..... "	481 75	20 25	502 00	
Two Tree Creek Bridge			249 63	
"V" Line Road			300 00	
Webbwood..... "	528 00	226 42	754 42	
White River..... Bridge	2,689 52	262 57	2,892 09	
Woodyatt..... Road			1,000 00	
Less Dominion Grant for Goulais River Bridge of 1892.....	2,266 41		32,720 49	
Refund - Grassy River Road.....	69 08		2,335 49	
Net Departmental expenditure.....			30,385 00	
West Division.				
Baysville (balance)..... Bridge			11 00	
Baysville and Huntsville..... Road			300 00	
Bear Lake (balance)..... "	45 88			
"..... "	962 10		947 98	
Bethune 5th side line..... "			512 34	
Boyne River..... Bridge			75 00	
Bracebridge..... "			2,000 00	
Brennan's..... "			300 70	
Burk's Falls..... Road			351 06	
Cardwell..... "			430 00	
Carling..... "			399 45	
Chaffey 30th S. L..... Bridge			46 75	

SUMMARY OF EXPENDITURE, Etc.—Continued.

Name.	Departmental expenditure.			Municipal and other grants and
	Cash.	Supplies.	Total	
	\$ c.	\$ c.	\$ c.	\$ c.
West Division.—Continued.				
Chapman and Strong T. L. Road			617 39	
Chisholm (balance) "			3 08	
Commanda Lake "			992 80	
Denville Swamp "			518 30	
Distress River "			250 45	
Doe Lake "			499 66	
Draper and Ryde "			601 92	
Eagle Lake (balance) Bridge		30 39	30 39	
" Road			97 57	
East Armour "			191 57	
East River Bridge	830 00	41 08	871 08	
German (balance) Road			67 99	
Gurd and Himsworth "			500 00	
Himsworth, 15th and 16th S. L. "			324 55	
Indian Peninsula (including balance) Roads			2,466 44	
Inspection "			1,425 20	
Junction No. 1 Road			350 00	
Kearney No. 1 "			497 13	
Kelly's Swamp "			144 50	
Koshee Bridge			300 00	
Lake Joseph Road			219 42	
Lake Shore and Danes "			513 69	
Machar 12th and 13th Concession "			998 00	
McDougall and Foley "			397 60	
McMurrich Roads			248 98	
Maganetawan, No. 1 Bridge	326 50	53 50	380 00	100 00
" No. 2 "			200 00	
" Road			576 52	
Muskoka "			500 05	
Muskoka and Bobcaygeon "			1,615 46	
Neighic Lake Bridge			711 57	
Nipissing Road			495 86	
North Cardwell "			501 99	
Northern "			2,388 50	
Northern Road Bridges			223 04	
Oakley (balance) "			8 59	
Perry 5th and 6th S. L. Road			150 00	
" 8th Concession "			199 97	
" and Chaffey "			256 41	
Pickrel River Bridge			100 00	
Portage Road			306 00	
Poverty Bay "			102 91	
Pringle (balance) "			12 25	
Rainy Lake "			750 69	
Rosseau and Nipissing "			750 20	
Ryde Centre "			302 71	
Ryerson Junction "			205 12	
Simpson (balance) "			43 23	
Sinclair "			700 00	
South River (balance) Bridge			44 79	
" "			388 43	
Stephenson Township Roads			710 21	
Strong 12th Concession Road			451 88	150 00
" and Machar "			575 33	
Westphalia "			1,001 96	
			33,155 66	
East Division.				
Abinger and Miller, T. L. Road			500 00	
Addington "			884 70	
Alice 20th and 21st S. L. "			690 00	
Alice 8th and 9th Concession "			401 03	
Anstruther "			411 62	

SUMMARY OF EXPENDITURE, ETC.—Continued.

Name of Work.	Departmental expenditure.			Municipal and other grants and refunds.
	Cash.	Supplies.	Total.	
East Division—Continued.	\$ c.	\$ c.	\$ c.	\$ c.
Barrie	Road		388 81	
Barry Bay	"		402 02	
Bonfield 4th and 5th Concession (balance)	"		20 38	
Bonfield 25th and 26th S. L.	"		600 00	
Booth	"		401 62	
Bromley 24th and 25th S. L.	"		209 55	
Bromley and Stafford T. L.	"		402 90	
Buckhorn	"		1,216 43	150 00
Buck Lake	Bridge		200 00	
Burleigh	Road		797 81	
Burnt Mill	Bridge		211 97	100 00
Caldwell	Road		220 00	
Callender and North Bay (balance)	"		4 25	
Calvin and Papineau T. L.	"		282 43	
Cavendish	"		625 09	
Chandos	"		406 73	
Clare River (including balance)	Bridge		251 56	
Clarendon Branch	Road		404 89	
Cobden and Eganville	"		140 00	
Cruse	"		409 33	
Dalton 25th and 26th S. L.	"		239 92	
Dalton and Rama T. L.	"		400 20	
Devil Lake (balance)	"		26 40	
District Line	"		150 00	
Ferris	"		1,200 64	
Flinton	"		497 10	
Galway 4th and 5th Concession	"		500 00	
Galway and Cavendish	"		950 69	
Gannon's Narrows	"		211 86	150 00
Golden Lake	"		500 89	
Gooderham	Bridge		212 00	
Grattan	Road		384 05	
Grattan and South Algona (balance)	"		24 77	
Gullies	"		209 31	
Hagarty 5th and 6th Concession (balance)	"		60 54	
Hazarty 5th and 6th S. L.	"		803 61	
Harvey	"		200 00	
Hastings	"		1,002 78	
Hyde Chute and Sansons	"		669 84	
Inspection	"		2,982 92	
Lavant Branch	Road		605 60	
Loborough Lake (balance)	Bridge		115 77	
Lutterworth	Road		200 00	
McKim and Neelon	"		380 00	
Manion Lake	"		250 00	
Mattawa and Callender	"		606 22	
Mattawa 12th and 13th Concession and Ottawa River	"		703 88	
Methuen (balance)	"	38 49		
"	"	526 95	565 44	
Mississippi Branch	Bridge		430 65	
Mississippi and Hastings Junction Road	"		367 89	
Monteagle	Road		500 00	
Mud Lake (balance)	"		29 30	
Murchison	Bridge		633 59	
Nogies Creek	Road		294 16	
North Algona, 5th and 6th S. L.	"		505 00	
North Bay and Widdifield	"		500 68	
North Bay and Temscamingue	"		301 49	
North Harvey	"		684 22	
North Methuen	"		399 31	
Nosbonsing	"		991 17	
Nosbonsing and Thorncliffe	"		735 72	
Opeongo	"		645 00	

SUMMARY OF EXPENDITURE, Etc.—*Concluded.*

Name of Work.	Departmental expenditure.			Municipal and other grants and refunds.
	Cash.	Supplies.	Total.	
	§ c.	§ c.	§ c.	§ c.
<i>East Division—Continued.</i>				
Oso and Olden	Road		299 85	
Palmer Rapids and Rockingham	"		465 42	
Papineau 10th and 11th Concession	"		495 29	
Pembroke and Mattawa	"		600 00	
Perrault Settlement	"		465 09	
Peterson Branch (balance)	"		100 00	
Petewawa 6th and 7th Concession	"		465 90	
Powassan and Callender	"		1,002 27	
Radeliffe and Brudenell	"		501 95	
Rayside	"		245 63	
Reid	"		211 00	150 00
Rideau Lake	"		493 42	500 00
Rolph	"		615 25	
Round Lake	"		218 38	150 00
Ruttan	"		160 00	
Ryde	"		224 88	
Sandy Point	"		301 52	
Scott	"		314 64	
Shield's Pit	"		499 80	
Silver Lake	"		502 60	
South Algona 30th and 31st S. L.	"		495 98	
South Buckhorn and South Burleigh ..	"		167 76	150 00
South Caldwell	"		513 11	
Stone Dam	"		200 00	
Sturgeon River	"		504 96	
Sudbury Road	"		501 48	
Sudbury and Blezard	"		600 00	
Sudbury and Neelon	"		1,000 76	
Swamp	"		570 00	300 00
Trafford and Tamworth	"		416 00	
Veuve River (balance)	Bridge	137 06	48 79	185 85
Wahnapiatae	Road		1,711 36	
West Mountain	"		400 80	
Wildfield 1st and 2nd Concession	"		301 68	
Wilberforce 12th and 13th S. L.	"		499 25	
Wisawasa	"		500 00	
			48,631 12	
Less refund Sudbury and Neelon Road of 1892 ..			5 48	
			48,625 64	

RECAPITULATION.

	Total departmental expenditure.
	§ c.
I. North Division	30,385 00
II. West	33,155 66
III. East	48,625 64
Total Departmental Expenditure	112,166 30

DOMINION AND MUNICIPAL GRANTS AND REFUNDS REFERRED
TO IN SUMMARY.

Dominion	\$2,266 41
County of Peterborough	575 00
Municipality of Cavendish	50 00
" Ennismore	50 00
" Belmont	50 00
" Harvey	50 00
" Bedford	500 00
" Smith	75 00
" Strong	150 00
" Portland	300 00
" Perry	100 00
Sudbury and Neelon Road of 1892	5 48
Grassy River	69 08
	\$4,240 97

HENRY SMITH,
Superintendent.

DEPARTMENT OF CROWN LANDS,
TORONTO, 30th December, 1893.

APPENDIX No. 34.

List of Persons to whom Culler's Licenses have been issued under the Ontario Culler's Act up to 31st December, 1893.

Name.	P. O. Address.	Name.	P. O. Address.
Anderson, M. M.	Almonte.	Blair, Robert J.	Arnprior.
Allan, James D.	Bracebridge.	Benson, John W.	Sturgeon Bay.
Appleton, Erwin B.	Bracebridge.	Beck, Charles M. jr.	Pen-tanguishene.
Albert, Andrew	Ottawa.	Beatty, W. J.	Coldwater.
Adams, J. Q.	Longford Mills.	Burns, C. W. jr.	South River.
Anderson, Patrick J.	Campbellford.	Bell, John Henry	Burk's Falls.
Anderson, J. C.	Gravenhurst.	Bettes, John Hiram	Muskoka Mills.
Allan, Alfred	Ottawa.	Brady, John	Renfrew.
Aikins, Geo. M.	French River.	Beattie, W. J.	Arnprior.
Appleby, Ridley.	Katrine	Bromley, William	Westmeath.
Adams, James M.	Sault Ste. Marie.	Bissell, Hartie	Trenton.
Aylward, James	Peterborough.		
Archibald, John L.	Keewatin.	Callaghan, Dennis	Trenton.
Austin, Wm. G.	Renfrew.	Campbell, Alexander, J.	Trenton.
Anderson, Charles	Little Current.	Carson, James	Bracebridge.
Anderson, John	Cartier.	Campbell, J. M.	Bracebridge.
Adair, Thomas Albert	Gananoque.	Campbell, Robert	Bracebridge.
Anderson, J. G.	Alpena, Mich.	Clairmont, Joseph	Campbellford.
Alexander, Samuel	Ardern.	Clarkson, Robert J.	Parry Sound.
		Carruthers, Aaron	Hintonburg.
Boland, Abraham	Cartier.	Calder, Wm. J.	Bark Lake.
Brown, Singleton	Bracebridge.	Chew, Joseph	Gravenhurst.
Barry, Thomas James	Hastings.	Cole, James Colin	Ottawa.
Blanchet, Paul Frederick	Ottawa.	Cameron, William	Collins' Inlet.
Bird, W. S.	Parry Sound.	Cain, Robert	Midland.
Bayley, James T.	Gravenhurst.	Crawford, Stephen W.	Thessalon.
Bell, Henry	Ottawa.	Cochrane, George	Peterborough.
Beach, Herbert Mahlon	Ottawa.	Coburn, John	Lindsay.
Barry, Thomas	Millbridge.	Crowe, Nathaniel	Bobcaygeon.
Beaty, W. R.	Parry Sound.	Cameron, Alexander	Norman
Brooks, Frederick William	Mackey's Station.	Chrysler, Frank R. L.	Webbwood.
Brown, Robert D.	Port Sydney.	Carson, Hugh	Rat Portage.
Breed, Arthur G.	Penetanguishene.	Carson, Melvin	Little Current.
Barnes, Thomas George Lee	Muskoka Mills.	Cameron, John K.	Spanish River.
Buchanan, Robert	Coldwater.	Cas-idy, William	Little Current.
Beck, Jacob Frederick	Penetanguishene.	Campbell, Archibald J.	Little Current.
Bird, Joseph Manly	Muskoka Mills.	Close, John L.	Arnprior.
Boyd, John F.	Thessalon.	Campbell, James R.	Eganville.
Brandon, Martin W.	Peterborough.	Campbell, John A.	Galetta.
Bell, John C.	Peterborough.	Caillier, Hyacinthe	Arnprior.
Bartlett, George W.	Warren.	Chamberlain, Thomas	Bobcaygeon.
Brown, Silas	Klock's Mills.	Cooper, David Allan	Millbrook.
Boland, W. G.	Eganville.	Cox, Henry	Bellerica, Que.
Baulke, George R.	Aylmer, Que.	Currie, James	Ottawa.
Bromley, Thomas	Pembroke.	Clarkson, A. E.	Midland.
Bremner, John L.	Admaston.	Clairmont, E.	Gravenhurst.
Bromley, W. H.	Pembroke.	Cameron, W. F.	Sturgeon Bay.
Bowers, Isaac	Little Current.	Connelly, Daniel	Gravenhurst.
Brown, Thomas	Barrie	Campbell, P. C.	Sault Ste. Marie.
Bass, Walter R.	West Huntingdon.	Cadenhead, Alexander	Midland.
Bates, Robert.	Rat Portage.	Carpenter, R. J.	Arnprior.
Bick, Thomas	Bobcaygeon.	Christie, William Pringle	Savern Bridge.
Bray, James	Kimmount.	Campbell, C. V.	Sault Ste. Marie.
Bissell, George Thomas	Trenton.	Clegg, Samuel	Peterborough
Baxter, Richard	Deseronto.		
Breagh, Edward	Deseronto.	Durrill, John W.	Ottawa.
Boyd, George A.	Thessalon.	Dickson, John	Sundridge.
Buchan, Frederick	Arnprior.	Danter, R. W.	Parry Sound.
Barrett, Patrick	Arnprior.	Doyle, T. J.	Eau Claire.
Brundage, Alfred W.	Pembroke.	Dobie, Alexander R.	Blind River.
Brougham, Thomas	Eganville.	Donally, Richard S.	Sudbury.

APPENDIX No. 34.—Continued.

Name.	P. O. Address.	Name.	P. O. Address.
Devine, William	Cook's Mills.	Golding, William	Dorset.
Durrill, William	Nosbonsing.	Gillies, Harry	White Lake.
Draper, Patrick	Quyon, Que.	Gordon, Herbert C	Nelsonville.
Davis, J. P.	Bobcaygeon.		
Drum, Patrick	Belleville.	Harrett, James	Gilmour.
Durham, Edgar S	Rosseau.	Hayes, James	Enterprise
Duquette, Charles	Webbwood.	Huckson, A. H	French River
Davis, William Albert	Bobcaygeon.	Howe, Alexander	Queensborough.
Dickson, Robert Alexander	Keene.	Hurd, Edwin	Hurdville.
Dawkins, John	Gravenhurst.	Hoff, J. S. Morris	Arnprior.
Doxsee, James E.	Gravenhurst.	Hutton, John	Hutton House.
		Hutchinson, Wm. E.	Huntsville.
Ebert, Andrew P	Pembroke.	Hogarth, Joseph Rowan	Pembroke.
Ellis, Alexander	Arnprior.	Humphrey, John	Gravenhurst.
Ellis, John	Westmeath.	Hill, Joshua	Midland.
		Hall, David	Lovering.
Forbes, Christopher McKay	McLean's Depot.	Hartley, Charles	Peterborough.
Fitzgerald, E. Clair	Parry Sound.	Helferty, Dennis	Eganville.
Farrell, W. H.	Innside, Que.	Hamilton, Robert	Rat Portage.
French, Louis Wm	Byng Inlet.	Hoppins, Abiram	Kingston.
Freeston, Walter	Burk's Falls.	Hoppins, Denmore	Kingston.
Fraser, Wm. A	Mattawa.	Haystead, John	Parry Sound.
Fortune, Owen	Trenton.	Henderson, John Irwin	Bobcaygeon.
Fraser, David	Norman.	Hartley, William	Millbridge.
France, John	Collins' Inlet.	Higgins, John C.	Peterborough.
Ford, Charles	Wahnapiatae.	Humphrey, T. W	Gravenhurst.
Fraser, Alexander, jr	Westmeath.	Harrison, John, jr	Pembroke.
Fairbairn, William	Calabogie.	Hawkins, E.	Le Breton Flats.
Fraser, Wm. A	Pembroke.	Henderson, Charles	Bracebridge.
Fraser, Foster	Pembroke.	Halliday, Frank	Mississippi.
Fraser, William	Little Current.	Halliday, James	Springtown.
Fraser, Hugh Alexander	Pembroke.	Hurdman, J. A	Ottawa
Flaherty, John	Lindsay.	Hawkins, Stonewall J	Meldrum Bay.
Fisher, William	Trenton.	Hinchliffe, William	Gunter.
Fox, Thomas	Deseronto.	Hillis, James M.	Sutton West.
Fallis, James W	Sturgeon Bay.		
Fairbairn, N. H.	Webbwood.	Irwin, Thomas H	Parry Sound.
Freil, John	Trenton.		
Fox, Charles	Trenton.	Jackson, Robert.	Brechin.
		Johnson, Finlay	Bracebridge.
Green, Norman A	Gilmour.	Jones, Albert	Victoria Harbor.
Green, Samuel E.	Parry Sound.	Johnson, Thomas	Bobcaygeon.
Grant, John	Flinton.	Johnston, Archibald M	Norman.
Greene, Arthur	Ottawa.	Julien, Charles	Trenton.
George, R. W.	Parry Sound.	Junkin, Henry	Marmora.
Gardiner, John	Parry Sound.	Johns, Frank	Nipissing Junction.
Golden, Frank Jay	Trenton.	Jessup, Edward D.	Cache Bay.
Garson, Robert	Thessalon.*	Johnson, Frank N.	Ottawa.
Gropp, August	Penetanguishene.	Johnston, John	Peninsula Lake.
Grozelle, Antoine D	Muskoka Mills.	Johnson, S. M.	Arnprior.
Goulais, James	Peterborough.	Jones, Frederick James	Flinton.
Grayson, Charles	Keewatin.		
Gladstone, Henry E.	Cook's Mills.	Kerby, John	Belleville.
Graham, Edward G	Wahnapiatae.	Kennedy, Robert	Marmora.
Griffin, James.	Spanish River.	Kirby, Louis Russell	Ottawa.
Gordon, Alexander B	Pembroke.	Kenney, Timothy	Enterprise.
Gareau, Noah J.	Pembroke.	Kirk, Henry	Trenton.
Gordon, Robert W	Pembroke.	Knox, Milton	Ottawa.
Gurtin, Nelson	Petawawa.	Kinsella, Michael Pierce.	Trenton.
Gunter, Peter M	Gilmour.	Kitchen, D.	French River.
Glennie, William	Millbridge.	Kelly, Jeremiah	Sudbury.
Gardner, John	Rat Portage.	Kelly, Ferdinand	Mattawa.
Gorman, Maurice J	Fenelon Falls.	King, Napoleon	Mattawa.
Gillies, John A.	Braeside.	Kean, B. F	Orillia.
Gadway, John	Parry Sound.	Kemp, Orval Wesley	Trenton.
Garrow, Edward	Nipissing Junction.	Kirk, Charles Barron	Queensborough.
Gaudaur, Antoine Daniel	Orillia.	Kingsland, W. P.	Ottawa.

APPENDIX No. 34.—Continued.

Name.	P. O. Address.	Name.	P. O. Address.
Kerr, John B	Arnprior.	Munro, Philip	Braeside.
Kennedy, Walter	Arnprior.	Mangan, Patrick	Arnprior.
Kennedy, John	Pembroke.	Marcel, Peter	Ottawa.
Knox, William M	Fesserton.	Math, Samuel	Spanish Station.
Kearney, Michael John	Buckingham, Que.	Morley, Charles	Huntsville.
Lloyd, Alfred	Severn Bridge.	Moore, David Henry	Peterborough.
Lawrie, Frank A	Parry Sound.	Murphy, John	Arnprior.
Latimer, James	Frank's Bay.	McPherson, James S	Rama.
Lemyre, Middey	Campbellford.	McKinley, Edward C	Toronto.
Lutz, Jacob	Parry Sound.	McClelland, John	Parry Sound.
Luby, John E	Ottawa.	McFarlane, J. W	Ceche Bay.
Lochnan, James	Ottawa.	McDonald, Roderick	Pembroke.
Lozo, John	Trenton.	McCormack, William	Pembroke.
Loughrin, Lawrence	Pembroke.	Macpherson, John	Ottawa.
Linton, J. H.	Parry Sound.	McEachern, John A	West Gravenhurst.
Ludgate, James	Peterborough.	McLeod, Dugald	Gravenhurst.
Lynch, W. H.	Collingwood.	McClelland, R. H.	Parry Sound.
Lee, Robert	Huntsville.	McEvoy, Frank	Campbellford.
Longford, Mark	Baysville.	McDermott, Peter	Orillia.
Letherby, Edwin	Midland.	McFroy, John	Madoc.
Loving, William James	Coldwater.	McNabb, Robert J	Parry Sound.
Lane, Maurice	Bobcaygeon.	McFadden, James	Ottawa.
Lenton, George	Peterborough.	McIntosh, James G	Carleton Place.
Low, Thomas A	Renfrew.	McInnis, Hector D	Bracebridge.
Livingstone, Robert M	Huntsville.	McKinnon, Malcolm	Bracebridge.
Londry, William E	Sault Ste. Marie.	McLean, Daniel	Bracebridge.
Labelle, James	Waltham, Que.	McKinnon, Archie J	Bracebridge.
Labelle, Eli	Waltham, Que.	McKay, D. C	Baysville.
Ladurante, J. D.	Ottawa.	McDonald, James	Parry Sound.
Ludgate, Theodore	Peterborough.	McPherson, Allan	Longford.
Lucas, Frank	Sault Ste. Marie.	McDonald, James P	French River.
Lunam, Duncan	Collfield, Que.	McFarland, Joseph C	Port Severn.
Lott, George	Trenton.	McNabb, Alexander	Thessalon.
Lawrie, John D	Parry Sound	McGillivray, Archibald	Port Arthur.
Malloy, Mark	Baysville.	McGrane, Edward	Lindsay.
Miller, R. O.	Gravenhurst.	McLeod, Donald, jr	Keewatin.
Menzies, Archibald	Burk's Falls.	McDonald, Hector R	Thessalon.
Manning, James	Trenton.	McDongall, Duncan	Bracebridge.
Martin, Phillip	Stoco.	McNabb, Alexander D	Warren.
Malone, William Patrick	Ottawa.	McCormack, John C	Sudbury.
Marsh, Esli Terrill	Trenton.	McNamara, John	Byng Inlet.
Millar, John W	Huntsville.	McGillivray, Duncan D	Algoma Mills.
Mutchenbacher, Asa	Rosseau Falls.	McIntyre, Daniel A	Klock's Mills.
Morris, George F	Frank's Bay.	McNamara, Lewis	Klock's Mills.
Murray, George, jr	Waubanshene.	McDonald, Sidney G	Mattawa.
Maughan, Joseph	Fort William.	McCool, Christopher L	Cartier.
Margach, William J	Port Arthur.	McCallum, Donald	Arnprior.
Murray, George, sr	Waubanshene.	McGregor, Duncan	Burnstown.
Manicce, William	Peterborough.	McLean, Peter W	Sand Point.
Murray, William	Rat Portage.	McManus, John C	Arnprior.
Morgan, Richard J	Rat Portage.	McNab, Alexander	Arnprior.
Magee, Thomas Arthur	Rat Portage.	McFarlane, Alexander	Renfrew.
Murdoch, James	Cook's Mills	McFarlane, J. D.	Stewartville.
Munroe, Peter P	Commanda.	McFarlane, Duncan	Renfrew.
Mason, Benjamin	Westmeath.	McKendry, Wm. E	Arnprior.
Monaghan, John B	Arnprior.	McPhee, Hugh	Renfrew.
Monaghan, M. J	Arnprior.	McPhee, John	Arnprior.
Mulvihill, John	Arnprior.	McLachlin, Peter	Arnprior.
Moran, Andrew	Rockingham.	McLachlin, Alexander	Arnprior.
Mulvihill, Michael	Arnprior.	Mackey, Edward	Arnprior.
Mann, John	Manitowaning.	McKewen, Henry	Trenton.
Marrigan, Richard	Deseronto.	McDonald, Alfred	Peterborough.
Monaghan, John Dorland	Deseronto.	McTeary, John J	Sundridge.
Matheson, William	Cheln.sford.	McDonald, Archibald W	Gilmour.
Munro, Alexander G	Braeside.	McCaw, John Gillen	Queensborough.

APPENDIX No. 34.—Continued.

Name.	P. O. Address.	Name.	P. O. Address.
McCauley, Barney	Trenton.	Riddell, James	Ottawa.
McDougall, James T	Klock's Mills.	Rice, Asa A	Hull, Que.
McInenly, Thomas	Quebec, Que.	Roberts, T. A.	Huntsville.
McBride, Archibald	Arnprior.	Ross, Andrew	Longford Mill.
McFarlane, Robert L	Arnprior.	Rose, Donald M.	Rat Portage.
McGown, Wm	Parry Sound.	Rawson, Charles Edgar	Coldwater.
McGown, Thomas	Parry Sound.	Ross, George	Waubauskene.
McDermet, Patrick	South River.	Roberts, Percy T.	Keewatin.
McKay, Angus	South River.	Ritchie, William D.	Little Current.
McDonald, A. J.	Longford.	Ramsay, Robert	Arnprior.
McInnes, Angus D	Gravenhurst.	Ritchie, J. F.	Arnprior.
McKendry, Alexander	Waubauskene.	Ritter, Samuel G.	Ah Mic Harbor.
McGuire, Timothy	North Bay.	Robinson, William	Bobcaygeon.
McGrath, John	Peterborough.	Reid, Joseph B.	Lindsay.
McWilliams, John Bannan	Peterborough.	Ross, Walker M.	Ottawa.
McCagherty, Patrick	Westneath.	Ruttle, H. A.	Carleton Place.
McKendry, Daniel	Arnprior.	Richards, Benedict	Ottawa.
Macdonald, D. F.	Parry Sound.	Regan, John	Orillia.
McManus, Thomas J	Renfrew.	Russel, William	Pembroke.
Macfarlane, David R	Ottawa.		
McColgan, Edward	Quyon, Que.	Scanlin, William	Enterprise.
McMichael, Charles	North Seguin.	Sutherland, D. H.	Gravenhurst.
McHroy, Thomas Davis	Madoc.	Spanner, John	Huntsville.
McDonald, Wm. Henry	Trenton.	Shier, James D	Bracebridge.
		Spooner, W. R	Katrine.
Newton, Frank	Gravenhurst.	Simpson, Alfred E.	Wakefield.
Newburn, William	Parry Sound.	Souliere, John B.	Ottawa.
Niblett, James	Arnprior.	Shiels, James A	Carleton Place.
Niblett, Robert	Osceola.	Spargo, George	Ottawa.
Newell, John H	Parry Harbor.	Smyth, W. H	Byng Inlet North.
		Salmon, R. H	Baysville.
Overend, George J.	Longford Mills.	Sheehan, Peter F	Loring.
O'Brien, Andrew	Ottawa.	Stremer, A	Ottawa.
O'Connor, John	Hintonburg.	Shields, Frank A	Parry Sound.
Oliver, Darcy	Wahnapiatae.	Smyth, Job E	Cache Bay.
O'Connor, William	Nosbonsing.	Sage, Nelson	Muskoka Mills.
O'Neill, James W	North Bay.	Shaw, Thomas B	Waubauskene.
O'Donnell, William	Penetanguishene.	Swanston, James	Peterborough.
Owens, Richard	Basin Depot.	Simpson, William	Hall's Bridge.
O'Reilly, Patrick	Cartier.	Sadler, Thomas	Lindsay.
O'Neill, Mark	Renfrew.	Smith, Patrick Albert	Norman.
Orill, John	Trenton.	Snaith, William J	Mattawa.
		Sinn, Wm. F	Arnprior.
Pomery, Peter	Trenton.	Scrim, Robert	Arnprior.
Perry, Pringle K.	Byng Inlet North.	Salmon, Alexander C	Baysville.
Pucell, William G	Ottawa.	Sharp, James A	Sudbury.
Purvis, John	Parry Sound.	Shanacy, Harry S	Cook's Mills.
Pattinson, Thomas	Bracebridge.	Smith, William	Ottawa.
Porter, James	Uphill.	Stewart, Daniel	Braeside.
Pearson, John James	Lindsay.	Sheehan, Michael H	Waubauskene.
Paterson, John	Wahnapiatae.	Scott, Thomas	Parry Sound.
Paterson, Alexander	Orillia.	Smith, Lawrence	West Saginaw, Mich.
Paquette, Oliver	Webbwood	Shea, Stewart	Campbellford.
Paumateer, Sherman	Gravenhurst.	Sullivan, John	Sudbury.
Paget, George	Huntsville.	Sinclair, Finlay	Sudbury.
Pounder, Joseph	Westneath.	Shiels, Henry F	Cartier.
		Smith, Gideon Ousley	Burk's Falls.
Richardson, Frederick George	Trenton.	Smith, John Wallis	Thefdford.
Richards, Richard	Tamworth.	Smith, Henry G	Arnprior.
Riddell, George Alexander	Rochesterville.	Story, John A	Ottawa.
Richey, Evan	Prentwood.		
Randell, Louis G.	French River.	Tait, Thomas B	Burk's Falls.
Richardson, Charles Mervyn	Trenton.	Taylor, C. W	Gravenhurst.
Rochester, Daniel Baillie	Ottawa.	Thornton, W. D	Longford Mills.

APPENDIX No. 34.—*Concluded.*

Name.	P. C. Address.	Name.	P. O. Address.
Trussler, Gilbert	Trout Creek.	Waldie, John E.	Victoria Harbor.
Thompson, George S.	Lindsay.	Wigg, Thomas G.	Thessalon.
Thomson, Frederick A. H.	Callander.	Wall, Patrick B.	Cheboygan, Mich.
Thomson, Francis Henry.	Nosbonsing.	Wells, John R.	Little Current.
Tuffy, John	Cartier.	Whiteside, John	Huntsville.
Train, A. C.	Rowan Mills.	Watt, William.	Peterborough.
Turgeon, George	Cook's Mills.	Wilson, George	Lindsay.
Thomson, Alexander W.	Arnprior.	White, Thomas	Ferry Sound.
Taylor, Thomas G.	Gravenhurst.	Watson, William	North Bay.
Tait, Ralph	Arnprior.	Weston, Frank R.	Midland.
Train, William	Burk's Falls.	White, James B.	Manitowaning.
Udy, Dean	French River.	Wilson, James A., jr.	Webbwood.
Vigrass, Percy J.	Dufferin Bridge.	Whaley, Thomas	Huntsville.
Vincent, Joseph	Warren.	Webster, William Alfred	Bracebridge.
Vollin, Samuel	Nosbonsing.	Warrell, William	Trout Creek.
Vannier, Nelson Joseph	Bobcaygeon.	Wins, Peter	Blessington.
Watson, William	Huntsville.	Wickware, Philip Almont.	Cloyne.
Webb, George W.	Ferry Sound.	Wilson, Edward	Deseronto.
Wilcox, Thomas	Ferry Sound.	Young, William	Severn Bridge.
Wheeler, J. A. McL.	Tamworth.	Young, A. J.	Cache Bay.
Ward, Joseph W.	Ottawa.	Young, Samuel	Coldwater.
Wilkinson, William.	French River.	Young, Patrick P.	Young's Point.
		Yuill, Thomas	Arnprior.
		Yuill, A. D.	Braceville.
		Total	544

AUBREY WHITE,
Assistant Commissioner.

DEPARTMENT OF CROWN LANDS.
TORONTO, December 30th, 1893.

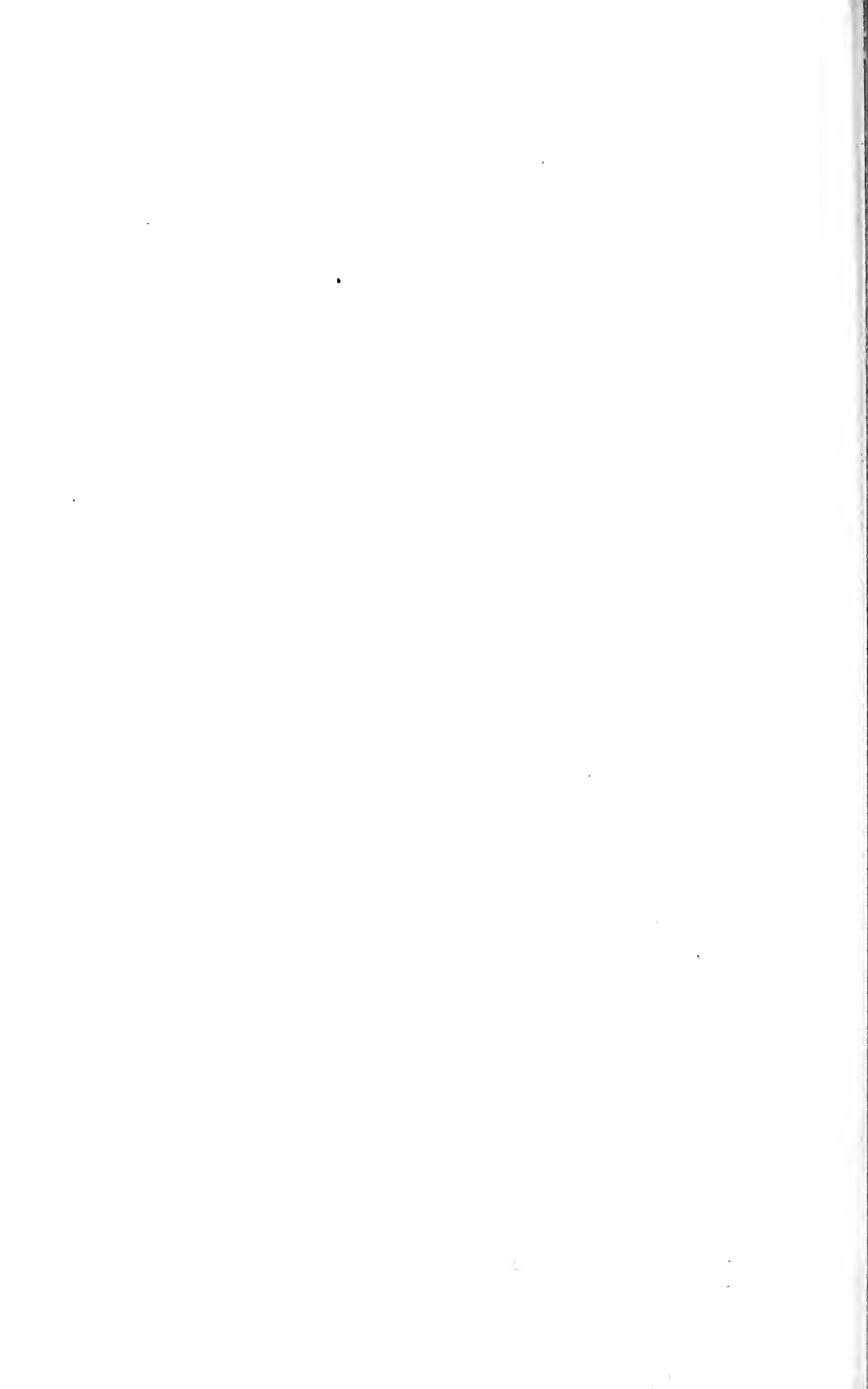


REPORT
OF THE
DEPARTMENT OF IMMIGRATION
FOR THE
PROVINCE OF ONTARIO
FOR THE YEAR
1893.

PRINTED BY ORDER OF THE LEGISLATIVE ASSEMBLY.



TORONTO:
PRINTED BY WARWICK BROS. & RUTTER, 68 AND 70 FRONT STREET WEST.
1894.

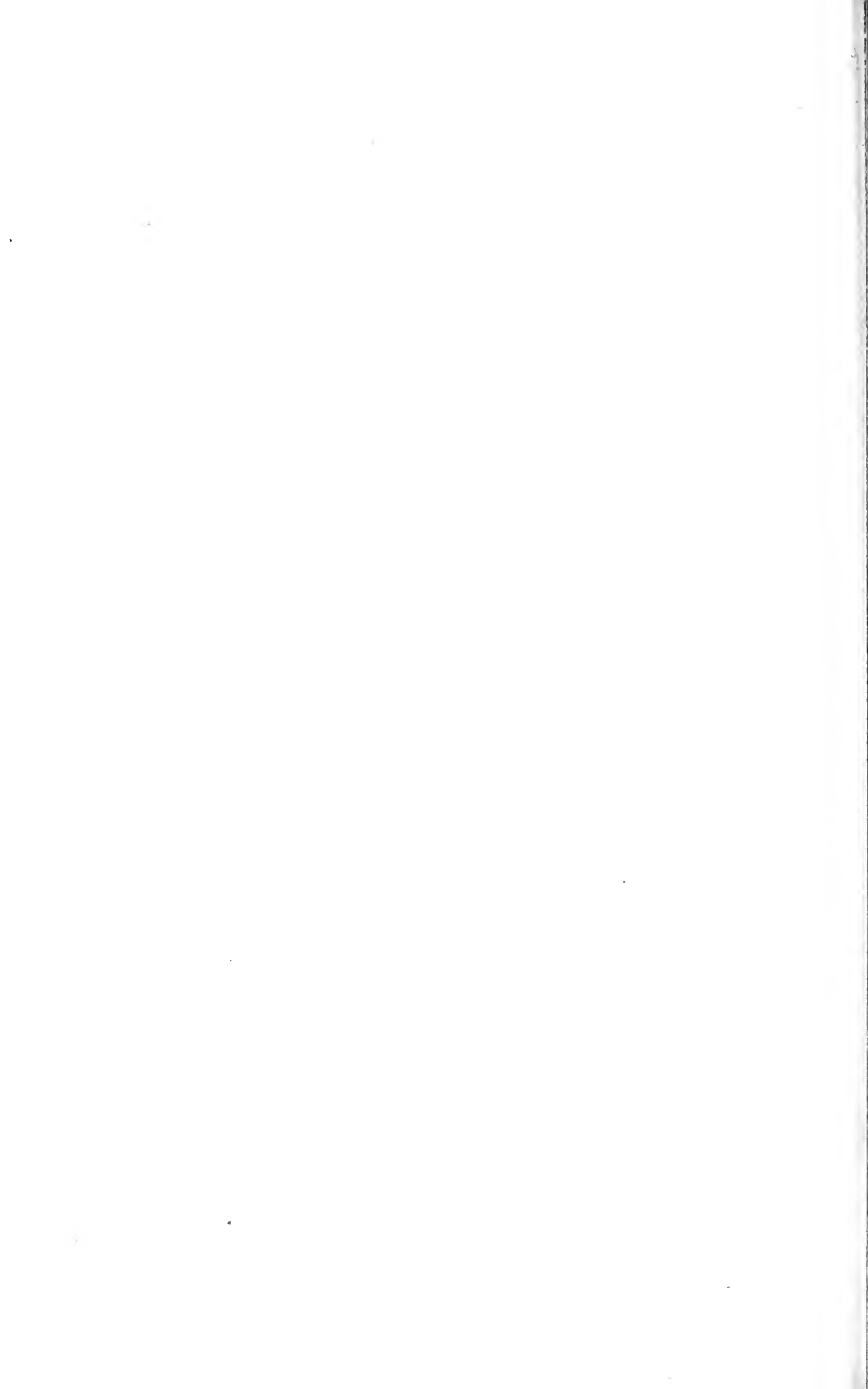


To His Honour the Lieutenant-Governor of Ontario :

The undersigned has the honour to present to Your Honour the Annual Report of the Department of Immigration for the year ending December 31st, 1893.

Respectfully submitted,

JOHN DRYDEN,
Commissioner of Immigration.



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REPORT
OF THE
IMMIGRATION DEPARTMENT

FOR THE YEAR ENDING 31ST DECEMBER,

1893.

*To the Honourable JOHN DRYDEN, M.P.P.,
Commissioner of Immigration.*

SIR,—I have the honour to submit the following report on the operations of the Immigration Department for the twelve months ending 31st December 1893.

As compared with 1892 there was a decrease of 1,200, and with 1891, of 3,764, in the number of immigrants reported as having settled in this Province during 1893, the total number being 6,571. The general causes which have led to this apparent diminution in the number of immigrants settling in the Province can be readily perceived. In addition to the restrictive operation of the stringent quarantine regulations enforced during the year on both sides of the Atlantic to prevent the spread of cholera and other infectious diseases, they may be found in the high rates of ocean passage, the business depression in those countries from which the supply of immigrants is chiefly drawn and the industrial stagnation in the United States, with the low prices for agricultural products prevailing throughout the world. All these circumstances have a discouraging influence on the intending emigrant and have contributed to prevent a greater influx of settlers.

It is to be remarked, however, that the change in the mode of compiling immigration statistics, at the close of the first six months of 1892, rendered necessary by the withdrawal of the Dominion Agencies from this Province, has materially affected results by practically cutting off all record concerning the arrival of European immigrants by way of United States ports, with the single

exception of those who reach Ontario by way of Montreal. The Dominion regulation by which all immigrants (*i.e.* steerage passengers) debark at Quebec, which came into operation in 1893, leaves for the Dominion Agency at the port of Montreal only the record of those who arrive there *via* the United States. Now, when no less than 780 immigrants came to this Province by that route in 1893, it may readily be inferred that by the many other routes leading to Ontario from United States Atlantic ports, a very considerable number of immigrants reached this Province. I have again to acknowledge the courtesy of the Dominion Agents at Halifax, Quebec and Montreal as well as that of the Department of the Interior in supplying me with their returns. In Table A, compiled from these returns, by the month, it will be observed that there is a total of 1,600 whose destination is set down as "not ascertained." These, landing at Quebec, mostly in the summer months, would naturally drift westward, and Ontario has, no doubt, received a fair proportion of them. From these facts, I conclude that the reduction in the number of immigrant settlers for the year is more apparent than real, for while the returns as now prepared are reliable so far as they go, it is very clear that they fail to include all the probable sources of supply, and therefore it may be assumed that the actual difference in the number of settlers between 1893 and the few years immediately preceding, is considerably less than the figures indicate.

In compiling the returns for Table A, it has been impossible to distinguish the nationalities of those remaining in Ontario from the others. But the report from the Dominion Agent at Halifax gives (see table) the nationalities of those remaining in Canada, shewing 4,883 English, 184 Irish and 350 Scotch, or in all 5,417 from the British Isles out of a total of 7,864. In the report of the Dominion Agent at Quebec, the nationalities of those who landed at that port destined for Ontario are given, and out of a total of 4,018, there are English 3,029, Irish 244 and Scotch 334; in all, 3,607, leaving only 411 of all other nationalities, and of these 235 are Scandinavians. It is evident, therefore, that for this Province the United Kingdom is, as formerly, the main source of supply, and that the proportion of English over Irish and Scotch continues to increase as it has done during several years past.

The anxiety which prevailed in the early months of the year regarding a possible outbreak of cholera in the neighbouring States, or of its importation from Europe by through passengers entering our territory at the Niagara frontier either for the purpose of remaining in the Province or of pursuing their journey westward, naturally suggested the propriety of taking some precautions for the protection of the several interests involved. Authority was given the officer resident in the neighbourhood to give special attention to this object, and his services have been made available by the Department in promoting the settlement of immigrants in the Niagara District. His report will be found in Appendix No. 2.

By the reports appended it will be observed that the immigrants destined for Ontario were very generally distributed throughout the Province from the several points of debarkation ; and as a practical illustration of the shortness of the supply in proportion to the demand, it may be mentioned that since the closing of the Dominion Agencies in Ontario, applications have been made to this Department from all sections, east and west. While the general distribution referred to is to some extent a healthful sign of the influence of the immigration of former years in directing the inflow, and determining the intended destinations of the newcomers before they leave their native land, there is reason to believe that want of knowledge of the fact that the local agencies had been closed has had much to do with directing the course of many of the immigrants, and that in future years, when this fact and its consequences have become more generally known among the emigrating classes, those of them who purpose coming to Ontario will, to a greater extent than heretofore, make their way directly to Toronto, where they can at once be put in communication with those requiring their services.

For the reasons therein stated it was pointed out in last year's report that the immigration of 1893 would probably fall short of the requirements of the Province. This was fully realized during the spring and summer months in respect of the demand for agricultural labourers. But in so far as other classes are concerned the difficulties in the way of placing them were more than ordinary. This is especially true of shop clerks, men brought up to special branches of mechanical industries and tradesmen generally. An exception should be made in favour of such of those classes as are young, of good physical stamina and willing to undertake general farm work. During the month of June a number of men answering this description, most of whom described themselves as "warehousemen," were readily engaged by farmers who could not secure experienced hands, and so far as I have heard they gave good satisfaction. But this fact does not justify the encouragement of these classes to come to Ontario, unless they have formed the intention of applying themselves to agriculture. If they intend to follow their own branches of business they should, before emigrating, seek information from those in their own line, as the demand for labour in any branch of mechanical or commercial industry is almost always pretty fully met by the local supply. Of the class for whom there is always in the proper season a steady demand—experienced agricultural labourers—it does not appear that the supply during 1894 will be far in advance of that of 1893. The conditions at present existing are not such as to warrant any positive assurance, but the prospects are not bright for an increase of the class most in demand.

The immigrants arriving during the year were, with few exceptions, of a fairly good class ; but there was a great scarcity of experienced farm hands, and of female domestic servants there were very few, excepting those who came to

friends or had situations provided beforehand. The returns from the several "Homes" in the Province show that the juvenile immigration under philanthropic direction in 1893 numbered 1,722.

It appears to be necessary to again give prominence to the fact that the bringing of these children into the Province and placing them in situations are managed altogether independently of this Department.

Another feature connected with immigration which has been systematically discouraged by this Department, is the paying of bounties to agencies in Great Britain for the placing of "farm pupils," in this Province, some fraudulent transactions in connection therewith having been exposed in England a few months ago. The fact cannot be made too widely known that for young men with means who desire to acquire an agricultural education, ample opportunity is afforded at the Ontario Agricultural College and Experimental Farm, where for a less sum than is exacted by way of "bounty" they can be thoroughly trained in all the branches of knowledge requisite for the management of a farm. Or if these young men are disposed to acquire their knowledge and experience by working on a farm, there is no difficulty in finding places for them without the payment of a bounty, where they can get fair remuneration for their labour.

The rate of wages generally prevailing was about the same as last year, though from the scarcity of experienced hands in proportion to the number who knew nothing about farming, the variations in the scale were much more marked. Some offers of \$40 and board for a month had to go unfilled; engagements were made for two months at \$75 and board; and offers of from \$75 to \$90 with board for three months were more numerous than applicants qualified to fill them. These figures are quoted to show the scarcity of skilled hands, and should suggest to farmers the wisdom of entering into yearly engagements wherever practicable. In the few such engagements made the rates were somewhat higher than formerly for first class men; and on the other hand, engagements for six or seven months, and for the year were made with inexperienced hands at exceptionally low rates. These results followed from the dearth of trained farm hands among the immigrants.

STATEMENT A.—Shewing the Number and Nationalities of the Immigrants so far as ascertained for the six

Month.	Arrivals.				Destinations.						
	Arrived via Halifax.	Arrived via Quebec.	Arrived via Montreal.	Total arrivals.	United States.	Maritime Provinces.	Quebec.	Ontario.	Manitoba and N. W. T.	British Columbia.	Not ascertained.
January.....	1,013		121	1,134	467	179	133	127	195	33	
February	1,573		209	1,782	898	140	198	182	294	70	
March	4,727		436	5,163	2,628	224	323	884	1,012	92	
April	7,550	639	100	8,289	4,666	402	660	849	1,584	128	
May	324	13,690	219	14,233	8,937	101	1,737	1,082	1,824	290	262
June.....	380	8,432	215	9,027	5,242	154	1,185	1,048	1,259	139	
July	125	7,327	114	7,566	4,344	91	918	579	1,274	124	236
August	115	4,131	186	4,432	1,881	64	527	495	1,046	119	300
September	105	3,830	310	4,245	2,128	63	642	439	484	156	333
October	139	3,030	285	3,454	1,431	111	464	470	500	98	380
November.....	865	1,380	382	2,627	1,334	106	356	250	407	85	89
December	1,216		306	1,522	679	115	163	169	317	76	
Total	18,132	42,459	2,883	63,474	34,635	1,750	7,312	6,571	10,196	1,410	1,600

landed at Halifax, Quebec and Montreal, and their destinations and occupations, months ending December 31st, 1893.

Nationalities.							Occupations, so far as ascertained.			
English.	Irish.	Scotch.	German.	Scandinavian.	French and Belgian.	Other countries.	Farmers.	Farm and other laborers.	Mechanics.	Clerks.
459	32	13	161	377	48	43	30	599	24	23
602	53	27	250	411	201	238	32	762	43	36
1,845	38	282	900	1,133	514	442	66	1,703	83	102
2,717	123	102	1,806	1,784	758	999	639	3,216	524	151
3,323	317	443	2,610	5,069	1,432	1,039	333	7,457	377	94
2,476	178	572	1,076	3,190	559	977	254	4,023	237	87
1,903	123	140	1,342	2,091	203	1,764	396	2,910	211	109
1,666	161	109	543	737	166	1,050	207	1,668	141	59
1,694	120	172	452	888	193	726	171	1,511	164	47
1,482	122	88	586	707	127	342	155	1,178	116	71
804	100	80	607	396	110	530	77	884	82	38
492	66	28	262	157	54	463	66	509	83	49
19,463	1,433	2,056	10,604	16,940	4,36	8,613	2,426	26,420	2,085	866

The following statement shews the number of Immigrants who left the British Islands for places out of Europe, and the percentage settled in Ontario during the years 1874, 1875, 1876, 1877, 1878, 1879, 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892 and 1893 respectively :—

Year.	Numbers left.	Settled in Ontario.	Percentage.
1874.....	241,014	25,254	10.55
1875.....	173,809	17,655	10.16
1876.....	138,222	11,432	8.27
1877.....	119,971	11,654	9.77
1878.....	147,663	13,055	8.84
1879.....	217,163	24,407	11.23
1880.....	322,294	19,291	5.80
1881.....	392,514	18,233	4.64
1882.....	413,288	22,691	5.49
1883.....	397,157	27,119	6.83
1884.....	304,074	22,277	7.32
1885.....	264,986	13,973	5.27
1886.....	330,881	15,288	4.62
1887.....	396,494	19,723	4.97
1888.....	398,494	20,532	5.16
1889.....	342,641	15,387	4.49
1890.....	315,980	11,426	3.61
1891.....	334,543	10,335	3.09
1892.....	321,397	7,771	2.42
1893.....		6,571	.....

The following statement shows the aggregate number of children settled in this Province since 1868 by the undermentioned parties :—

Year.	Miss Rye.	Miss Macpherson.	Mrs. E. Filbrough Wallace.	Mr. Middlemore.	Rev. Dr. Stephenson.	Dr. Barnardo.	Shaftesbury's Boys' Home, London, Eng.	Cardinal Manning and others.	Mr. Quarrier.	Total.
1868.....	5									5
1869.....	187									187
1870.....	253	194								447
1871.....	277	498								775
1872.....	185	321								506
1873.....	134	358		102						594
1874.....	193	279		50	81					603
1875.....		184		78	43					305
1876.....		163		71						234
1877.....	91	115		83	28					317
1878.....	42	68	79	86	32					307
1879.....	96	95	126	57	24					398
1880.....	68	114	129	41	22		11	22		407
1881.....	117	90	158	60	43		49	45		562
1882.....	118	183	153	70	41	51	24	139		779
1883.....	170	193	194	125	53	172	43	183		1,133
1884.....	165	165	254	145	75	252	39	283		1,378
1885.....	125	183	351	115	87	395	32	323		1,611
1886.....	110	215	274	129	91	615	33	301		1,768
1887.....	120	212	316	202	75	406		77		1,408
1888.....	300	270	271	279	101	484	104	30		1,839
1889.....	160	249	295	85	86	481	92			1,448
1890.....	121	156	204		71	257	96		250	1,185
1891.....	135	230	282		66	369	108		233	1,423
1892.....	90	237	204		62	614	95		250	1,552
1893.....	140	120	242		59	770	123		268	1,722
Total	3,432	4,892	3,534	1,778	1,140	4,866	849	1,403	1,001	22,895

EXPENDITURE.

The total Expenditure on account of Immigration during the years 1887, 1888, 1889, 1890, 1891, 1892 and 1893, respectively, was as follows :

	1887.	1888.	1889.	1890.	1891.	1892.	1893.
	§ c.	§ c.	§ c.	§ c.	§ c.	§ c.	§ c.
Agencies in Europe.....	5,150 00	5,150 00	3,889 00	3,870 50	4,409 97	4,080 66	4,304 05
Agencies in Canada.....	2,485 22	550 00	648 00	600 00	558 00	600 00	1,432 50
Carriage of Immigrants in Ontario	809 34	328 55	236 63	114 49	144 64	179 11	188 44
Provisions and medical attendance	2,948 31	638 78	423 97	196 66	365 50	202 59	190 40
Incidentals.....	403 07	485 06	474 82	777 33	861 48	764 38	858 72
Immigration Pamphlet and Maps		800 00	1,777 48	27 00		2,087 08	
Rainy River District					289 25	421 04	
Total	11,795 94	7,952 39	6,849 90	5,585 98	6,628 94	8,334 86	6,974 11
Cost per head, including Immigrants settled through Agencies only .....	.59	.38	.44	.48	.74	1.07	1.06

The following Statement, condensed from the Reports of the Commissioner of Crown Lands, shows the progress of the settlement of the Free Grants Districts since 1868 :

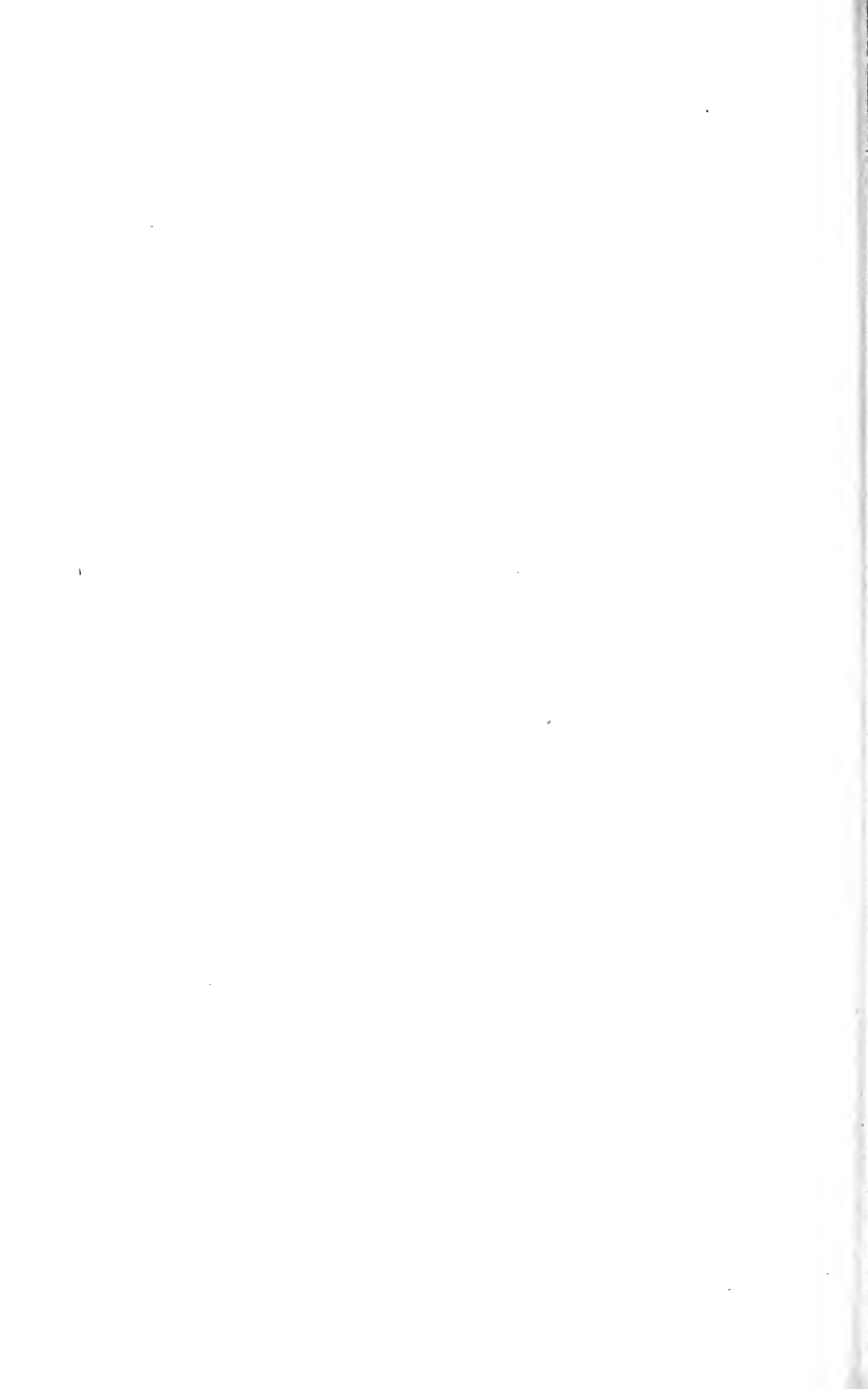
Year.	Number of Townships set apart.	Number of persons located.	Number of acres locat-d.	Number of purchasers.	Number of acres sold.	Number of lots, the location of which have been cancelled.	Number of patents issued.
1868.....	15	511	46,336	82	2,120		
1869.....	24	566	56,011	52	956		
1870.....	14	1,200	155,427½	148	4,585½		
1871.....	1	1,113	153,105½	139	3,452½		
1872.....	18	875	115,065	97	2,268½	148	
1873.....	6	757	100,603½	79	5,038	381	
1874.....	10	919	119,070	57	2,144	453	755
1875.....	1	1,387	186,807	89	3,896	381	570
1876.....		463	192,858	110	2,261	462	546
1877.....	4	1,914	260,801	149	5,534	691	542
1878.....	1	2,115	274,238	188	6,637	1,118	472
1879.....		1,506	199,500	123	4,911	1,018	513
1880.....	23	1,292	181,745	110	3,621	870	487
1881.....	5	1,077	153,764	155	8,870	781	487
1882.....	1	932	129,535	150	5,562	624	502
1883.....	1	985	134,594	143	8,927	587	790
1884.....	3	1,157	161,964	125	5,809	635	609
1885.....	2	1,236	175,351	149	5,998	563	581
1886.....		1,149	162,734	133	5,474	607	706
1887.....	4	902	122,772	109	5,694	612	559
1888.....		842	109,002	74	2,797	556	523
1889.....	20	858	114,050	84	3,708	657	386
1890.....	1	610	83,273	53	2,345	575	456
1891.....		579	79,948	49	1,389	350	473
1892.....		461	59,733	62	3,354	396	352
1893.....	1	446	57,440	52	1,900	356	322
Total.....	256	27,252	3,585,727½	2,761	109,251½	12,551	1,251

All of which is respectfully submitted,

TORONTO, January, 1894.

2 (1M)

DAVID SPENCE,
Secretary.



APPENDICES.

No. 1.

ANNUAL REPORT OF PETER BYRNE, ESQ., IMMIGRATION AGENT,
LIVERPOOL, ENGLAND.

ONTARIO GOVERNMENT AGENCY,
NOTTINGHAM BUILDINGS, 19 BRUNSWICK STREET,
LIVERPOOL, January 6th, 1894.

HON. JOHN DRYDEN,
Minister of Agriculture, etc.,
Toronto.

SIR,—I have the honor to submit the following report of the work of this agency for the past year. In accordance with your instructions, my efforts have been almost exclusively directed to the diffusing of information regarding our Province amongst the agricultural classes of the United Kingdom, namely, tenant farmers and others with capital who may be desirous of taking up land or of buying or renting improved farms; and secondly, farm laborers.

This leading object I have endeavored to carry out as heretofore by newspaper advertising, descriptive letters in newspapers and the distribution of pamphlets and leaflets at agricultural shows, market gatherings and public meetings in the rural districts; also from my own office, in reply to numerous inquiries in person and by post. In the case of these direct applications for information, the applicants are promptly supplied with pamphlets, etc., and in many instances for neighbors and friends as well as for themselves.

In the course of the year I have taken part as usual in a number of emigration meetings, held chiefly in country places, where the lectures and addresses were illustrated and enlivened by limelight lantern pictures of Ontario and other Canadian scenes. Such meetings continue to be very popular, never failing to attract large and attentive audiences, and afford excellent opportunities for personal interviews with the emigrating classes. They also afford abundant testimony that the falling off in the number of agricultural emigrants reaching Ontario is due much more to the want of means than to the want of will to emigrate.

Sir Charles Tupper, the High Commissioner, convened a meeting of the Canadian agents at Liverpool in July last, in order to give an opportunity for an exchange of views as to the best means of making the advantages offered by Canada as a place of settlement better known to the people of the United Kingdom, and so increasing the flow of emigration. After considerable discussion it was agreed that the methods at present employed were about the best that could be devised for the purpose in view; that it was useless to attempt to force on "a boom" in emigration, the fluctuations in which being the result of causes for the most part beyond our control; and that the wisest course was "to keep pegging away" on the old lines and wait patiently for the turn in the tide which all past experience showed must come sooner or later. At this meeting I took the liberty of pointing out to Sir Charles that the present policy of paying to booking agents a special bonus for all emigrants they booked for Manitoba and the North-west, was a serious handicap on the efforts of Ontario and the other eastern pro-

vinces of the Dominion to secure emigrants. Of course, it seems only fair that on account of their much greater distance and their comparatively sparse population, some compensating difference should be made in favor of Manitoba and the Northwest, but it occurred to me that this advantage might be given in a way that would not make it the obvious interest of every booking agent to discriminate against the older provinces. Sir Charles promised to lay the matter before the Minister of the Interior.

During the year I have advertised the agency for longer or shorter periods in hundreds of newspapers, including all the principal agricultural journals published in the three Kingdoms. I have also had published in different papers a series of descriptive letters giving details of Ontario farming, and pointing out the advantages which the Province offers to practical and skilled agriculturists like tenant farmers, as compared with the heavy rents and taxation and the worrying restrictions which they have to submit to under the landlord system of the Old Country. These comparative advantages were admirably brought out in a lecture delivered at Chipping Norton, Oxfordshire, in November last, by Mr. William Nethersole, of Deal, Kent, who spent a long holiday in Ontario during the past summer for the purpose of obtaining by actual observation facts regarding Ontario farms and methods of farming, for the benefit of a number of young farmers of his own county who are eager to try their fortunes in our Province. The lecture was given before an audience composed largely of agriculturists, among whom the lecturer is well and widely known and highly respected. It is all the more valuable as a testimony in favor of Ontario, because it was quite spontaneous and not in any way the result of official solicitation. I have had the report of the lecture printed as a leaflet, and have already had several thousands put in circulation where the author of the lecture is known, and am now sending it out regularly with our other literature to all parts of the country.

Recognising that there is still no demand for any kind of emigrant whose sole dependence is upon his own exertions, excepting farm laborers and female domestics, I continue to discourage, as far as lies in my power, all mechanics, artisans, clerks and professional people from thinking of going out. As to married farm laborers, the present cost of emigration for themselves and families is, as a rule, practically prohibitive. There are a few philanthropic and charitable organizations like the Self Help Emigration Society who give substantial assistance in a few selected cases, but the help given in this way is so small as to be inappreciable. With young unmarried men it is very different. Generally speaking they could soon save enough to emigrate, were they so inclined. The same remark applies to female domestics. It is the singular fortune of this class of workers to be in demand everywhere and always. They are the "spoiled darlings" of the industrial world. But their distinctive mood is migratory and not emigratory. There is amongst the colonies a keen competition to secure them as emigrants, though New South Wales is the only one that now offers them free passages. Nothing short of this will ever induce any considerable number of them to transfer their services abroad.

The "farm pupil" imposture still seems to flourish, notwithstanding the repeated exposures and warnings that have from time to time been published in the press. I need hardly say that I invariably advise young men desirous of learning farming in Canada to have nothing to do with such agencies. There are several clergymen and other highly respectable persons who now go regularly to Canada every season, and gladly take charge of such young men, and through their connections in Ontario, etc., find suitable situations for them without fee or reward. I therefore generally commend young men applying to me to the protection and care of the gentlemen referred to.

The Imperial Institute has proved a new and valuable agency for the distribution of our publications. Messrs. Watson and Plumb, the Curators of the Canada section, have kindly undertaken to place our pamphlets and leaflets within reach of all visitors to the Ontario court. The numbers who have visited the Institute since the opening in May last is well nigh half a million. Much greater numbers may be expected to go when the courts are all complete.

The reports of the agricultural delegates who visited Canada during the past summer are expected to be issued in the course of a few weeks. They are, I believe, to be very widely distributed, arrangements being made to place them in the hands of every farmer in the United Kingdom. The result of this wide circulation of the new reports will doubtless be to excite a fresh interest in favor of Canada among the emigrating classes.

Ontario hay has figured very prominently among British imports from Canada this year, having arrived in immense quantities at the ports of London, Liverpool, Glasgow and Bristol. It has served to bring our Province well into notice, but whether it has always turned out profitable to shippers is another matter. It is a difficult commodity to handle, and I have heard many complaints from shippers of astounding shortages, damage, repudiation of agreements, etc., all entailing much vexation, disappointment and, I fear in some cases, heavy loss.

The past year has been a very disastrous one for nearly all classes in the Old Country. The farmers have suffered from the long drought which destroyed millions worth of crops. The trading and commercial classes have experienced a great diminution of trade from several causes, including financial disturbances, and shaken credit in nearly every part of the world. Then the great coal strike has played havoc with every great industry in the Kingdom. The consequences are, immense numbers of people out of employment and a great increase in poverty and distress through the country.

A full report of the remarkable successes of Ontario exhibits of every class at the World's Fair at Chicago would, if published in pamphlet form, be of immense value as an advertisement of our Province in the Old Country. I am therefore delighted to learn that you have arranged for such a pamphlet to be prepared and sent over here for distribution. I shall do all in my power to ensure it a wide and effective circulation.

I will forward you the Board of Trade official emigration returns for the past year as soon as they are issued.

I have the honor to be,
Your obedient servant,

P. BYRNE,
Agent for Ontario.

No. 2

ANNUAL REPORT OF FRANK MAGUIRE, ESQ., IMMIGRATION
AGENT FORT ERIE AND NIAGARA FALLS.

SIR,—I have the honor to present a report for the year ending 31st December, 1893.

The number of immigrants who entered Ontario at Niagara Falls and Fort Erie, was very large, aggregating for the year about fifty-three thousand five hundred. As some of these immigrants came originally from countries in Europe where cholera and other infectious diseases were prevalent, I found it necessary to take precautions against the spread of any such diseases in this Province through this channel. For this purpose I endeavored as far as possible to examine the health certificates of each immigrant and not to allow any of them to enter unless his or her certificate showed an entire freedom from infectious diseases.

I made it a point to ascertain by what trains immigrants were expected to arrive, and to be present on their arrival, especially at Niagara Falls, where the greater number of immigrants enter Canada on this frontier. I also found it necessary to make weekly visits to Fort Erie and to Buffalo where the trains crossing the Niagara River by the International Bridge are made up. I am happy to say that no cases of contagious diseases were imported into the Province at these points.

Female domestics are scarce in this district and are always in demand at good wages, good healthy and intelligent young women will have no difficulty in procuring steady employment at good wages

Mechanics and Factory Operatives.—During the past year the supply of these workmen have exceeded the demand, as many mechanics who had left Canada during the busy times in the United States have returned in consequence of the depression in that country.

Laborers.—There is little, if any, demand for laborers, as the market is fully supplied, this is especially the case with men who can only perform the rougher and more unskilled kinds of work.

Agricultural Laborers.—Farm help is in demand. The chief period when such help is needed is in the early spring, at which time most farmers desire to secure their help, many farmers engaged their hands for a year, this applies to the better class of help. A good many employ their help for 7 or 8 months; parties doing so pay according to the experience and efficiency of the help, starting from about \$12 per month for youths of 14 or 16 years to \$20 and \$22 per month for experienced young men who can do any kind of farm work, these figures include board. Amongst the farmers of our country their help who board with them are treated almost the same as if belonging to the family, especially if the employees are well behaved, and wish to learn the duties of the farm, and desire to become in the future farmers themselves. Young men are almost always hired board included. Those hiring by the the year do so because they plan their work so as to cover the whole year, and thus have employment during all seasons; they are thus enabled to keep the better and steadier class of help and do not have to pay much higher wages for twelve months than for nine months, youths from 14 to 16 years getting from \$100 to \$150 per year, and experienced single men from \$150 to \$200. Of course immigrants would not command these wages the first year, on account of their inexperience with our mode of agricultural work, and not being accustomed to our implements, but those desiring to better their condition, and who try to learn our ways soon learn. The number of farmers who employ their help by the year are on the increase. There are

not enough tenant houses on our farms, but owners are beginning to realize that it is better to have one and find employment for a man during the year. Married men get on an average from \$200 to \$275 per annum without board, also a good many perquisites, such as free pasture for an animal, free vegetables, fruit, etc.

Since the change amongst farmers in this section created by their turning from grain to a mixed farming in which fruit and vegetable growing takes no small share, the demand for boys and girls is increasing, beginning in May and continuing till November. The canning factories contract for hundreds of acres of tomatoes, corn, peas, and beans, besides canning large quantities of fruit, this combined with the enormous quantity of fruit shipped from this district gives employment to thousands of women and children. In the early part of the season, the work is chiefly planting and weeding; about the middle of June the berries and currants ripen, and in rapid succession, peas, beans, tomatoes and all kinds of fruit follow. Payments are made by the box or basket for picking fruit, and by the pound or measure for other vegetables. Some good smart girls have made \$2 in one day picking berries, but this is exceptional. This work is light and very healthy, the stronger and more energetic take longer hours, and these make large wages. In the canning factories a large number of women and children are employed during the season, thus those with large families find employment for all during a large portion of the year. The work on the fruit farm is of such a nature that while some of it requires trained and experienced help the most of it can be picked up by willing hands who come here desiring to better their condition. They are usually from 1 to 3 hands employed by the year on all fruit and vegetable farms. The size of such farms are always smaller than grain farms, a 10-acre lot can give employment to 5 or 6 persons for nine months. Married men with families are always sure of employment, for their families in the neighborhood. A family coming here, if industrious and saving is soon able to start on its own account, as a number of owners of fruit and vegetable lots let them out to be worked on shares, the tenant doing the work, and the owners furnishing the seed and manure. In this way many are soon able to purchase a piece of land and commence on their own responsibility.

All of which is respectfully submitted.

I have the honor to be, Sir,

Your obedient servant.

FRANK MAGUIRE.

To DAVID SPENCE, Esq.,

Secretary Department of Immigration,
Toronto.

No. 3.

ANNUAL REPORT OF E. M. CLAY, ESQ., DOMINION IMMIGRATION
AGENT, HALIFAX.

DOMINION GOVERNMENT IMMIGRATION AGENCY,
INTERCOLONIAL RAILWAY STATION,
HALIFAX, NOVA SCOTIA, Dec. 31st, 1893.

SIR,—I have the honor to submit for your information my annual report for the year ending 31st December, 1893.

The arrivals for the year are as follows :

CABIN.

Males	853	
Females	381	
Children	123	
Total		1,357

STEERAGE.

Males	10,611	
Females	3,929	
Children	3,592	
Total		18,132
Grand Total		19,489

Monthly average of immigrants landed in 1892 987

Monthly average for 1893..... 1,511

Increase per month in 1893..... 524

The above averages are for steerage passengers only.

Cabin arrivals in 1892 2,718

“ 1893 1,357

Decrease in 1893 1,361

The immigrants arriving during the year have been a good class in every respect, and fully up to former years.

The children arriving from the various homes in the Old Country were, so far as I could see, a good class, and if placed in good homes, where they will be well cared for, will no doubt make good citizens when they grow up.

The new quarantine station on Lawlor's Island is about ready for use, but we trust it may be very many years before it will be required.

While we have all felt something of the depression in all kinds of business, the past year has no doubt been a fairly prosperous one in Nova Scotia, especially with the farmers, and we have every reason to be thankful that we are not in the same condition as other countries.

For your further information I have attached the usual tabulated forms.

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

EDWIN M. CLAY.

D. SPENCE, ESQ.,
Secretary Ontario Immigration Dept.,
Toronto, Ont., Canada.

CABIN PASSENGERS.—Monthly Statement of Arrivals and Departures at the Halifax, N.S., Immigration Agency for the twelve months ending 31st December, 1893.

Months.	Arrivals via ocean travel.	Sexes.			Declared destinations.							Nationalities for Canada.			Remarks.		
		Males.	Females.	Children under 12.	Total.	Lower Provinces.	Quebec.	Ontario.	Manitoba.	North West Territories.	British Columbia.	United States.	Total.	English.		Irish.	Scottish.	Total.
January	109	70	31	8	109	52	32	16	6	1	2	109	106	3	.....	109	
February	134	92	33	9	134	75	21	12	14	4	5	134	134	.....	.....	134	
March	225	160	52	13	225	59	45	60	40	11	10	225	210	.....	15	225	
April	351	231	91	29	351	121	75	48	56	26	21	351	351	.....	.....	351	
May	31	16	11	4	31	21	3	.....	.....	.....	7	31	24	.....	.....	24	The ultimate destination of cabin passengers is not given on the lists.
June	36	22	14	.....	36	31	5	.....	.....	.....	.....	36	36	.....	.....	36	This statement is as near correct as possible, bearing in mind the difficulty of taking railway bookings as a guide.
July	76	45	16	15	76	67	6	1	2	.....	.....	76	66	.....	10	76	
August	43	27	11	5	43	43	.....	.....	.....	.....	.....	43	43	.....	.....	43	
September	47	18	28	1	47	47	.....	.....	.....	.....	.....	47	47	.....	.....	47	
October	47	17	20	10	47	39	.....	.....	.....	.....	8	47	47	.....	.....	47	
November	77	44	25	8	77	77	.....	.....	.....	.....	.....	77	77	.....	.....	77	
December	181	111	49	21	181	129	23	10	9	.....	10	181	181	.....	.....	181	
	1,357	853	381	123	1,357	761	217	147	127	42	56	1,357	1,322	3	25	1,350	

EDWIN M. CLAY,
Dominion Immigration Agent.

DOMINION IMMIGRATION AGENCY,
HALIFAX, N.S., December 31st, 1893.

STEERAGE PASSENGERS.—Monthly Statement of Immigrant Arrivals and Departures.

Months.	Arrivals via Ocean Travel.	Sexes.				Declared Desti-				
		Males.	Females.	Children under 12.	Total.	Lower Province.	Quebec.	Ontario.	Manitoba.	North-west Territories.
January.....	1,013	602	219	192	1,013	179	118	96	96	46
February.....	1,573	1,016	331	226	1,573	140	165	150	141	37
March.....	4,727	3,217	869	641	4,727	224	300	592	847	65
April.....	7,550	4,388	1,492	1,670	7,550	402	361	765	1,244	117
May.....	324	180	97	47	324	84	33	12	6	.....
June.....	380	147	118	115	380	147	24	12	17	1
July.....	125	58	46	21	125	56	20	3	9	1
August.....	115	51	36	28	115	59	4	.....	2	1
September.....	105	36	39	30	105	59	12	.....	2	1
October.....	139	43	70	26	139	106	8	.....	2	.....
November.....	865	326	276	263	865	105	111	44	39	16
December.....	1,216	547	336	333	1,216	115	129	99	152	8
Total.....	18,132	10,611	3,929	3,592	18,132	1,676	1,285	1,773	2,557	293

DOMINION IMMIGRATION AGENCY,
HALIFAX, N.S., December 31st, 1893.

tures at the Halifax, N.S., Agency for twelve months ending 31st December, 1893.

nations.			Nationalities for Canada.							Occupations for Canada.								
British Columbia.	United States.	Total.	English.	Irish.	Scotch.	Germans.	Scandinavians.	French and Belgians.	Other countries.	Total.	Farmers.	Farm laborers.	General laborers.	Mechanics.	Clerks.	Domestics.	Not classified.	Total.
11	467	1,013	300	17	....	63	131	22	13	546	4	1	266	12	18	66	179	546
42	898	1,573	437	25	3	45	98	15	16	675	46	7	301	44	42	62	173	675
71	2,628	4,727	1,115	19	263	159	299	189	55	2,099	119	30	1,042	207	31	192	478	2,099
114	4,547	7,550	1,798	95	80	319	319	192	200	3,003	338	188	973	145	101	191	1067	3,003
2	187	324	135	.....	.....	.....	.....	2	.....	137	.....	.....	58	1	1	32	45	137
1	175	380	199	.....	.....	.....	3	.....	.....	202	1	4	54	1	2	33	107	202
2	34	125	88	...	.....	.....	2	.....	1	91	.....	.....	41	.....	2	23	25	91
.....	49	115	66	.....	.....	.....	.....	.....	.....	66	.....	.....	13	6	6	6	35	66
.....	31	105	74	.....	.....	.....	.....	.....	.....	74	1	.....	13	5	3	17	35	74
.....	23	139	115	.....	.....	.....	1	.....	.....	116	.....	.....	30	.....	1	36	49	116
3	547	865	203	10	4	39	23	.....	39	318	1	.....	141	4	7	41	124	318
34	679	1,216	317	18	.....	88	21	11	82	537	17	3	192	43	30	61	191	537
280	10,268	18,132	4,883	184	350	713	897	431	406	7,864	527	233	3,124	468	244	760	2508	7,864

EDWIN M. CLAY,
Dominion Immigration Agent.

STATEMENT showing the number of children immigrants landed at the Halifax N. S. Immigration Agency for the twelve months ending 31st December, 1893.

Steamers,	Date of Arrival.	By Whom Sent.	Sexes.			Destination.
			Males.	Females.	Total.	
Sardinian	March 19.....	Miss Rye.....	.....	42	42	Niagara.
Labrador.....	" 24.....	Dr. Stephenson.....	43	1	44	Portage la Prairie and Hamilton.
"	" 24.....	Dr. Barnardo.....	60	.....	60	Russel, Man.
Buenos Ayrean	" 29.....	Mr. Quarrier.....	128	.....	128	Brockville, Ont.
Parisian	April 2	Mrs. Birt	49	26	75	Knowlton, Que
"	" 2	Mrs. Foster	5	.....	5	St. John, N.B.
Vancouver	" 9.....	Mr. Fegan	102	.....	102	Toronto and Brandon.
"	" 9.....	Mr. Wallace	156	13	169	Belleville, Ont.
Lake Ontario	" 11.....	Mark Whitwell.....	16	.....	16	St. John, N.B.
Nunuidian	" 17.....	Miss Macpherson.....	56	.....	56	Stratford.
Siberian	June 3.....	John Middlemore.....	72	19	91	Nova Scotia and New Brunswick.
Total.....	.....	.....	687	101	788	.....

EDWIN M. CLAY,
Dominion Immigration Agent.

DOMINION IMMIGRATION AGENCY,
HALIFAX, NOVA SCOTIA,
December 31st, 1893.

No. 4.

ANNUAL REPORT OF P. DOYLE, ESQ., DOMINION IMMIGRATION
AGENT, QUEBEC.

IMMIGRATION OFFICE,
QUEBEC, 31st December, 1893.

SIR,—I have the honor to submit the following statements showing the numbers, nationalities, occupations and destinations of immigrants for the Province of Ontario during the year 1893.

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

P. DOYLE,
Agent.

DAVID SPENCE, ESQ.,
Secretary Department of Immigration, Toronto.

Table giving the number of married and single men and women and the sexes of children and infants of each nationality arrived in 1893, destined for the Province of Ontario:—

	Married.		Single.		Children.		Infants.		Total.
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	
English	171	265	1,382	557	288	324	27	15	3,029
Irish	14	24	112	49	13	23	4	5	244
Scotch	34	43	135	45	42	27	3	5	334
Germans	7	6	20	9	1	8	1	1	53
Scandinavians	21	33	113	19	18	27	2	2	235
French and Belgians....	4	2	6	1	1	5		1	20
Russian Fins	2		60	13					75
do Poles.....			19	4					23
do Jews			2						2
Italians	1	1			1				3
	254	374	1,849	697	364	414	37	29	4,018

P. DOYLE,
Dominion Government Immigration Agent.

GOVERNMENT IMMIGRATION OFFICE,
QUEBEC, 31st December, 1893.

STORAGE PASSENGERS.—Statement of Immigrant arrivals and departures at Quebec Immigration Agency for the Province of Ontario, for the twelve months ending 31st December, 1893.

Arrived <i>via</i> Ocean Travel.	Sexes.			Total number of souls.	Declared Destinations.						Nationalities.								Occupations.						Total.
	Males.	Females.	Children and Infants.		Ottawa.	Ottawa District.	Kingston.	Kingston District.	Toronto.	West of Toronto.	English.	Irish.	Scotch.	Germans.	Scandinavian.	French and Belgians.	Other countries.	Farmers.	Farm laborers.	General laborers.	Mechanics.	Clerks.	Female Domestics.	Not classified.	
4,018	2,103	1,071	814	4,018	280	562	105	413	1,372	1,286	3,029	244	334	53	235	20	103	141	233	1,483	181	65	266	1,649	4,018

GOVERNMENT IMMIGRATION OFFICE,
QUEBEC, 31st December, 1893.

P. DOYLE,
Agent.

The whole respectfully submitted.

I have the honor to be sir,
Your obedient servant,

DAVID SPENCE, Esq.

Secretary Department of Immigration, Toronto.

P. DOYLE,
Dominion Government Immigration Agent.

No. 5.

ANNUAL REPORT OF JOHN HOOLAHAN, ESQ., DOMINION IMMIGRATION AGENT, MONTREAL.

DOMINION GOVERNMENT IMMIGRATION AGENCY,
MONTREAL, December 31st, 1893.

SIR,—I have the honor to submit for your information a synopsis of the immigration work of this Agency for the year ending 31st December, 1893.

That in accordance with the departmental order issued in May last, all the immigrant steerage passengers were obliged to land at Quebec instead of at Montreal as heretofore.

That the order referred to did not apply to the cabin and intermediate passengers, the large majority of whom remained on board the steamships and were landed at this port.

That the general health of the immigrants was good,

The steamship and railway companies are to be congratulated upon the efficient and careful manner in which the immigrant passengers were handled.

That rapid and safe transportation were given them to their respective destinations.

The immigrant settlers of the year were a suitable class, being well supplied with funds to defray the ordinary expenses of travel to their respective destinations and maintain them whilst waiting for employment.

I regret that I cannot furnish you with information and statistics having special reference to the Province of Ontario.

Nevertheless, I send you a few tabular statements which I trust will prove acceptable for the purpose of your report.

Statement A shows immigrant arrivals and departures *via* United States.

Statement B shows the number of passengers carried by the Allan Line of steamships and landed at Halifax, Portland, Quebec and Montreal in 1893.

Statement C shows the number and destinations of the passengers carried by the Beaver Line of steamships and landed at Halifax, Quebec and Montreal from March to December, 1893.

The whole respectfully submitted.

I have the honor to be, Sir,

Your obedient servant,

JOHN HOOLAHAN,

Dominion Immigration Agent.

DAVID SPENCE, ESQ.,

Secretary Department of Immigration,
Toronto, Ont.

A.—Statement of Immigrant Arrivals and Departures *via* United States at Montreal Immigration Agency, for the year 1893

Months.	Arrivals <i>via</i> United States.			Sexes.				Declared Destination.				Nationalities.						Occupation.							For Canada, not reported elsewhere.
	Males.	Females.	Children.	Total number of souls.	Quebec.	Ontario.	Manitoba.	North-West Territories.	British Columbia.	English.	Irish.	Scotch.	German.	Scandinavian.	French and Belgian.	Other Countries.	Farmers.	Farm Laborers.	General Laborers.	Mechanics.	Clerks and Traders.	Female Domestics.	Not Classified.		
January.....	121	33	24	121	15	31	42	11	22	83	12	13	.....	10	1	2	8	13	32	16	1	11	46	121
February.....	209	50	35	209	33	32	80	36	28	123	20	19	5	13	7	22	16	34	44	24	6	15	70	209	
March.....	436	41	91	436	23	292	73	27	21	360	12	15	5	18	12	14	16	25	38	18	2	10	327	436	
April.....	100	22	18	100	6	13	47	25	9	48	12	10	9	4	9	8	6	12	34	6	2	3	37	100	
May.....	219	46	35	219	35	37	78	34	35	109	50	29	13	7	8	3	14	37	68	14	5	20	61	219	
June.....	215	102	54	215	22	31	95	35	32	117	18	12	13	13	14	8	13	27	37	21	4	13	100	215	
July.....	114	61	29	114	16	21	38	25	14	58	10	7	6	5	11	17	7	18	24	8	4	8	45	114	
August.....	186	45	48	186	26	37	66	34	23	111	14	9	6	8	14	24	10	20	48	11	4	13	80	186	
September..	310	162	74	310	41	75	111	50	33	181	30	26	8	17	12	36	20	41	66	30	5	18	130	310	
October.....	285	154	70	285	43	62	95	51	34	144	38	20	11	23	12	37	25	46	50	24	9	17	114	285	
November..	382	187	98	382	54	82	156	48	42	183	56	37	13	32	12	49	39	62	47	31	8	22	173	382	
December...	306	160	79	306	40	67	114	43	42	132	41	28	13	33	16	40	16	33	68	30	13	25	121	306	
	2,883	1,609	631	2,883	354	780	995	419	335	1,649	316	225	102	183	128	280	130	369	556	227	63	175	1,303	2,883	

JOHN HOOLAHAN,
Dominion Government Immigration Agent.

DOMINION GOVERNMENT IMMIGRATION AGENCY,
MONTREAL, December 31st, 1893.

B.—Statement showing the number of passengers carried by the Allan Line of steamships and landed at Halifax, Portland, Quebec and Montreal, during the year 1893.

Port.	First Cabin.	Second Cabin.	Steerage.	Total.
Quebec and Montreal.....	1,986	2,839	14,796	19,621
Portland.....	32	54	102	188
Halifax.....	708	1,141	7,899	9,748

JOHN HOOLAHAN,

Dominion Immigration Agent.

DOMINION GOVERNMENT IMMIGRATION AGENCY,
MONTREAL, December 31st, 1893.

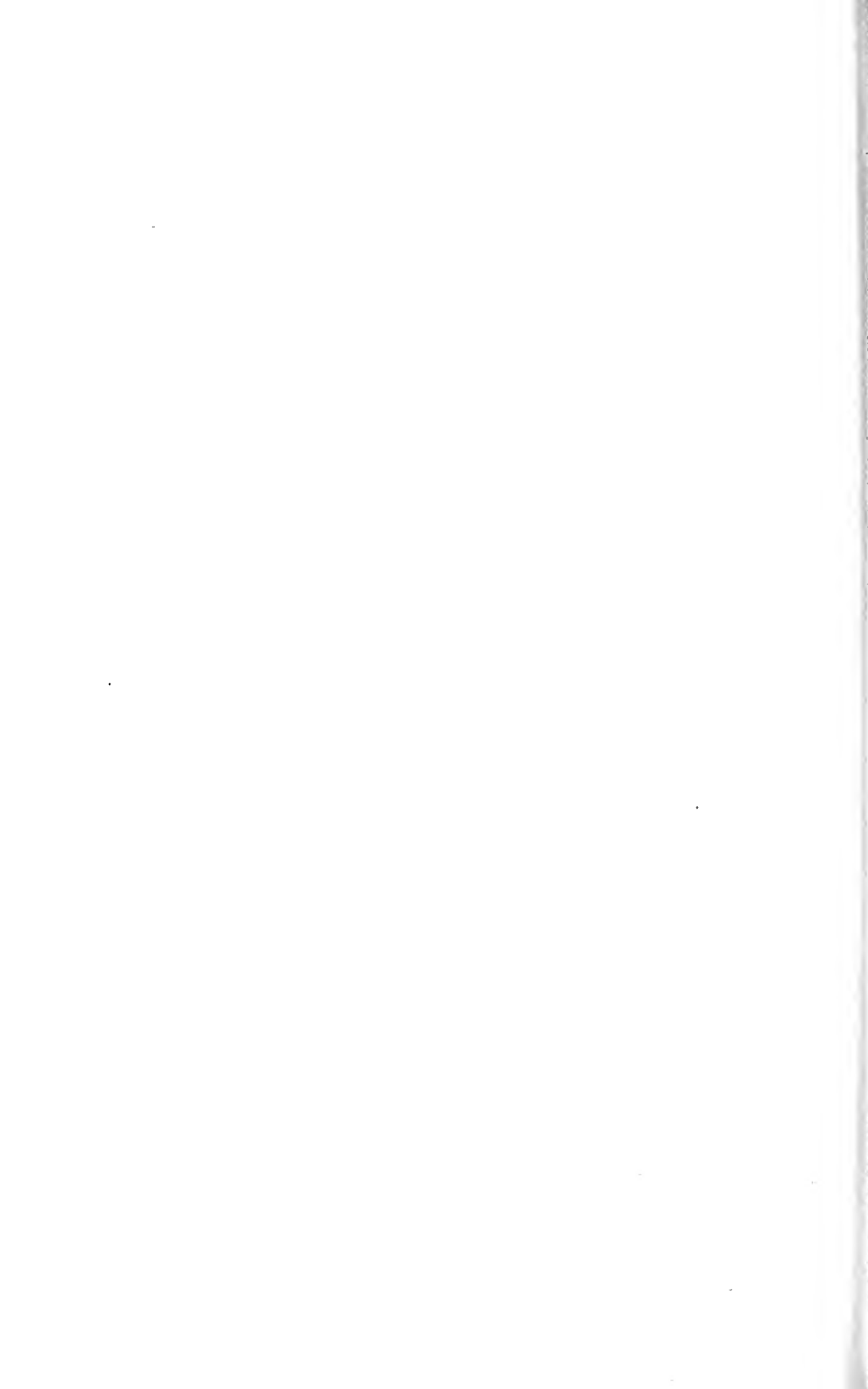
C.—Statement showing the Number and Destinations of the passengers carried by the Beaver Line of Steamships landed at Halifax, Quebec and Montreal, from March 30th to December 29th, 1893.

	Equal to Adults.	Total Adults.
First Cabin passengers landed at Halifax and Montreal :		
Province of Quebec.....	718	
“ Ontario.....	41½	
“ Manitoba and North-West Territories.....	28½	
United States.....	13	801
Second Cabin passengers landed at Halifax and Montreal :		
Province of Quebec.....	630	
“ Ontario.....	141	
“ Manitoba and North-West Territories.....	178	
United States.....	171	1,120
Steerage passengers landed at Halifax and Quebec :		
Province of Quebec.....	1,893½	
“ Ontario.....	183	
“ Manitoba and North-West Territories.....	992½	
United States.....	1,305	4,374

JOHN HOOLAHAN,

Dominion Government Immigration Agent.

DOMINION GOVERNMENT IMMIGRATION AGENCY,
MONTREAL, December 31st, 1893.



ANNUAL REPORT
OF THE
INSPECTOR OF DIVISION COURTS
FOR THE
PROVINCE OF ONTARIO
FOR THE YEAR
1893.

PRINTED BY ORDER OF THE LEGISLATIVE ASSEMBLY



TORONTO:

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1894.



ANNUAL REPORT
OF THE
INSPECTOR OF DIVISION COURTS
FOR THE
PROVINCE OF ONTARIO
FOR THE YEAR 1893.

OFFICE OF THE INSPECTOR OF DIVISION COURTS,
PARLIAMENT BUILDINGS, TORONTO, December 31, 1893.

To His Honor

THE HON. G. A. KIRKPATRICK,
Lieutenant-Governor of Ontario.

MAY IT PLEASE YOUR HONOR :

I have the honor to submit the following report upon the Division Courts of the Province of Ontario for the year ending 31st December, 1893.

CONTENTS.

The contents embrace a full return of the business of the Division Courts of the Province for the year—alphabetically arranged for Counties and Districts, and carefully tabulated under convenient headings for each court. [See Table A.]

A complete list of the Division Court Clerks, their post office address, and number of court, and the county or district in which each is situated is supplied in Table B.*

Table C. supplies similar information with respect to Bailiffs.

Table D. gives the descriptive limits of the several courts—including latest changes.

* This list is corrected up to the sending of the report to press.

REVISED TARIFF.

The tariff of fees to be received by clerks and bailiffs is appended, as revised by the Board of County Judges, to come into force from and after 1st July, 1894.

NUMBER OF SUITS—AMOUNT OF CLAIMS.

According to Table A, 50,444 suits were entered for claims aggregating \$1,933,940, exclusive of transcripts of judgments and judgment summonses.

AMOUNT RECEIVED AND PAID OUT.

The total amount of suitors' money paid into court was \$605,446, and the total paid out \$602,400—leaving to the credit of suitors \$3,046, and, including balances from previous years, \$26,078.39 balance of cash in court at the end of the year.

Inasmuch as a very large percentage of the suits entered are settled by the parties out of court, the figures given should not be accepted as representing the full collecting power of these courts.

A comparison with the returns of previous years shows an increased percentage paid upon the claims sued, and upon the amounts received and paid out of court.

REVENUE.

The percentages paid into the Provincial Treasury for 1893 amounted to \$6,450.59.

CHANGES IN COURTS.

In the County of Hastings, in compliance with petitions and applications made for the same, certain alterations have been made in the limits of some of the divisions and the number of courts reduced from 12 to 10. The Eighth Division Court has been done away with, and the territory heretofore comprising that division, embraced in the Township of Thurlow, has been added to the limits of the First Division. The Eleventh Court has also been cancelled, and the territory thereof, comprising the Townships of Elzevir, Grimthorpe and part of Cashel, added to No. 6, the Madoc Court. These alterations have been made in advance of further changes contemplated, granting additional court accommodation to the northern part of the county.

APPOINTMENTS, RESIGNATIONS, ETC.

During the year there were 26 new appointments of clerks and 47 appointments of bailiffs to fill the same number of vacancies caused by resignations, deaths and removals.

LEAVE OF ABSENCE.

Papers granting leave of absence for varying short periods were made out and transmitted to 92 clerks and 43 bailiffs, and the approval of the appointment of their deputies. Compared with 48 clerks and 29 bailiffs who obtained leave the previous year, a large increase appears under this head.

SEALS.

New seals were provided eight courts during the year to replace those worn out. Last year only two were required for the same purpose.

COMPLAINTS.

Last year there were 237 complaints against clerks and 261 against bailiffs. Within a very small fraction the numbers remain about the same for 1893. The causes of complaint are of the same old character—neglect of making returns, withholding suitors' moneys, making charges outside the tariff, not notifying the parties entitled thereto when moneys paid into court, etc.

Prompt enquiry followed the receipt of each complaint, and with the most beneficial results to suitors, as testified by the correspondence upon file.

INSPECTION.

The duties of inspection occupied much of my time during the year in visiting the offices of the several courts, examining the court books, and also in making personal inspection at the offices of Clerks of the Peace of the covenants filed by officers of the courts. Irregularities, found to have taken place in several instances where suits had been brought on these covenants, rendered this latter step necessary for the better security of the public. Other precautions have also been taken for the protection of suitors in the same direction, such as compelling the filing of the annual receipts of Guarantee Companies to whom officers have given bonds.

THE NEW RULES.

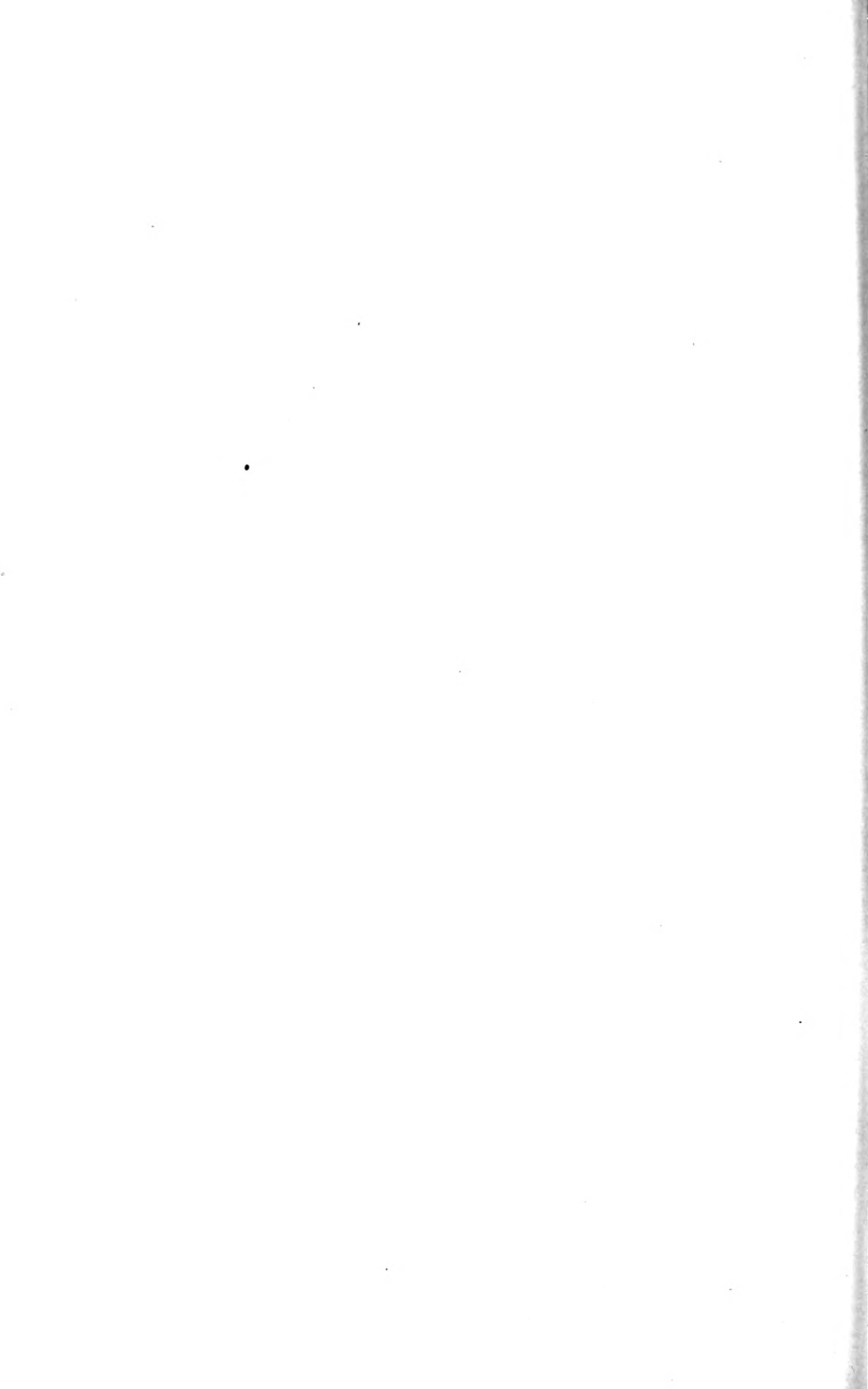
The new rules, revised by the Board of County Judges, have been printed, and are now in course of distribution; they come into force on 1st July, 1894.

I have the honor to be

Your Honor's obedient servant,

J. DICKEY,

Inspector.



TABLES.

TABLE A.

RETURN of Division Court Business, from the First day of January to the Thirty-first day of December, A.D., 1893, inclusive, shewing:—

The Name of County, United Counties or District.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
Algoma ..	1	83	3309 27	4	147 28	1	58 43	806 15	864 58	232 49	8	8	1	7	45 00	1	3 41	1	1	5 00
	2	32	1358 89	4	402 21	1	56	584 79	574 99	10 36	1	1	1	2	19 00	1	1 56	2	15 00	
	3	112	5388 03	5	484 25	12	52 47	1649 08	1607 91	93 64	9	9	9	3	6 03	2	6 03	2	10 00	
	4	120	3647 38	6	387 13	3	1429 71	1414 71	15 00	7	3
	5	26	1034 87	5	286 00	2	34 20	190 83	204 25	20 78	12	12
	6
Brant	1	513	22573 17	80	1230 08	42	148 11	5803 73	5719 36	232 49	53	4	7	45 00	2	21 35	2	10 00	
	2	173	4851 04	8	354 97	9	17 35	2171 36	2185 42	3 29	5	1	3	2	19 00	4 10	
	3	19	567 76	3	61 87	412 86	412 86	1	
	4	58	1603 02	8	452 68	2	28 94	1061 53	1070 47	20 00	2	1	2	12 00	1 19	
	5	13	579 87	8	411 34	387 35	402 75	6 00	3	

RETURN of Division Court Business --Continued

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	
The Name of County, United Counties or District.	Number of Divisions.	Number of Suits entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Amount of Claims entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Number of Transcripts of Judgments received from other Courts.	Amount of Claims received by Transcripts of Judgments from other Courts.	Number of Judgment Summonses issued.	Balance of Cash in Court from the previous year.	Total amount of Suits' money paid into Court.	Total amount of Suits' money paid out of Court.	Balance of Cash in Court.	Number of Suits entered, where the amount claimed exceeds \$100.	Number of actions for Tort where the amount claimed exceeds \$10.	Number of actions of Replevin, where the value of the goods or other property or effects distrained taken or detained, exceeds the sum of \$10.	Number of Jury Trials by Juries summoned.	The amount paid to Juries summoned.	Number of Jury Trials by Juries called in pursuance of Sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Emoluments payable to the Honourable the Treasurer for the use of the Province.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney or Agent's fees, under Sec. 16 of "The Division Courts Act, 1880."	The amount of costs so taxed.
Algonv...	5	373	14738 44	21	1705 87	19	145 66	4666 44	139 78	25	15	1	11	75 00	122 of "The Division Courts Act."	11 69	31 48	5	30 00	
Brant	5	776	30171 86	57	2510 94	53	215 80	9730 86	261 78	61	5	3	11	75 00	122 of "The Division Courts Act."	31 09	31 48	2	10 00	
<i>Carried forward,</i>	10	1149	44913 30	81	4217 81	72	361 46	14457 30	401 56	89	20	4	11	76 00	.....	42 78	31 48	7	40 00

RETURN of Division Court Business.—Continued.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	
The Name of County, United Counties or District.	Number of Divisions.	Number of suits entered, exclusive of Transcripts of Judgments and Judgment summonses.	Amount of Claims entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Number of Transcripts of Judgments received from other Courts.	Amount of claims received by Transcripts of Judgments from other Courts.	Number of Judgment Summonses issued.	Balance of Cash in Court from the previous year.	Total amount of Suits' money paid into Court.	Total amount of Suits' money paid out of Court.	Balance of Cash in Court.	Number of Suits entered, where the amount claimed exceeds \$100.	Number of actions for Tort, where the amount claimed exceeds \$10.	Number of actions of Replevin, where the value of the goods or other property or effects distrained, taken or detained, exceeds the sum of \$10.	Number of Jury Trials by Juries summoned.	Amount paid to Jurors summoned.	Number of Jury Trials by Jurors called, in pursuance of Sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Remunements payable to the Honourable the Treasurer for the use of the Province.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney or Agents Fees, under Sec. 16 of "The Division Courts Act, 1880."	The amount of costs so taxed.
Bruce.....	1	205	7052 93	14	444 61	27	319 09	3049 65	3029 88	838 86	11						6 11			
	2	102	3212 94	14	722 86	8	53 19	1030 90	1034 77	49 32	5					2 90	2 90		10 00	
	3	96	2865 68	11	449 82	10	248 96	1204 95	1289 34	161 57	4					2 47	2 47		5 00	
	4	124	4835 64	14	717 50	7	78 12	1251 77	1344 94	8 98	12					5 07	5 07			
	5	111	4312 07	16	930 98	6	28 82	1313 98	1277 52	36 46	14					9 06	9 06			
	6	27	1206 27	4	268 38	4	28 77	779 26	778 54	29 49	2					1 13	1 13			
	7	68	2418 65	8	301 36	12	.....	1125 07	1125 07	.....	3					2 22	2 22		5 00
	8	326	11294 44	23	1245 17	26	.....	4111 63	4038 35	72 08	18			1	12 00	10 35	10 35		10 00
	9	93	3137 91	1	128 14	1	19 45	408 97	408 97	1046 12	6					2 91	2 91			
	10	30	970 43	7	498 27	5	66 25	408 49	425 34	49 40	2					98	98			
Carleton...	1	1576	64449 79	27	1561 45	565	207 03	11334 59	11331 78	209 84	139	6	1			67 09	1228 56	12	84 00	
	2	64	2248 09	4	91 65	1	.....	1303 69	1229 81	73 88	3					1 98	1 98		
	3	79	2169 25	5	300 58	2	.....	1732 01	1732 01	.....	7	1				2 86	2 86	5	28 00
	4	54	1928 86	13	613 69	13	25 63	1542 85	1532 31	35 67	2					1 67	1 67			
	5	27	1077 16	8	482 18	4	.....	527 64	527 64	.....	4					1 36	1 36		
	6	72	2500 30	4	181 39	3	.....	901 40	901 40	.....	11					3 98	3 98		
	7	51	2054 09	1	19 85	9	127 86	526 26	563 45	90 67	4	1				1 81	1 81		5 00	

RETURN of Division Court Business.—Continued.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
The name of County, United Counties or District.	Number of Suits entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Amount of Claims entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Number of Transcripts of Judgments received from other Courts.	Amount of Claims received by Transcripts of Judgments from other Courts.	Number of Judgment Summonses issued.	Balance of Cash in Court from the previous year.	Total amount of Suits' money paid into Court.	Total amount of Suits' money paid out of Court.	Balance of cash in Court.	Number of Suits entered, where the amount claimed exceeds \$100.	Number of actions for Tort, where the amount claimed exceeds \$10.	Number of actions of Replevin, where the value of the goods or other property or effects distrained, taken or detained, exceeds the sum of \$10.	Number of Jury Trials by Juries summoned.	Amount paid to Juries summoned.	Number of Jury Trials by Juries called in pursuance of Sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Emoluments payable to the Honourable the Treasurer for the use of the Prothonotary.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney or Agent's fees, under Sec. 16 of "The Division Courts Act, 1880."	The amount of costs so taxed.
<i>Brought forward.</i>	10	44913 30	81	4217 81	72	361 46	14497 39	14457 30	401 56	89	20	4	11	76 00	1	42 78	31 48	7	40 00
Bruce	10	41306 96	112	5707 19	112	842 65	15362 07	15330 47	809 46	77	3	1	1	12 60	1	39 20	.....	4	30 00
Carleton	7	76428 54	62	3749 59	597	360 52	17928 44	17878 90	410 06	170	8	1	.....	.....	.....	80 75	1228 56	8	117 00
<i>Carried forward.</i>	27	162648 80	255	13074 59	781	1564 63	47787 90	47726 67	1621 08	336	31	5	12	88 00	1	162 73	1260 04	19	187 00

RETURN of Division Court Business.—Continued.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
The Name of County, United Counties or District.	Number of Divisions.	Number of suits entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Number of Transcripts of Judgments received from other Courts.	Amount of Claims received by Transcripts of Judgments, from other Courts.	Number of Judgment Summonses issued.	Balance of cash in Court from the previous year.	Total amount of Suits' money paid into Court.	Total amount of Suits' money paid out of Court.	Balance of cash in Court.	Number of Suits entered, where the amount claimed exceeds \$100.	Number of actions for Tort, where the amount claimed exceeds \$10.	Number of actions of Replevin, where the value of the goods or other property or effects distrained, taken or detained exceeds the sum of \$10.	Number of Jury Trials by Juries summoned.	Amount paid to Juries summoned.	Number of Jury Trials by Juries called in pursuance of sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Emoluments payable to the Honorable the Treasurer for the use of the Province.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney or Agents' Fees, under Sec. 16 of "The Division Courts Act, 1880."	The amount of costs so taxed.
Dufferin...	1	247	10411 07	1862 13	35	91 92	1642 50	1623 94	130 48	27	2	1	1	11 00	11 60	11 60			
	2	186	9012 99	1367 26	51	13 00	2411 83	2283 09	141 74	27	2	1	2	20 00	10 39	10 39			
	3	78	2001 86	988 50	16	62 81	950 80	922 70	90 91	2	2	1	1		2 19	1 12			
	4	35	1636 15	304 00	1	34 12	530 00	464 00	66 00	6	6	1	1		3	3			
	5	121	3987 74	1575 19	22		1783 70	1785 70		6	6	1	1		3	3			
Elgin....	1	292	9601 48	1326 48	37	140 73	3699 81	3715 56	124 98	18	5	1	3	27 00	10 68	10 68		1	10 00
	2	57	2305 63	395 80	13	152 93	1198 44	1351 37		5	5	1	1	10 00	2 33	2 33			5 00
	3	671	19005 56	1382 04	65	254 63	5133 95	5198 75	189 83	28	3	3	2	17 00	16 78	16 78	38 00	1	
	4	249	8690 00	1177 84	21	238 03	3374 20	3437 60	174 83	21	4	2	1		9 27	9 27			
Essex....	1	113	2774 01	28 50	43		1581 21	1605 21	30 01	3									
	2	131	6198 09	492 69	42	54 01	2022 25	1997 35	224 86	15	1	1	1	10 00	2 28	2 28			11 60
	3	132	6267 10	286 87	9	199 97	2508 07	2627 74	68 31	21	1	1	1		5 74	5 74			
	4	96	3483 97	334 48	30	187 98	1853 85	1712 24	441 20	8	1	1	1		7 26	7 26			
	5	199	7604 23	566 39	30	299 59	3530 12	3416 33	113 79	12	3	1	1	12 00	3 53	3 53			3 00
	6	81	2937 45	336 89	20	34 07	2286 48	2242 46	49 24	7	3	1	1	10 00	6 98	6 98			5 00
	7	586	21667 08	1151 27	111	5 22	6337 22	6211 58	274 82	47	1	1	4	26 00	2 99	2 99		1	5 00
	8	242	9213 90	1062 15	31	81 68	2537 76	2526 39	211 01	27	4	3	3		19 94	19 94			23 00
	9	155	6063 87	485 59	50	202 64	2458 20	2439 11	19 09	17	1	1	1		6 74	6 74			

Return of Division Court Business.—Continued.

The name of County, United Counties or District.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
	Number of Divisions.	Number of Suits entered, exclusive of Transcripts of Judgments and Judgments Summons.	Amount of Claims entered, exclusive of Transcripts of Judgments and Judgment Summons.	Number of Transcripts of Judgments received from other Courts.	Amount of Claims received by Transcripts of Judgments from other Courts.	Number of Judgment Summons issued.	Balance of Cash in Court from the previous year.	Total amount of Suits' money paid into Court.	Total amount of Suits' money paid out of Court.	Balance of Cash in Court.	Number of Suits entered, where the amount claimed exceeds \$100.	Number of actions for Tort where the amount claimed exceeds \$40	Number of actions of Replevin, where the value of the goods or other property or effects distrained, taken or detained, exceeds the sum of \$40.	Number of Jury Trials by Juries summoned.	Amount paid to Jurors summoned.	Number of Jury Trials by Juries called in pursuance of Sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Emoluments payable to the Honourable the Treasurer for the use of the Province.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney or Agent's Fees, under Sec. 16 of "The Division Courts Act, 1880."	The amount of costs so taxed.
<i>Brought forward</i>	52	4254	162648 80	255	13674 59	781	1564 63	47787 90	47726 67	1621 08	336	31	5	12	88 00	1	162 73	1260 04	19	187 00
Dufferin	5	657	27039 81	95	6097 08	125	201 85	7320 83	7079 43	429 13	68	2	4	43 00	29 31	2	29 31	29 31	2	15 00
Elgin	1	1169	39602 67	123	4283 16	136	786 32	13406 40	13703 28	489 41	72	12	3	6	51 00	1	39 06	38 09	2	38 09
Essex	9	1685	66109 70	103	4634 83	366	1072 16	25172 16	24778 42	1431 83	157	11	4	7	58 00	1	55 37	53 38	7	42 00
<i>Carried forward</i>	45	7775	295360 98	576	28689 66	1408	3624 96	93687 29	93287 80	3971 48	633	56	12	29	243 00	2	286 47	1351 51	28	244 00

RETURN of Division Court Business.—Continued.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	
The Name of County, United Counties or District.	Number of Suits entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Amount of Claims entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Number of Transcripts of Judgments received from other Courts.	Amount of Claims received by Transcripts of Judgments from other Courts.	Number of Judgment Summonses issued.	Balance of cash in Court from the previous year.	Total amount of Suits' money paid into Court.	Total amount of Suits' money paid out of Court.	Balance of cash in Court.	Number of Suits entered, where the amount claimed exceeds \$100.	Number of actions for Tort, where the amount claimed exceeds \$10.	Number of actions of Replevin, where the value of the goods or other property or effects distrained, taken or detained, exceeds the sum of \$10.	Number of Jury Trials by Juries summoned.	Amount paid to Jurors summoned.	Number of Jury Trials by Jurors called in pursuance of Sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and emoluments payable to the Honourable the Treasurer for the use of the Province, in each County, United Counties or District.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney or Agents' Fees, under Sec. 16 of "The Division Courts Act, 1880."	The amount of costs so taxed.	
Frontenac	1	634	26197 88	1099 92	76	554 08	9881 12	9981 86	458 34	62	5	5	3	15 00	.....	27 95	82 81	6	37 00
	2	187	864 07	1 66 87	1	33 10	338 14	347 14	20 00	2	.....	.....	.....	.....	.....	30	82 81	1	10 00
	3	36	1094 69	4 02 53	.....	.....	689 30	615 87	73 43	1	.....	.....	.....	.....	.....	38	.....	.....	.....
	4	121	4992 49	159 48	26	10 00	722 87	708 47	24 40	2	.....	.....	.....	.....	.....	1 64	.....	.....	.....
	5	185	6949 53	139 47	.....	.....	148 22	146 22	2 00	.....	.....	.....	.....	.....	.....	30	.....	.....	.....
	6	61	1797 17	402 47	33	13 52	647 37	647 37	28 87	3	2 34
	7	116	3659 52
	8	89	3891 15
Grey	1	468	11789 55	1950 15	243	.....	4579 37	4579 37	.....	27	5	5	1	12 00	.....	14 16	90 15	1	5
	2	187	5476 83	252 48	33	25 28	2064 29	2066 74	52 63	13	.....	2	.....	.....	.....	6 22	.....	1	5
	3	165	6911 42	425 89	37	36 72	2021 81	2021 81	36 72	13	.....	.....	.....	.....	.....	6 52	.....	.....	.....
	4	121	4992 49	190 54	21	23 53	1689 72	1684 87	14 85	9	1	2	.....	.....	.....	5 01	.....	1	10 00
	5	185	6949 53	1713 33	21	15 08	2990 67	2990 44	15 38	10	2	.....	1	11 00	.....	6 25	.....	3	9 00
	6	61	1797 17	360 11	17	14 44	1003 40	82 67	1	1 30
	7	116	3659 52	1347 23	10	1851 02	1851 02	5	1	2 86	1	3 00
	8	89	3891 15	281 47	10	1174 60	1174 60	8	3 44	2	10 00

RETURN of Division Court Business - *Continued.*

The Name of County, United Counties or District.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
	Number of Divisions.	Number of Suits entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Amount of Claims entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Number of Transcripts of Judgments received from other Courts.	Amount of Claims received by Transcripts of Judgments from other Courts.	Number of Judgment Summonses issued.	Balance of Cash in Court from the previous year.	Total amount of Suits' money paid into Court.	Total amount of Suits' money paid out of Court.	Balance of Cash in Court.	Number of Suits entered where the amount claimed exceeds \$100.	Number of actions for Tort where the amount claimed exceeds \$10.	Number of actions of Replevin, where the value of the goods or other property or effects distrained, taken or detained exceeds the sum of \$10.	Number of Jury Trials by Juries summoned.	Amount paid to Jurors summoned.	Number of Jury Trials by Jurors called in pursuance of Sec. 122 of "The Division Courts Act"	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Emoluments payable to the Honourable the Treasurer for the use of the Provinces.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney or Agents fees, under Sec. 16 of "The Division Courts Act, 1889."	The amount of costs so taxed.
<i>Brought forward.</i>	49	7775	295460 98	576	28689 66	1408	3624 96	93687 29	93287 80	3971 48	633	56	12	29	243 00	2	286 47	1351 31	28	241 00
Frontenac	6	898	33824 48	39	2360 74	140	610 70	12453 89	12446 93	600 04	70	5	3	3	15 00	.....	33 31	82 81	7	47 00
Grey.....	8	1392	45467 66	152	7232 20	392	115 05	17473 11	17362 25	202 53	86	10	5	3	35 00	.....	45 76	90 15	9	42 00
<i>Carried forward.</i>	59	10065	374753 12	767	38282 60	1940	4350 71	123614 29	123096 98	4774 05	789	71	17	35	293 00	2	365 54	1524 50	44	333 00

Return of Division Court Business—Continued.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
Number of Divisions.	Number of suits entered, exclusive of Transcripts of Judgments and Judgment summonses.	Amount of Claims entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Number of Transcripts of Judgments received from other Courts.	Amount of claims received by Transcripts of Judgments from other Courts.	Number of Judgment Summonses issued.	Balance of Cash in Court from the previous year.	Total amount of Sutors' money paid into Court.	Total amount of Sutors' money paid out of Court.	Balance of Cash in Court.	Number of Suits entered where the amount claimed exceeds \$100.	Number of sections for Tort where the amount claimed exceeds \$40.	Number of actions of Replevin, where the value of the goods or other property or effects distrained, taken or detained, exceeds the sum of \$40.	Number of Jury Trials by Juries summoned.	Amount paid to Juries summoned.	Number of Sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Emoluments payable to the Honourable the Treasurer for the use of the Province.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney or Agents' Fees, under Sec. 16 of "The Division Courts Act, 1880."	The amount of costs so taxed.
1	40	1750 00	7	472 00	2	98 00	791 41	791 41	41 59	4	1	1	1	12 00	1	1 69	1	1	5 00
2	33	1410 40	3	167 37	4	98 00	627 62	583 03	44 59	1	1	1	1	12 00	1	1 03	1	1	1 00
3	136	4165 83	12	741 96	13	75 54	1858 83	1286 58	146 99	7	1	1	1	12 00	3	3 82	1	1	8 00
4	23	736 54	2	116 30	1	116 30	324 58	320 38	4 20	2	1	1	1	12 00	1	24	1	1	24 00
5	14	323 33	3	121 02	1	121 02	234 23	234 23	0 00	1	1	1	1	12 00	1	24	1	1	24 00
6	132	5797 00	10	461 00	18	86 21	2018 63	1921 82	177 02	11	1	1	1	12 00	5	5 69	1	1	5 69
7	30	590 50	3	81 24	2	2 31	521 47	521 47	2 31	1	1	2	1	12 00	1	55	1	1	5 00
8	19	394 41	3	33 45	3	33 45	233 95	233 95	0 00	1	1	1	1	12 00	1	24	1	1	24 00
9	43	707 70	9	267 74	3	0 00	408 71	408 71	0 00	1	1	1	1	12 00	1	33	1	1	33 00
10	97	5112 67	12	683 53	24	11 05	1293 19	1384 96	154 12	11	1	1	1	12 00	5	5 18	1	1	10 00
11	68	3456 91	4	28 90	3	11 05	1754 87	1734 34	19 00	5	1	1	1	12 00	3	3 23	1	1	3 23
12	96	3266 70	5	272 44	38	11 05	1177 35	1177 35	19 00	5	1	1	1	12 00	2	2 63	1	1	8 00
13	72	2018 57	12	570 44	28	5 00	4509 00	2037 00	1 35	2	1	1	1	12 00	1	1 37	1	1	1 37
14	50	1577 54	4	204 27	4	5 00	589 81	584 42	5 39	2	1	1	1	12 00	1	4 25	1	1	4 25
15	83	3529 56	4	253 35	3	5 00	1642 90	1605 80	37 10	11	1	1	1	12 00	1	4 25	1	1	4 25

RETURN of Division Court Business—Continued.

The Name of County, United Counties or District.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
	Number of Divisions.	Number of suits entered, exclusive of Transcripts of Judgment and Judgment Summons.	Amount of claims entered, exclusive of Transcripts of Judgment and Judgment Summons.	Number of Transcripts of Judgments received from other Courts.	Amount of Claims received by Transcripts of Judgments, from other Courts.	Number of Judgment Summons issued.	Balance of Cash in Court from the previous year.	Total amount of Suits' money paid into Court.	Total amount of Suits' money paid out of Court.	Balance of cash in Court.	Number of suits entered where the amount claimed exceeds \$100.	Number of actions for Tort where the amount claimed exceeds \$10.	Number of actions of Replevin, where the value of the goods or other property or effects distrained, taken or detained exceeds the sum of \$10	Number of Jury Trials by Juries summoned.	Amount paid to Juries summoned.	Number of Jury Trials by Juries called in pursuance of sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Emoluments payable to the Honorable the Treasurer for the use of the Province.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney or Agent's fees, under sec. 16 of "The Division Courts Act, 1880."	The amount of costs so taxed.
		%	\$ c.		\$ c.		\$ c.	\$ c.	\$ c.	\$ c.				\$ c.		\$ c.	\$ c.	\$ c.	%	%
<i>Brought forward</i>	59	10055	37 1753 12	767	38282 60	1910	4350 71	123614 29	123096 98	4774 05	789	71	17	35	293 00	.....	365 54	1521 50	41	333
Haddi- mand	6	378	14203 10	37	2079 65	37	183 75	5354 50	5137 45	372 80	25	.....	1	1	12 00	.....	13 31	.....	.....	.....
Hali- burton	3	92	1692 91	11	382 43	8	2 31	1164 13	1164 13	2 31	1	1	4	.....	.....	.....	1 12	.....	1	5
Halton	6	466	18961 95	41	2012 99	97	16 05	6508 21	6527 14	215 61	34	1	1	.....	.....	.....	18 01	.....	2	18
<i>Carried forward</i>	74	11001	409611 08	856	42757 67	2082	4552 82	136636 13	135925 70	5364 77	849	73	23	36	303 00	.....	397 98	1524 50	47	356

RETURN of Division Court Business. — Continued.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
									Number of suits entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Amount of claims entered, exclusive of Transcripts of Judgments and Judgment Summonses.										
Hastings.	1	18422 01	11	888 83	25	390 60	4942 87	5291 21	c. 42 26	42	Number of actions for Tort, where the amount claimed exceeds \$100.	1	Number of actions of Replevin, where the value of the goods or other property or effects distrained, taken or detained, exceeds the sum of \$40.	3	Amount paid to Jurors summoned.	Number of Jury Trials by Jurors called, in pursuance of Sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Emoluments payable to the Honourable the Treasurer for the use of the Province.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney or Agents Fees, under Sec. 16 of "The Division Courts Act, 1880."	The amount of costs so taxed.
	2	36 1129 37	1	29 91	6	8 12	374 66	368 44	c. 6 22	3		1		1	18 36	4	70			
	3	33 974 51	2	...	...	...	662 96	638 86	c. 4 10	1		1		1	1	23				
	4	120 788 131	10	311 32	6	...	971 89	1137 88	c. 9 25	6		1		1	3	48				
	5	77 2857 87	4	112 50	4	...	333 99	524 74	c. 9 25	4		1		1	3	59				
	6	99 4253 06	12	514 15	5	22 32	1524 44	1507 30	c. 17 14	5		1		1	11	00				
	7	103 2583 05	6	332 48	15	51 60	1432 62	1500 85	c. 3 37	3		1		1	11	00				
	8	66 2783 00	4	163 35	15	...	1586 83	586 83	c. 3 05	9		2		1	11	00				
	9	196 8037 28	13	672 44	26	82 15	1788 40	1735 13	c. 53 27	17		2		2	29	00				
	10	53 1452 54	4	178 82	11	36 50	554 91	499 24	c. 92 17	4		2		1	1	00				
	11	17 338 14	3	117 28	5	17 24	127 80	145 04	c. 21	4		1		1	1	00				
	12	180 5732 17	14	572 48	2	29 95	1818 81	1818 81	c. 6	6		1		1	4	80				
Huron ...	1	5737 98	9	450 73	75	114 34	1219 01	1216 71	c. 13 64	13		2		3	33	60				
	2	216 5639 33	11	429 90	21	...	2561 04	2493 09	c. 67 95	11		4		1	5	89				
	3	140 5253 00	11	362 00	22	...	1196 73	1196 73	c. 11 99	2		1		1	10	00				
	4	96 2833 93	11	465 07	13	...	1151 56	1119 57	c. 31 99	1		1		1	2	24				

RETURN of Division Court Business.—Continued.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
The Name of County, United Counties or District.	Number of suits entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Amount of Claims entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Number of Transcripts of Judgments received from other Courts.	Amount of Claims received by Transcripts of Judgments, from other Courts.	Number of Judgment Summonses issued.	Balance of cash in Court from the previous year.	Total amount of Suits' money paid into Court.	Total amount of Suits' money paid out of Court.	Balance of cash in Court.	Number of suits entered where the amount claimed exceeds \$100.	Number of actions for Tort where the amount claimed exceeds \$40.	Number of actions of Replevin, where the value of the goods or other property or effects distrained, taken or detained exceeds the sum of \$40.	Number of Jury Trials by Juries summoned.	Amount paid to Juries summoned.	Number of Jury Trials by Juries called in pursuance of sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Emoluments payable to the Honourable the Treasurer for the use of the Province.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney or Agents' fees, under sec. 16 of "The Division Courts Act, 1880."	The amount of costs so taxed.
<i>Brought forward</i>	74	404611 08	836	42757 67	2082	4592 82	136236 13	135925 70	5864 77	849	73	23	36	305 00	.....	397 98	1524 50	47	336
Hastings	12	56444 86	84	3843 56	120	638 48	15140 18	15774 33	227 78	100	11	7	8	81 50	.....	49 60	4 79	3	30
Huron	651	19464 24	42	1747 70	131	114 34	6128 34	6026 10	218 88	37	7	3	3	33 00	.....	19 48	.....	3	20
<i>Carried forward</i>	86	485520 17	982	48408 93	2333	5305 64	157904 65	157726 13	6811 13	986	91	30	47	419 50	.....	467 06	1529 29	53	406

RETURN of Division Court Business.—Continued.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	
The name of County, United Counties or District.	Number of Suits entered, exclusive of Transcripts	Amount of Claims entered, exclusive of Transcripts	Number of Transcripts of Judgments received from other Courts.	Amount of Claims received by Transcripts of Judgments from other Courts	Number of Judgment Summonses issued.	Balance of Cash in Court from the previous year.	Total amount of Suits' money paid into Court.	Total amount of Suits' money paid out of Court.	Balance of cash in Court.	Number of Suits entered, where the amount claimed exceeds \$100.	Number of actions for Tort, where the amount claimed exceeds \$40.	Number of actions of Replevin, where the value taken or detained, exceeds the sum of \$40.	Number of Jury Trials by Jurors summoned.	Amount paid to Jurors summoned.	Number of Jury Trials by Jurors called in pursuance of Sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Emoluments payable to the Honorable the Treasurer for the use of the Prothonotary, in each County, United Counties or District.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney or Agents' Fees, under Sec. 16 of "The Division Courts Act, 1880."	The amount of costs so taxed.	
Huron.— Continued	5	3255 77	10	784 43	1	1414 69	1436 35	20 00	8	2					371				41 66	
	6	823 41	9	374 02	2	142 45	139 23	3 22	2						60				2 66	
	45	1755 13	5	651 86	5	958 71	958 71		2						116			20	30 99	
	8	81	2782 48	17	694 66	2	1406 18	1414 81	22 31	2		12			221				55 98	
	9	66	2382 79	14	694 32	2	857 69	817 81	39 82	3	3	3			222				6 00	
	10	29	1024 22	1	47 73	2	432 18	406 18	26 00	1					82				6 91	
	11	66	2919 56	9	531 33	1	1185 31	1192 22		5		1			31				9	
	12	58	2182 50	4	720 84	4	720 84	720 84		5			12		227				9	
	Kent	1	476	42	2087 62	86	7354 97	7218 80	287 75	52	2					2362	23 98		7	151 58
		2	216	26	1530 81	100	3653 47	3662 40	52 67	13						628				61 00
		3	148	17	630 42	8	2354 13	2363 13		13						520				140 82
		4	250	19	1560 15	38	2914 65	2872 31	183 16	15						714			10	220 60
5		278	28	1885 73	43	4681 57	4560 16	121 41	24	2	3	22			1092			10	220 60	
6		130	15	1413 77	39	2871 41	2341 41	30 00	6	1	1				281				81 44	
7		112	4537 41	14	605 68	11	2062 90	2224 63	652 71	9	2	1			438				814 44	

Return of Division Court Business—Continued.

The Name of County, United Counties or District.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
	Number of Divisions.	Number of Suits entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Amount of Claims entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Number of Transcripts of Judgments received from other Courts.	Amount of Claims received by Transcripts of Judgments from other Courts.	Number of Judgment summonses issued.	Balance of Cash in Court from the previous year.	Total amount of Suits' money paid into Court.	Total amount of Suits' money paid out of Court.	Balance of cash in Court.	Number of Suits entered, where the amount claimed exceeds \$100.	Number of actions for Tort, where the amount claimed exceeds \$40.	Number of actions of Replevin, where the value of the Goods or other property or effects distrained, taken or detained exceeds the sum of \$40.	Number of Jury Trials by Juries summoned.	Amount paid to Jurors summoned.	Number of Jury Trials by Jurors called in pursuance of Sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Emoluments payable to the Honourable the Treasurer for the use of the Prothonotary.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney or Agent's fees, under Sec. 16 of "The Division Courts Act, 1880."	The amount of costs so taxed.
<i>Brought forward</i>	86	13026	48520 17	982	4508 33	2333	5305 64	157304 65	157236 13	5811 13	986	91	30	47	419 50	.....	467 06	1529 29	53	406
Huron— <i>Cont.</i>	12	459	17125 86	65	3778 35	21	144 25	7087 94	7036 15	111 35	29	.....	.....	5	60 00	.....	16 16	.....	3	25
Kent.....	7	1610	62241 04	190	9714 18	325	1389 04	25393 10	25242 84	1327 70	132	7	3	3	22 00	.....	61 35	23 98	3	57
<i>Carried forward</i>	105	15165	561887 07	1237	61901 46	2679	6838 88	190385 69	190025 12	7250 18	1147	98	33	55	501 50	.....	544 57	1553 27	59	458

RETURN of Division Court Business.—Continued.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	
The Name of County, United Counties or District.	Number of Divisions.	Number of suits entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Amount of Claims entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Number of Transcripts of Judgments received from other Courts.	Amount of Claims received by Transcripts of Judgments, from other Courts.	Number of Judgment Summonses issued.	Balance of cash in Court from the previous year.	Total amount of Sutors' money paid into Court.	Total amount of Sutors' money paid out of Court.	Balance of cash in Court.	Number of suits entered, where the amount claimed exceeds \$100.	Number of actions for Tort, where the amount claimed exceeds \$40.	Number of actions of Replevin, where the value of the goods or other property or effects distrained, taken or detained exceeds the sum of \$40.	Number of Jury Trials by Juries summoned.	Amount paid to Jurors summoned.	Number of Jury Trials by Jurors called in pursuance of Sec 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Emoluments payable to the Honourable the Treasurer for the use of the Prothonotary, in each County, United Counties or District.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney or Agents Fees, under Sec. 16 of "The Division Courts Act, 1880."	The amount of costs so taxed.
Lambton.	1	321	12261 87	27	376 94	15	3921 20	3962 56	22 69	29	1	1	10	\$	1271	\$	3	11	64 05	
	2	161	5309 38	7	234 84	15	1534 64	1409 11	145 53	10	1	1	12	\$	340	\$	1	7	71 83	
	3	86	2843 60	42	1995 72	13	1685 92	1670 57	48 18	6	6	5	12	\$	285	\$	1	1	32 83	
	4	110	2537 95	23	1274 57	21	1658 33	1658 33	6	6	5	1	12	\$	366	\$	1	1	.....
	5	139	4126 43	6	348 39	5	908 06	908 06	6	6	4	13	4	\$	341	\$	2	15	.....
	6	38	1270 17	4	118 21	11	444 72	462 65	27 41	8	1	1	1	\$	87	\$	2	20	64 10	
	7	68	3722 84	13	440 44	21	1118 63	965 30	217 43	29	1	1	1	\$	317	\$	1	5	105 73	
	8	337	13788 71	43	2200 43	99	5462 38	5234 64	207 74	29	1	1	12	\$	1409	\$	1	1	17 19	
	9	119	2760 00	3	156 55	10	1502 57	1377 59	124 98	7	1	1	1	\$	394	\$	1	1	.....
Lanark ..	1	161	5056 85	9	228 87	26	1542 65	1562 43	61 14	12	1	1	1	\$	483	\$	1	5	80 92	
	2	52	1717 57	5	174 32	9	798 55	793 11	55 75	3	1	1	1	\$	156	\$	1	5	50 31	
	3	161	3908 53	11	668 76	90	1049 48	1050 48	2	2	2	1	1	\$	266	\$	1	1	1 00	
	4	272	7988 44	11	747 23	74	2921 57	2905 65	15 92	14	1	1	1	\$	668	\$	10	28	.....
	5	18	619 20	3	233 17	1	276 04	298 50	14 89	4	1	1	1	\$	39	\$	1	1	.....
	6	90	3251 33	9	304 50	39	1728 98	1728 98	.....	4	1	1	1	\$	283	\$	1	1	36 85

Return of Division Court Business.—Continued.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
The Name of County, United Counties or District.	Number of Suits entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Amount of Claims entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Number of Transcripts of Judgments received from other Courts.	Amount of Claims received by Transcripts of Judgments from other Courts.	Number of Judgment Summonses issued.	Balance of cash in Court from the previous year.	Total amount of Sutors' money paid into Court.	Total amount of Sutors' money paid out of Court.	Balance of Cash in Court.	Number of Suits entered, where the amount claimed exceeds \$100.	Number of actions for Tort, where the amount claimed exceeds \$40.	Number of actions of Replevin, where the value of the goods or other property or effects distrained, taken or detained exceeds the sum of \$40.	Number of Jury Trials by Juries summoned.	Amount paid to Jurors summoned.	Number of Jury Trials by Jurors called in pursuance of Sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Emoluments payable to the Honourable the Treasurer for the use of the Province.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney, or Agents' fees, under Sec. 16 of "The Division Courts Act, 1880."	The amount of costs so taxed.
<i>Brought forward</i>	15145	564887 07	1237	61901 46	2679	6838 88	190025 12	190025 12	7250 18	1147	98	33	55	501 50	.....	544 57	1553 27	59	458 09
Lambton.	9	49220 95	171	7746 14	172	355 73	17668 81	17668 81	793 96	101	49	21	8	7 00	.....	48 10	.....	11	69 09
Lanark...	6	22541 92	45	2356 85	149	169 08	8317 27	8339 15	147 20	35	1	.....	.....	.....	.....	18 95	.....	12	38 00
<i>Carried forward</i>	17298	636649 94	1453	72004 45	3000	7363 69	216959 41	216033 08	8191 34	1283	148	54	63	571 50	.....	611 62	1553 27	82	565 00

Return of Division Court Business.—Continued.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
Number of Divisions.	Number of Suits entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Amount of Claims entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Number of Transcripts of Judgments received from other Courts.	Amount of Claims received by Transcripts of Judgments from other Courts.	Number of Judgment Summonses issued.	Balance of Cash in Court from the previous year.	Total amount of Suits' money paid into Court.	Total amount of Suits' money paid out of Court.	Balance of Cash in Court.	Number of Suits entered, where the amount claimed exceeds \$100.	Number of actions for Tort, where the amount claimed exceeds \$40.	Number of actions of Replevin, where the value taken or detained exceeds the sum of \$40.	Number of Jury Trials by Juries summoned.	Amount paid to Jurors summoned.	Number of Jury Trials by Jurors called in pursuance of Sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Emoluments payable to the Honourable the Treasurer for the use of the Pro-vice.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney or Agents fees, under Sec. 16 of "The Division Courts Act, 1880."	The amount of costs so taxed.
1	568	\$ 15670 14	12	\$ 474 16	137	\$ 781 52	\$ 6773 56	\$ 6352 56	\$ 601 20	25	2	2	1	\$ 10 00	1	\$ 13 39	\$ 21 86	1	\$ 10 00
2	164	\$ 4971 97	7	\$ 199 16	24	\$ 147 41	\$ 2411 00	\$ 2381 54	\$ 176 87	8	2	3	1	\$ 4 70	1	\$ 4 70	2	2	\$ 10 00
3	297	\$ 10314 65	6	\$ 154 86	46	\$ 219 92	\$ 1847 14	\$ 1784 42	\$ 62 72	14	3	3	1	\$ 3 55	1	\$ 3 55	5	5	\$ 48 00
4	123	\$ 3543 51	3	\$ 77 72	28	\$ 129 28	\$ 1171 29	\$ 1254 36	\$ 46 27	5	1	1	1	\$ 3 01	1	\$ 3 01	3	3	\$ 10 00
5	100	\$ 3763 09	3	\$ 100 62	12	\$ 83 32	\$ 1026 10	\$ 1109 49	\$ 44 00	7	3	1	1	\$ 3 27	1	\$ 3 27	1	1	\$ 10 00
9	97	\$ 3196 75	5	\$ 162 00	10	\$ 94 22	\$ 1819 30	\$ 758 50	\$ 155 02	2	1	1	1	\$ 2 60	1	\$ 2 60	3	3	\$ 18 00
8	63	\$ 2215 38	3	\$ 231 14	2	\$ 819 30	\$ 1534 49	\$ 1424 82	\$ 109 67	6	1	1	1	\$ 2 79	1	\$ 2 79	1	1	\$ 3 00
7	127	\$ 3664 60	9	\$ 313 78	19	\$ 827 64	\$ 827 64	\$ 784 17	\$ 43 47	5	1	1	1	\$ 1 16	1	\$ 1 16	1	1	\$ 10 00
6	90	\$ 2574 00	1	\$ 106 67	13	\$ 13 00	\$ 791 17	\$ 749 72	\$ 41 45	1	1	1	1	\$ 2 03	1	\$ 2 03	1	1	\$ 3 00
10	35	\$ 1007 12	1	\$ 102 17	2	\$ 93 00	\$ 1113 03	\$ 1085 63	\$ 32 40	2	1	1	1	\$ 4 93	1	\$ 4 93	1	1	\$ 10 00
11	67	\$ 1403 39	5	\$ 162 17	1	\$ 14 30	\$ 419 07	\$ 433 37	\$ 433 37	5	1	1	1	\$ 1 16	1	\$ 1 16	1	1	\$ 10 00
12	36	\$ 1627 49	2	\$ 487 35	2	\$ 14 30	\$ 419 07	\$ 433 37	\$ 433 37	5	1	1	1	\$ 1 16	1	\$ 1 16	1	1	\$ 10 00
1	122	\$ 5182 38	12	\$ 487 35	41	\$ 73 94	\$ 1538 45	\$ 1537 70	\$ 94 63	10	1	1	1	\$ 4 93	1	\$ 4 93	2	2	\$ 16 00
2	33	\$ 1043 97	7	\$ 270 19	1	\$ 28 00	\$ 287 19	\$ 16 00	\$ 16 00	1	1	1	1	\$ 1 16	1	\$ 1 16	1	1	\$ 10 00
3	21	\$ 483 28	2	\$ 7 25	1	\$ 28 00	\$ 273 81	\$ 260 15	\$ 13 66	1	1	1	1	\$ 1 16	1	\$ 1 16	1	1	\$ 10 00
4	87	\$ 2193 01	6	\$ 270 19	26	\$ 56 20	\$ 575 54	\$ 577 84	\$ 53 90	1	1	1	1	\$ 1 16	1	\$ 1 16	1	1	\$ 10 00
5	31	\$ 1013 25	6	\$ 330 86	5	\$ 54 62	\$ 397 28	\$ 422 03	\$ 29 87	1	1	1	1	\$ 1 16	1	\$ 1 16	1	1	\$ 10 00
6	50	\$ 1262 47	11	\$ 266 18	14	\$ 13 45	\$ 932 17	\$ 932 17	\$ 6 32	3	2	3	1	\$ 1 16	1	\$ 1 16	1	1	\$ 10 00
7	111	\$ 3512 41	12	\$ 506 80	6	\$ 5 50	\$ 1351 12	\$ 1350 30	\$ 6 32	10	4	4	1	\$ 1 16	1	\$ 1 16	1	1	\$ 10 00

Return of Division Court Business.—Continued.

The Name of County, United Counties or District.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
	Number of Divisions.	Number of Suits entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Amount of Claims entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Number of Transcripts of Judgments received from other Courts.	Amount of Claims received by Transcripts of Judgments from other Courts.	Number of Judgment Summonses issued.	Balance of Cash in Court from the previous year.	Total amount of Suitors' money paid into Court.	Total amount of Suitors' money paid out of Court.	Balance of Cash in Court.	Number of Suits entered, where the amount claimed exceeds \$100.	Number of actions for Tort, where the amount claimed exceeds \$10.	Number of actions of Replevin, where the value of the goods or other property or effects distrained, taken or detained exceeds the sum of \$10.	Number of Jury Trials by Juries summoned.	Amount paid to Jurors summoned.	Number of Jury Trials by Jurors called in pursuance of Sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Remunements payable to the Honourable the Treasurer for the use of the Province.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney or Agents fees, under Sec. 16 of "The Division Courts Act, 1880."	The amount of costs so taxed.
<i>Brought forward</i>	120	17298	638649 94	1453	72004 45	3000	7363 69	216359 41	246033 08	8191 34	1283	148	54	63	571 50	.....	611 62	1553 27	82	565 00
Leeds and Grenville	12	1773	53952 09	50	1922 28	296	1575 47	20016 36	19357 14	3313 07	89	11	2	1	10 00	6	48 42	21 86	13	94 00
Lennox and Addington.	7	475	14700 77	49	1868 63	33	226 71	5368 56	5367 38	214 41	27	14	.....	2	22 00	.....	13 70	.....	2	16 00
<i>Carried forward</i>	139	19546	705302 80	1552	75795 36	3389	9166 37	242344 33	240757 60	9718 85	1399	173	56	66	603 50	6	673 74	1575 13	97	675 00

RETURN of Division Court Business.—Continued.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
The Name of County, United Counties or District.	Number of Divisions.	Number of Suits entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Number of Transcripts of Judgments received from other Courts.	Amount of Claims received by Transcripts of Judgments from other Courts.	Number of Judgment Summonses issued.	Balance of Cash in Court from the previous year.	Total amount of Sutors' money paid into Court.	Total amount of Sutors' money paid out of Court.	Balance of Cash in Court.	Number of Suits entered, where the amount claimed exceeds \$100.	Number of actions for Tort, where the amount claimed exceeds \$40.	Number of actions of Replevin, where the value of the goods or other property or effects distrained, taken or detained exceeds the sum of \$40.	Number of Jury Trials by Juries summoned.	Amount paid to Jurors summoned.	Number of Jury Trials by Jurors called in pursuant of Sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Emoluments payable to the Honorable the Treasurer for the use of the Province in each County, United Counties or District.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney or Agents fees, under Sec. 16 of "The Division Courts Act, 1880."	The amount of costs so taxed.
Lincoln	1	127	3492 67	2	43 91	56 08	1325 57	1360 75	20 90	3	1	2	1	10	2 88	2 88	1	6 00	
	2	467	15137 91	41	2720 98	891 75	5278 68	5247 54	873 89	21	1	1	1	12	12 27	12 27	4	28 00	
	3	75	2685 94	18	1247 64	36 00	1150 18	1177 13	6 05	6	1	1	1	12	4 85	4 85	1	6 00	
	4	120	4895 87	14	873 12	117 11	2256 68	2310 08	63 71	8	1	1	1	12	4 85	4 85	1	6 00	
Manitoulin	1	74	3979 67	9	508 11	.....	1012 04	10 2 04	.....	13	.....	.....	.....	.....	.....	.....	.....	.....	.....
	2	53	1811 67	14	963 71	.....	1573 16	1589 30	23 89	5	.....	.....	.....	.....	.....	.....	.....	.....	.....
	3	47	2335 29	13	615 63	.....	851 31	824 64	46 37	6	.....	.....	.....	.....	.....	.....	.....	.....	.....
Middlesex	1	1700	65350 67	47	3041 86	1830 22	19827 21	19824 21	1832 62	139	2	2	5	45	65 58	65 58	9	55 00	
	2	106	4817 12	16	822 86	144 81	1143 81	1103 62	183 00	12	.....	.....	.....	.....	5 13	5 13	1	5 00	
	3	96	4589 16	18	768 66	1 75	657 25	659 00	.....	11	.....	.....	1	12	4 76	4 76	1	5 00	
	4	35	1283 36	14	569 51	.....	627 45	613 09	14 40	2	.....	.....	.....	.....	1 10	1 10	1	5 00	
	5	147	4088 46	26	1455 48	374 10	1661 21	1952 03	83 28	12	3	.....	3	36	4 43	4 43	1	5 00	
	6	147	5413 36	18	866 02	32	369 97	2579 28	47 52	9	1	1	.....	.....	4 98	4 98	1	5 00	
	7	184	4769 62	7	294 09	36	143 11	1948 26	1962 32	8 1	1	.....	.....	.....	4 16	4 16	1	5 00	
	8	22	1363 35	5	176 30	2	5 00	462 82	467 82	2	1	.....	.....	.....	1 37	1 37	1	5 00	
	9	577	11380 46	9	327 72	31	2374 82	2293 87	80 95	15	3	2	8 58	8 58	1	5 00

Return of Division Court Business.—Continued.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
The Name of County, United Counties or District.	Number of Suits entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Amount of Claims entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Number of Transcripts of Judgments received from other Courts.	Amount of Claims received by Transcripts of Judgments from other Courts.	Number of Judgment Summonses issued.	Balance of Cash in Court from the previous year.	Total amount of Sutors' money paid into Court.	Total amount of Sutors' money paid out of Court.	Balance of Cash in Court.	Number of Suits entered where the amount claimed exceeds \$100.	Number of actions for Tort, where the amount claimed exceeds \$40.	Number of actions of Replevin, where the value of the goods or other property or effects distrained, taken or detained exceeds the sum of \$40.	Number of Jury Trials by Juries summoned.	Amount paid to Jurors summoned.	Number of Jury Trials by Juries called in pursuance of sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Emoluments payable to the Honourable the Treasurer for the use of the Province.	Number of instances in which the Judge has allowed costs, under sec. 16 of "The Division Courts Act, 1880."	The amount of costs so taxed.
<i>Brought forward</i>	139	705302 80	1552	75795 36	33389	9166 37	24234 33	210757 60	9718 85	1399	173	56	66	603 50	6	673 71	1575 13	97	675 00
Lincoln	4	26212 39	75	4885 65	31	1100 94	10011 11	10145 50	965 55	38	3	3	2	22 00		22 67		6	10 00
Manitowlin	3	8126 63	36	2087 45	12	69 56	3136 51	3125 98	69 56	21									
Middlesex	9	104655 56	160	8322 50	268	2868 96	31282 15	31779 69	1370 82	210	11	5	13	139 00		100 15	1185 01	12	74 00
<i>Carried forward</i>	155	843637 38	1823	91090 96	3700	13205 83	287074 10	286108 77	12125 78	1671	187	64	81	761 50	6	796 56	2760 14	115	785 00

RETURN of Division Court Business. — *Continued.*

The Name of County, United Counties or District.	(1) Number of Divisions.	(2) Number of Suits entered, exclusive of Transcripts of Judgments and Judgment summonses.	(3) Amount of Claims entered, exclusive of Transcripts of Judgments and Judgment Summonses.	(4) Number of Transcripts of Judgments received from other Courts.	(5) Amount of Claims received by Transcripts of Judgments from other Courts.	(6) Number of Judgment Summonses issued.	(7) Balance of Cash in Court from the previous year.		(8) Total amount of Suits' money paid into Court.		(9) Total amount of Suits' money paid out of Court.		(10) Balance of Cash in Court.	(11) Number of Suits entered, where the amount claimed exceeds \$100.	(12) Number of actions for Tort, where the amount claimed exceeds \$40.	(13) Number of actions of Replevin, where the value of the goods or other property or effects distrained, taken or detained exceeds the sum of \$40.	(14) Number of Jury Trials by Juries summoned.	(15) Amount paid to Jurors summoned.	(16) Number of Jury Trials by Jurors called, in pursuance of Sec. 122 of "The Division Courts Act."	(17) Amount payable to County Treasurers for "Division Court Jury Fund."	(18) The amount of Fees and Emoluments payable to the Honourable the Treasurer for the use of the Province.	(19) Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney or Agents' fees under Sec. 16 of "The Division Courts Act, 1880."	(20) The amount of costs so taxed.
							c.	¢	c.	¢	c.	¢											
Muskoka.	1	124	6523 54	20	941 45	13	360 31	1507 53	1492 13	4	15 40	3001 08	1	4	1	2	16 75	1	4 68	1	1	2	10 60
	2	134	5400 49	19	1185 20	48	360 31	1677 34	1882 12	10	155 53	3081 35	23	3	1	2	11 00	1	4 08	1	1	2	10 60
	3	85	2909 65	13	601 38	14	23 40	877 06	877 06	3	7 50	25 34	9	21	1	1	11 00	1	85	1	1	2	10 60
	4	29	723 40	6	183 33	1	23 40	136 82	129 28	1	7 50	2745 05	9	3	1	2	19 00	1	2 10	1	1	2	10 60
Nipissing.	1	77	2817 14	7	361 00	1	.....	503 38	503 38	1	.....	3024 08	7	1	1	1	.....	1	4 68	1	1	1	10 60
	2	175	8070 87	12	1028 02	28	.....	3105 69	3081 35	1	.....	25 34	9	1	1	1	.....	2	4 08	1	1	1	10 60
	3	216	7841 02	13	978 62	16	53 35	2735 33	3045 05	1	.....	162 75	9	1	1	1	.....	2	85	1	1	1	10 60
	4	237	8175 70	8	208 18	58	172 47	2735 33	2745 05	1	.....	162 75	9	1	1	1	.....	2	85	1	1	1	10 60
Norfolk ..	1	237	6696 40	9	496 85	79	123 94	2806 34	2832 34	9	97 60	2832 34	9	2	1	1	.....	2	4 68	1	1	1	10 60
	2	93	3211 14	12	625 00	10	97 63	868 43	902 34	9	61 72	902 34	9	2	1	2	16 75	1	4 08	1	1	1	10 60
	3	47	1230 37	13	743 41	6	97 76	713 88	714 43	1	97 21	714 43	1	1	1	23	11 00	1	85	1	1	1	10 60
	4	77	2348 31	24	1321 07	32	173 61	1061 91	1184 70	3	50 82	1184 70	3	1	1	2	19 00	1	2 10	1	1	1	10 60
	5	92	1919 51	12	618 40	46	.....	1233 33	1233 33	1	.....	1233 33	1	3	1	2	19 00	1	1 45	1	1	1	10 60
	6	111	3276 03	36	1369 51	22	25 64	807 61	730 42	7	77 19	730 42	7	1	1	1	.....	1	3 24	1	1	1	10 60
	7	37	1204 54	14	482 69	12	28 73	416 01	378 94	1	37 07	378 94	1	1	1	1	.....	1	3 24	1	1	1	10 60
	8	37	1495 04	2	82 82	1	.....	641 24	641 24	2	.....	641 24	2	2	1	1	.....	1	3 24	1	1	1	10 60

Return of Division Court Business.—Continued.

The Name of County, United Counties or District.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
	Number of Divisions.	Number of Suits entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Amount of Claims entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Number of Transcripts of Judgments received from other Courts.	Amount of Claims received by Transcripts of Judgments, from other Courts.	Number of Judgment Summonses issued.	Balance of Cash in Court from the previous year.	Total amount of Sutors' money paid into Court.	Total amount of Sutors' money paid out of Court.	Balance of Cash in Court.	Number of Suits entered, where the amount claimed exceeds \$100.	Number of actions for Tort, where the amount claimed exceeds \$10.	Number of actions of Replevin, where the value of the goods or other property or effects distrained, taken or detained exceeds the sum of \$40.	Number of Jury Trials by Juries summoned.	Amount paid to Juries summoned.	Number of Jury Trials by Juries called in pursuance of Sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Emoluments payable to the Honourable the Treasurer for the use of the Province.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney or Agents' fees, under Sec. 16 of "The Division Courts Act, 1880."	The amount of costs so taxed.
<i>Brought forward</i>	155	23523	843697 38	1823	91090 96	3700	13205 83	287074 10	286108 77	12125 78	1671 187	64	81	764 50	6	736 56	2760 14	115	785 00	
Muskoka.	4	372	15557 09	58	2911 36	75	383 71	4198 71	4380 59	178 43	17	21							10 00	
Nipissing.	4	705	26904 73	40	2576 48	102	225 82	9369 48	9330 86	188 09	41	8								
Norfolk...	8	731	21381 34	122	5679 75	208	547 31	8546 75	8617 74	421 61	33	6	2	46 75		18 68				
<i>Carried forward</i>	171	25331	907540 54	2043	102258 55	4085	14362 67	309189 04	308437 96	12913 91	1762	222	66	108	811 25	6	815 24	2760 14	117	795 00

RETURN of Division Court Business.—Continued.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	
The Name of County, United Counties or District.	Number of Divisions.	Number of Judgments and Judgment Summons, exclusive of Transcripts.	Amount of Claims entered, exclusive of Transcripts.	Number of Transcripts of Judgments received from other Courts.	Amount of Claims received by Transcripts of Judgments from other Courts.	Number of Judgment Summons issued.	Balance of Cash in Court from the previous year.	Total amount of Suitsors' money paid into Court.	Total amount of Suitsors' money paid out of Court.	Balance of Cash in Court.	Number of Suits entered, where the amount claimed exceeds \$100.	Number of actions for Tort, where the amount claimed exceeds \$40.	Number of actions of Replevin, where the value of the goods or other property or effects distrained, taken or detained exceeds the sum of \$40.	Number of Jury Trials by Juries summoned.	Amount paid to Jurors summoned.	Number of Jury Trials by Jurors called in pursuance of Sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Emoluments payable to the Honourable the "Treasurer for the use of the Province.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney or Agents' fees, under Sec. 16 of "The Division Courts Act, 1880."	The amount of costs so taxed.
Northumberland & Durham..	1	187	7623 44	18	819 37	11	79 66	2227 57	2071 46	235 77	17	1	1	3	21 00	1	7 70	1	5 00	
	2	80	4031 00	15	297 76	15	673 51	638 37	35 17	15	1	1	1	1	4 95	1	4 95	1	5 00	
	3	138	5520 25	8	219 37	29	160 40	1790 38	1837 30	113 48	11	1	1	1	7 9	1	7 9	1	5 00	
	4	195	7656 49	7	158 87	33	53 67	1495 70	1448 38	47 32	14	1	1	1	7 31	1	7 31	1	5 00	
	5	198	7430 27	5	280 35	16	131 63	1892 09	1883 73	143 00	8	2	1	1	12 00	1	12 00	1	5 00	
	6	74	2127 32	5	420 63	8	8 12	481 28	484 28	8 12	2	1	1	1	30 00	1	30 00	1	5 00	
	7	160	6584 27	22	1153 48	48	18 60	3453 79	3453 78	40 01	5	3	3	3	12 00	1	12 00	1	40 00	
	8	68	3468 29	3	587 26	27	207 37	1261 92	1261 92	181 61	9	1	1	1	22 00	1	22 00	1	30 00	
	9	110	3148 38	6	368 86	26	15 00	1721 07	1746 83	181 61	6	1	1	1	12 00	1	12 00	1	10 00	
	10	65	1903 41	8	589 19	6	650 72	660 72	660 72	30 00	6	1	1	1	12 00	1	12 00	1	10 00	
	11	135	5277 25	41	715 00	8	260 36	1568 61	1580 36	248 84	14	1	1	1	12 00	1	12 00	1	10 00	
Ontario...	1	199	9112 00	8	535 00	4	.....	2079 69	2053 84	25 75	11	2	1	1	.....	.....	3 96	.....	.....
	2	108	3854 00	13	729 04	18	.....	1958 56	1958 56	.....	9	1	1	1	.....	.....	3 96	.....	.....
	3	166	5780 79	6	569 49	12	1 21	2296 27	2289 78	35 49	19	2	1	1	.....	.....	7 81	.....	.....
	4	175	8136 97	25	1307 44	67	25 00	2223 25	2112 71	135 54	17	4	1	1	.....	.....	7 81	.....	.....
	5	132	5087 80	7	677 85	7	.....	2761 21	2757 00	4 21	13	1	3	1	.....	.....	5 23	.....	.....
	6	50	1461 00	3	131 04	1	35 31	694 36	694 36	35 31	6	3	1	1	.....	.....	2 61	.....	.....
	7	43	2025 86	15	820 46	10	13 54	798 69	715 23	82 46	7	1	1	1	.....	.....	2 61	.....	.....

RETURN of Division Court Business.—Continued.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	
The Name of County, United Counties or District.	Number of Divisions.	Number of Suits entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Amount of Claims entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Number of Transcripts of Judgments received from other Courts.	Amount of Claims received by Transcripts of Judgments from other Courts.	Number of Judgment Summonses issued.	Balance of Cash in Court from the previous year.	Total amount of Suits' money paid into Court.	Total amount of Suits' money paid out of Court.	Balance of Cash in Court.	Number of Suits entered, where the amount claimed exceeds \$100.	Number of actions for Tort, where the amount claimed exceeds \$50.	Number of actions of Replevin, where the value of the goods or other property or effects distrained, taken or detained exceeds the sum of \$50.	Number of Jury Trials by Juries summoned.	Amount paid to Juries summoned.	Number of Jury Trials by Juries called in pursuance of Sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Emoluments payable to the Honourable the Treasurer for the use of the Province.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney or Agents, 1880."	The amount of costs so taxed.
<i>Brought forward.</i>	171	25331	907540 51	2043	102258 55	4085	14362 67	309189 04	308437 06	12913 91	1762	222	66	108	811 25	6	815 24	2760 14	117	745 00
Northumberland & Durham...	11	1390	54573 97	136	6931 16	267	937 81	17262 70	17070 12	893 32	123	7	1	12	109 00	1	58 02	.....	18	125 00
Ontario...	7	873	35458 42	80	4800 32	119	75 06	12811 93	12582 48	318 76	82	13	6	2	12 00	.....	36 58	.....	.....	29 00
<i>Carried forward.</i>	189	27594	997572 93	2259	113990 03	4471	14375 54	339263 67	338090 56	14125 99	1967	242	63	122	932 25	7	909 84	2760 14	142	949 00

RETURN of Division Court Business.—Continued.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	
The Name of County, United Counties or District.	Number of Divisions.	Number of Suits entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Amount of Claims entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Number of Transcripts of Judgments received from other Courts.	Amount of Claims received by Transcripts of Judgments from other Courts.	Number of Judgment Summonses issued.	Balance of Cash in Court from the previous year.	Total amount of Suits' money paid into Court.	Total amount of Suits' money paid out of Court.	Balance of Cash in Court.	Number of Suits entered, where the amount claimed exceeds \$100.	Number of actions for Tort, where the amount claimed exceeds \$40.	Number of actions of Replevin, where the value of the goods or other property or effects distrained, taken or detained exceeds the sum of \$40.	Number of Jury Trials by Juries summoned.	Amount paid to Jurors summoned.	Number of Jury Trials by Jurors called in pursuance of Sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and emoluments payable to the Honourable the Treasurer for the use of the Province.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney or Agents' fees, under Sec. 16 of "The Division Courts Act, 1880."	The amount of costs so taxed.
Oxford	1	1012	39655 00	40	2903 21	214	1917 16	15178 63	15802 52	1293 27	78	1	1	4	34 00	1	37 29	388 00	6	32 50
	2	76	1707 68	15	872 71	6	6	1606 06	6 05	6	3	1	1	1	12 00	1	80	80	1	3 00
	2	79	3181 34	4	135 31	13	58 08	1503 87	1500 24	61 71	5	1	1	1	12 00	3	2 84	12 84	1	3 00
	4	161	5203 86	17	695 75	41	44 06	2402 37	2301 74	70 63	9	1	1	8	42 00	12	15 61	4 12	5	17 00
	5	461	14785 26	23	1117 32	65	276 04	5288 07	5475 13	88 98	28	1	1	1	12 00	1	8 07	4 12	5	17 00
	9	206	7857 96	10	221 31	36	1	2208 48	2169 92	34 56	18	1	1	1	12 00	1	8 07	4 12	5	17 00
Parry Sound	1	48	2081 80	15	1185 14	7	61 84	1012 80	1068 64	6 00	6	1	1	1	12 00	1	8 07	4 12	5	17 00
	2	66	2133 18	13	622 82	18	1216 56	1216 56	1216 56	2	2	1	1	1	12 00	1	8 07	4 12	5	17 00
	2	26	1213 89	8	203 24	3	15 71	187 53	15 71	2	2	1	1	1	12 00	1	8 07	4 12	5	17 00
	4	107	3349 57	22	1000 00	10	72 88	1446 38	1427 86	91 40	3	1	1	1	12 00	1	8 07	4 12	5	17 00
	5	69	1483 16	5	310 98	6	5 00	414 50	403 65	10 85	5	1	1	1	12 00	1	8 07	4 12	5	17 00
	6	78	3086 28	3	163 48	2	46 04	1473 89	1482 44	54 59	5	1	1	1	12 00	1	8 07	4 12	5	17 00
	7	77	3230 84	7	225 93	5	1	1018 27	1018 27	4	4	1	1	1	12 00	1	8 07	4 12	5	17 00
Peel	1	251	12832 13	17	952 85	71	123 25	3738 52	3732 38	79 39	40	1	1	1	12 00	1	13 99	6	32 50	
	2	55	2774 47	17	802 40	16	21 05	1319 30	1286 35	64 00	9	1	1	1	12 00	1	3 52	1	5 00	
	3	93	3493 33	15	577 74	9	17 28	1070 71	1021 55	66 44	5	1	1	1	12 00	1	2 96	1	5 00	
	4	87	3240 10	10	182 74	10	12 00	1368 05	1360 00	8 05	9	1	1	1	12 00	1	4 91	1	5 00	

RETURN of Division Court Business.—Continued.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	
The Name of County, United Counties or District.	Number of Divisions.	Number of Suits entered, exclusive of Transcripts of Judgment and Judgment Summonses.	Amount of Claims entered, exclusive of Transcripts of Judgment and Judgment Summonses.	Number of Transcripts of Judgments received from other Courts.	Amount of Claims received by Transcripts of Judgments from other Courts.	Number of Judgment Summonses issued.	Balance of Cash in Court from the previous year.	Total amount of Suits' money paid into Court.	Total amount of Suits' money paid out of Court.	Balance of Cash in Court.	Number of Suits entered, where the amount claimed exceeds \$100.	Number of actions for Tort, where the amount claimed exceeds \$40.	Number of actions of Replevin, where the value of the goods or other property or effects distrained, taken or detained exceeds the sum of \$40.	Number of Jury Trials by Juries summoned.	Amount paid to Jurors summoned.	Number of Jury Trials by Jurors called in pursuance of Sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Emoluments payable to the Vice-Precinct the Treasurer for the use of the Precinct.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney or Agent's Fees, under Sec. 16 of "The Division Courts Act, 1880."	The amount of costs so taxed.
<i>Brought forward</i>	189	27594	997572 48	2259	113990 08	4471	14375 54	339263 67	338090 56	14125 99	1967 212	63	122	432 25	7	909 84	2760 14	142	919 00	
Oxford ..	6	1394	69691 13	109	5945 61	375	2295 34	28369 53	29065 61	1555 20	141 3	1	14	100 00	7	69 55	402 20	7	25 60	
Perry Sound....	7	471	10578 72	65	2508 35	54	185 76	6785 61	6804 95	172 55	22	2			1					
Peel	4	486	22339 94	59	2515 73	106	173 58	7496 58	7450 28	207 88	63		1	12 00	1	25 88		7	37 50	
<i>Carried forward</i>	206	30545	1106182 72	2492	124959 72	5066	17030 22	381915 42	381411 40	16061 62	2193 245	66	137	1044 25	16	1004 77	3162 34	156	1011 50	

RETURN of Division Court Business.—Continued.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	
The Name of County, United Counties or District.	Number of Divisions.	Number of Judgments and Transcripts of Judgments entered, exclusive of Transcripts of Judgments and Judgment Summons.	Number of Transcripts of Judgments received from other Courts.	Amount of Claims received by Transcripts of Judgments from other Courts.	Amount of Claims entered, exclusive of Transcripts of Judgments and Judgment Summons.	Number of Judgment Summons issued.	Balance of Cash in Court from the previous year.	Total amount of Suits' money paid into Court.	Total amount of Suits' money paid out of Court.	Balance of Cash in Court.	Number of Suits entered, where the amount claimed exceeds \$100.	Number of actions for Tort, where the amount claimed exceeds \$40.	Number of actions of Replevin, where the value of the goods or other property or effects distrained, taken or detained exceeds the sum of \$40.	Number of Jury Trials by Juries summoned.	Amount paid to Juries summoned.	Number of Jury Trials by Juries called, in pursuance of Sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Emoluments payable to the Honourable the Treasurer for the use of the Province.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney or Agents Fees, under Sec. 16 of "The Division Courts Act, 1880."	The amount of costs so taxed.
Perth	1	313	9,069 55	20	882 76	39	14 20	3122 37	88 01	21	10	1	1	1	21	9 69	9 69	4	20 00	
	2	107	3,657 52	13	7,95 41	11	55 13	2,374 17	41 56	10	1	1	1	1	10	3 88	3 88	1	5 00	
	3	140	5,969 91	21	952 77	12	1	2,373 15	1 01	16	5	1	1	1	16	6 37	6 37	1	5 00	
	4	67	2,345 17	3	119 32	3	1 98	475 15	1 01	5	5	1	1	1	5	2 65	2 65	1	5 00	
	5	63	2,199 36	5	350 91	6	22 86	1,198 57	35 00	5	3	1	1	1	5	2 45	2 45	2	15 00	
	6	225	7,751 07	32	1,620 56	24	94 91	3,802 92	20 60	13	3	3	2	2	13	7 06	7 06	2	15 00	
Peterborough	1	718	27,471 42	25	1,063 21	64	126 61	6,101 33	6101 33	58	1	1	2	2	58	27 58	52 77	1	5 00	
	2	107	3,503 06	15	1,189 05	11	7 12	1,252 23	73 23	4	2	2	2	2	4	2 74	2 74	1	5 00	
	3	4	70 50	2	128 85	1	7 12	117 94	7 12	7	7	1	1	1	7	3 03	3 03	2	10 00	
	4	97	3,646 26	7	306 41	5	1	942 70	22 82	7	7	1	1	1	7	3 52	3 52	2	10 00	
	5	15	721 08	1	40 40	3	1	100 95	35 00	3	3	1	1	1	3	1 08	1 08	2	10 00	

Return of Division Court Business.—Continued.

The Name of County, United Counties or District.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
	Number of Divisions.	Number of Suits entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Amount of Claims entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Number of Transcripts of Judgments received from other Courts.	Amount of Claims received by Transcripts of Judgments from other Courts.	Number of Judgment Summonses issued.	Balance of Cash in Court from the previous year.	Total amount of Sutors' money paid into Court.	Total amount of Sutors' money paid out of Court.	Balance of Cash in Court.	Number of Suits entered, where the amount claimed exceeds \$100.	Number of actions for Tort, where the amount claimed exceeds \$10.	Number of actions of Replevin, where the value taken or detained exceeds the sum of \$10.	Number of Jury Trials by Juries summoned.	The amount paid to Jurors summoned.	Number of Jury Trials by Jurors called in pursuance of Sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Emoluments payable to the Honourable the Treasurer for the use of the Prothonotary.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney or Agent's fees, under Sec. 16 of "The Division Courts Act, 1880."	The amount of costs so taxed.
<i>Brought forward</i>	206	30545	1106182 72-2492	124959 72-2492	124959 72-2492	5006 47030 22	17030 22	381915 42	381411 40	16063 62-2193	2193	215	66	137	1041 25	16	1004 77	3162 34	156	1011 50
Perth	6	917	31832 61	94	4721 73	95	188 88	13360 10	13360 10	186 24	70	4	2	2	20 00	.....	32 11	.....	2	15 00
Peterborough	5	941	35412 32	50	2717 92	84	133 76	8443 10	8443 10	139 17	72	3	.....	2	17 00	.....	34 95	62 77	3	15 00
<i>Carried forward</i>	217	32403	1173487 65-2636	132399 37	5185	17352 86	403872 67	403214 60	16387 03-2335	252	68	141	1081 25	16	1071 83	3215 11	161	1041 50		

RETURN of Division Court Business.—Continued.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
Number of Divisions.	Number of Judgments and Judgment Summons.	Amount of Claims entered, exclusive of Transcripts of Judgments and Judgment Summons.	Number of Transcripts of Judgments received from other Courts.	Amount of Claims received by Transcripts of Judgments, from other Courts.	Number of Judgment Summons issued.	Balance of Cash in Court from the previous year.	Total amount of Suits' money paid into Court.	Total amount of Suits' money paid out of Court.	Balance of Cash in Court.	Number of Suits entered, where the amount claimed exceeds \$100.	Number of actions for Tort, where the amount claimed exceeds \$40.	Number of actions of Replevin, where the value of the goods or other property or effects distrained, taken or detained exceeds the sum of \$40.	Number of Jury Trials by Juries summoned.	Amount paid to Juries summoned.	Number of Jury Trials by Juries called in pursuance of Sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Emoluments payable to the Honourable the Treasurer for the use of the Province.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney or Agents' Fees, under Sec. 16 of "The Division Courts Act, 1880."	The amount of costs so taxed.
1	52	2255 10	5	293 19	6	479 97	479 97	479 97		2					2 46	1 61			
2	49	1890 21	1	16 76	14	430 10	430 10	430 10		2					1 13	1 13			
3	34	1127 54	1	124 88	1	187 83	187 83	187 83		6					3 3	3 3			
4	100	3545 95	1	82 71	15	89 68	1849 94	1866 67	72 95	4					1 76	1 76			
5	110	3788 06	4	135 65	8	104 29	1617 00	1643 33	27 96	4					1 50	1 50			
6	9	1276 56	10	419 92	1	55 85	518 83	491 43	63 25	1					1 81	1 81			
7	70	1772 66	5	312 56	32	37 00	614 79	538 70	140 09	4					2 37	2 37			
8	48	1875 43	9	299 62	7	133 35	1036 01	988 82	180 54	4					1 94	1 94			
9	74	2539 21	6	67 55	3	997 33	991 33	984 63	6 00	1					2 18	2 18			
10	80	2104 18	2	351 47	9	1011 75	1005 75	1005 75	6 00	1					1 99	1 99			
11	82	2466 11	8	331 47	6	1011 75	1005 75	1005 75	6 00	1					1 99	1 99			
1	106	4513 39	5	475 76	36	99 91	1359 13	1416 08	42 95	8					4 68	4 68			
2	49	2054 15	5	25 67	10	631 76	624 00	624 00	7 76	5					2 15	2 15			
3	13	362 85	3	62 47	3	83 59	83 59	83 59		5					24	24			
4	4	216 00	3	48 09	3	62 87	62 87	62 87		2					9	9			
5	19	889 78	2	95 22	3	40 00	190 39	230 39		2					77	77			
6	30	767 00	1	43 13	1	43 13	163 99	207 12		2					83	83			
7	13	429 73	1	95 22	1	137 52	137 52	137 52		1					36	36			
8	7	250 84	1	95 22	1	137 52	137 52	137 52		1					40	40			

The Name of County, United Counties or District.

Prescott & Russell.

Prince Edward.

Return of Division Court Business — Continued.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	
The Name of County, United Counties or District.	Number of Suits entered, exclusive of Transcripts	Amount of Claims entered, exclusive of Transcripts	Number of Transcripts of Judgments received from other Courts.	Amount of Claims received by Transcripts of Judgments from other Courts.	Number of Judgment Summonses issued.	Balance of Cash in Court from the previous year.	Total amount of Suits' money paid into Court.	Total amount of Suits' money paid out of Court.	Balance of Cash in Court.	Number of Suits entered, where the amount claimed exceeds \$100.	Number of actions for Tort, where the amount claimed exceeds \$10.	Number of actions of Replevin, where the value of the goods or other property or effects distrained, taken or detained exceeds the sum of \$10.	Number of Jury Trials by Juries summoned.	Amount paid to Jurors summoned.	Number of Jury Trials by Jurors called in pursuance of Sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Emoluments payable to the Honourable the Treasurer for the use of the Province.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney or Agents' fees, under Sec. 16 of "The Division Courts Act, 1880."	The amount of costs so taxed.	
<i>Brought forward.</i>	217	32403 1173437 652636	132399 37 5185	132399 37 5185	.....	403872 67	403872 67	16387 03 2335 252	68	141	1081 25	16	1071 83	3215 11	161	1041 50	1	5 00	162	1049 50
Prescott & Russell.	11	739 24650 01 46	2151 31	2151 31	99	9728 08	9658 46	496 79 35 2	2	1	10 00	.....	21 77	.....	.....	.....	.....	.....	.....	.....
Prince Edward.	8	9483 71 12	707 21	707 21	54	2629 25	2761 57	50 72 18	1	8	64 00	.....	9 42	.....	.....	.....	.....	.....	.....	.....
<i>Carried forward.</i>	236	33383 1297571 402694	135290 89	135290 89	5338	416230 00	416292 70	16334 54 2388 254	71	150	1155 25	16	1103 02	3215 11	162	1049 50	.....	.....	.....	.....

Return of Division Court Business—Continued.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	
The Name of County, United Counties or District.	Number of Divisions.	Number of suits entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Amount of Claims entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Number of Transcripts of Judgments received from other Courts.	Amount of Claims received by Transcripts of Judgments from other Courts.	Number of Judgment Summonses issued.	Balance of Cash in Court from the previous year.	Total amount of Suits' money paid into Court.	Total amount of Suits' money paid out of Court.	Balance of Cash in Court.	Number of suits entered, where the amount claimed exceeds \$100.	Number of actions for Tort, where the amount claimed exceeds \$40.	Number of actions of Replevin, where the value of the goods or other property or effects distrained, taken or detained exceeds the sum of \$40.	Number of Jury Trials by Juries summoned.	Amount paid to Jurors summoned.	Number of Jury Trials by Jurors called, in pursuance of Sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Emoluments payable to the Honourable the Treasurer for the use of the Province.	Number of instances in which the Judge has allowed fees, under Sec. 16 of "The Division Courts Act, 1880," costs for Counsel, Attorney or Agents.	The amount of costs so taxed.
Rainy River	1	170	\$8163 90	3	197 82	12	\$36 05	\$1981 80	\$1834 38	\$147 51	13	1	1	5 00	1	13 74	17 81	1	2	15 00
Rainy River	2	8	349 73	2	43 70	61	23 90	1205 76	4353 04	31 90	21	2	1	5 00	1	1 25	1 52	1	2	15 00
Rainy River	3	45	1418 75	11	620 04	4	21 00	565 45	553 72	11 73	2	1	1	5 00	1	5 43	1 52	1	1	3 00
Rainy River	3	196	7065 90	12	636 80	13	28 96	2732 01	2974 31	74 18	9	1	1	5 00	1	6 58	1 52	1	1	3 00
Rainy River	4	215	6331 45	12	136 80	6	27 10	1996 96	1977 80	19 16	13	1	1	5 00	1	1 36	2 46	1	1	3 00
Rainy River	4	48	1452 48	4	151 83	6	71 82	274 10	263 33	10 77	1	1	1	5 00	1	1 36	2 46	1	1	3 00
Rainy River	5	96	2871 96	1	553 45	8	71 82	359 90	1031 72	10 77	3	1	1	5 00	1	1 36	2 46	1	1	3 00
Rainy River	7	47	1524 22	1	5 86	10	4 58	386 17	390 75	2 2	2	2	2	5 00	1	2 46	1 18	1	1	20 00
Rainy River	8	55	1902 63	2	266 53	11	4 58	492 63	792 93	2 2	2	2	2	5 00	1	1 52	1 18	1	1	5 00
Rainy River	1	428	19249 15	18	1142 26	53	57 61	5518 41	5561 13	14 80	41	2	1	12 00	1	17 81	18 00	1	1	5 00
Rainy River	2	158	6319 29	6	491 71	13	129 35	2381 55	2792 63	141 86	24	2	2	12 00	1	8 67	12 00	1	1	5 00
Rainy River	3	178	7615 84	22	1365 75	11	36 10	3804 74	3700 53	101 21	17	2	4	36 00	1	11 85	7 00	1	1	35 00
Rainy River	4	245	10876 45	26	1563 07	22	615 38	5324 85	3477 77	196 28	27	2	2	36 00	1	11 85	11 85	1	1	5 00
Rainy River	5	94	4234 28	22	1041 84	21	1920 77	1941 77	2100 00	21 00	1	1	1	23 00	1	16 74	16 74	1	1	5 00
Rainy River	6	330	15756 22	26	1424 94	53	335 41	3599 86	3810 89	184 38	42	2	2	23 00	1	16 74	2 45	1	1	25 00
Rainy River	7	69	2348 59	18	731 74	4	473 78	721 06	797 82	396 02	5	1	1	12 00	1	2 45	2 45	1	1	5 00
Rainy River	8	189	9338 01	29	1727 74	34	112 87	1101 77	1145 28	69 36	22	1	1	12 00	1	8 91	8 91	1	1	5 00
Rainy River	9	261	9643 00	24	1670 20	63	22 54	2333 82	2382 48	33 98	18	3	1	16 00	1	8 91	8 91	1	1	5 00
Rainy River	10	119	3042 20	6	509 69	16	31 50	1673 14	1484 28	188 28	2	1	1	16 00	1	2 21	2 21	1	1	5 00

RETURN of Division Court Business.—Continued.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)											
The Name of County, United Counties or District.	Number of Suits entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Amount of Claims entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Number of Transcripts of Judgments received from other Courts.	Amount of Claims received by Transcripts of Judgments from other Courts.	Number of Judgment Summonses issued.	Balance of cash in Court from the previous year.	Total amount of Suits' money paid into Court.	Total amount of Suits' money paid out of Court.	Balance of Cash in Court.	Number of Suits entered, where the amount claimed exceeds \$100.	Number of actions for Tort, where the amount claimed exceeds \$10.	Number of actions of Replevin, where the value of the goods or other property or effects distrained, taken or detained exceeds the sum of \$10.	Number of Jury Trials by Juries summoned.	Amount paid to Jurors summoned.	Number of Jury Trials by Jurors called in pursuance of Sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Emoluments payable to the Honourable the Treasurer for the use of the Province.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney, or Agents' fees, under Sec. 16 of "The Division Courts Act, 1880."	The amount of costs so taxed.											
<i>Brought forward.</i>	236	333831207571	402634	135260	89	5338	17365	07	416230	00	416232	70	16334	51	2388	254	71	150	1155	25	16	1103	02	3245	11	162	1049	50		
Rainy River ..	2	178	8813	63	3	197	82	12	36	05	1928	67	147	51	13	1	1	1	5	00	1	33	52	76	7	43	00			
Renfrew .	8	1125	37838	62	40	2271	91	109	170	37	11913	28	12037	60	151	37	55	4	1	1	1	1	1	1	1	1	1	1	1	
Simcoe .	10	2062	88723	03	203	11688	85	320	187	54	27213	97	27033	64	1350	26	207	10	7	18	184	00	1	89	42	15	75	00		
<i>Carried forward.</i>	236	36748	1342946	68	2040	149119	47	5779	20035	03	457433	43	457292	61	18583	68	2663	268	79	108	1344	25	18	1225	96	3233	87	184	1167	50

Return of Division Court Business.—Continued.

The Name of County, United Counties or District.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
	Number of Divisions.	Number of Suits entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Amount of Claims entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Number of Transcripts of Judgments received from other Courts.	Amount of Claims received by Transcripts of Judgments from other Courts.	Number of Judgment Summonses issued.	Balance of Cash in Court from the previous year.	Total amount of Sutors' money paid into Court.	Total amount of Sutors' money paid out of Court.	Balance of Cash in Court.	Number of Suits entered, where the amount claimed exceeds \$100.	Number of actions for Tort, where the amount claimed exceeds \$40.	Number of actions of Replevin, where the value of the goods or other property or effects distrained, taken or detained exceeds the sum of \$40.	Number of Jury Trials by Juries summoned.	Amount paid to Jurors summoned.	Number of Jury Trials by Jurors called in pursuance of Sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Emoluments payable to the Honourable the Treasurer for the use of the Province.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney or Agents fees, under Sec. 16 of "The Division Courts Act, 1880."	The amount of costs so taxed.
Stormont, Dundas and Glen-garry ..	1	133	4170 61	14	899 48	19	255 24	1930 31	2083 91	185 64	7	7	7	..	..	..	3 57	..	1	8 00
Thunder Bay.....	1	147	8153 34	6	563 12	1	..	1272 25	1264 10	8 15	24	2	2	7 00	..	..	..	..	2	8 00
	3	127	5648 42	1	17 11	5	76 00	1510 67	1470 67	116 00	9	1	1	..	..	..	..	..	3	13 00
	8	88	2745 13	3	83 23	12	27 91	1135 68	1105 00	58 59	3	1	..	..	..	..	2 62	..	..	..
	6	113	3083 76	3	47 63	9	84 22	899 40	814 59	169 03	2	1	..	..	..	..	2 06	..	..	..
	10	161	4542 44	17	726 21	22	22 59	2233 28	2233 28	..	18	..	..	..	..	..	2 52	..	..	..
	11	81	2961 25	11	444 64	13	22 59	737 67	1390 84	104 14	8	..	..	..	..	..	3 49	2 00	..	11 00
	12	108	3820 68	2	110 87	12	146 44	1348 54	1390 84	104 14	8	..	..	..	..	..	3 74	..	..	..

RETURN of Division Court Business — Continued.

The Name of County, United Counties or District.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)									
	Number of Divisions.	Number of Suits entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Amount of Claims entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Number of Transcripts of Judgments received from other Courts.	Amount of Claims received by Transcripts of Judgments from other Courts.	Number of Judgment Summonses issued.	Balance of Cash in Court from the previous year.	Total amount of Sutors' money paid into Court.	Total amount of Sutors' money paid out of Court.	Balance of Cash in Court.	Number of Suits entered, where the amount claimed exceeds \$100.	Number of actions for Tort, where the amount claimed exceeds \$40.	Number of actions of Replevin, where the value of the goods or other property or effects distrained, taken or detained exceeds the sum of \$40.	Number of Jury Trials by Juries summoned.	Amount paid to Jurors summoned.	Number of Jury Trials by Jurors called in pursuance of Sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Emoluments payable to the Vine.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney or Agents' fees, under Sec. 16 of "The Division Courts Act, 1880."	The amount of costs so taxed.									
Brought forward	256	36748	1342946	68	2940	119419	475779	20035	03	457292	61	18583	68	2683	268	79	168	1314	25	18	1225	96	3233	57	181	1167	50		
Stormont, Dundas & Glenegarry ...	12	1899	58468	27	108	4153	56	306	1104	58	21460	04	1369	04	112	5	1	57	00	20	67	3	19	00					
Thunder Bay ...	3	274	13801	76	7	580	233	6	76	00	2734	77	124	15	33	1	3	7	00										
Carried forward	271	38921	1415216	71	3055	151153	26	6091	21245	61	481	087	42	20076	87	2808	274	83	169	1351	25	18	1282	96	3254	51	192	1207	50

Return of Division Court Business.—Continued.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
The Name of County, United Counties or District.	Number of Suits entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Amount of Claims entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Number of Transcripts of Judgments received from other Courts.	Amount of Claims received by Transcripts of Judgments from other Courts.	Number of Judgment Summonses issued.	Balance of Cash in Court from the previous year.	Total amount of Suitors' money paid into Court.	Total amount of Suitors' money paid out of Court.	Balance of Cash in Court.	Number of Suits entered, where the amount claimed exceeds \$100.	Number of actions for Tort, where the amount claimed exceeds \$40.	Number of actions of Replevin, where the value of the goods or other property or effects distrained, taken or detained exceeds the sum of \$40.	Number of Jury Trials by Juries summoned.	Amount paid to Jurors summoned.	Number of Jury Trials by Jurors called in pursuant of Sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Emoluments payable to the Honourable the Treasurer for the use of the Provinces in each County, United Counties or District.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney or Agents fees, under Sec. 16 of "The Division Courts Act, 1880."	The amount of costs so taxed.
Victoria..	1 141	3288 95	21	729 51	13	.....	1237 87	1237 87	.....	6	2	.....	.....	.....	.....	2 70	.....	.....	.....
	2 102	3515 31	4	285 34	1	.....	1651 49	1639 52	11 97	.....	.....	.....	.....	.....	.....	1 76	.....	.....	.....
	3 43	1336 92	6	215 33	11	73 37	259 63	281 63	55 37	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	4 46	1801 72	3	149 43	6	.....	601 47	592 23	9 25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	5 367	14131 99	17	638 82	38	167 85	3480 93	3433 62	215 16	31	2	.....	.....	.....	.....	.....	.....	.....	.....
	6 76	2969 49	6	375 15	2	.....	1138 00	1131 75	6 25	5	.....	.....	.....	.....	.....	.....	.....	.....	.....
	7 60	2206 37	11	614 58	11	58 97	600 37	649 34	10 00	4	1	.....	.....	.....	.....	.....	.....	.....	.....
Waterloo	1 302	10476 48	17	703 13	12	292 21	4162 84	4150 04	305 01	23	2	.....	.....	.....	.....	.....	.....	.....	.....
	2 90	3581 25	12	506 00	7	.....	2055 71	2055 71	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	.....
	3 212	5229 16	10	349 66	17	.....	2274 16	2274 16	.....	7	.....	.....	.....	.....	.....	.....	.....	.....	.....
	4 82	2837 45	8	772 23	4	63 18	1298 14	1209 51	89 63	5	.....	.....	.....	.....	.....	.....	.....	.....	.....
	5 69	3457 99	2	73 75	6	123 08	857 83	857 83	65 48	10	.....	.....	.....	.....	.....	.....	.....	.....	.....
	6 46	1447 10	6	293 98	1	.....	826 82	826 82	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....
	7 105	3777 24	4	356 41	1	.....	2231 51	2231 50	17 00	4	.....	.....	.....	.....	.....	.....	.....	.....	.....

Return of Division Court Business.—Continued.

The Name of County, United Counties or District.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)										
	Number of Divisions.	Number of Suits entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Amount of Claims entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Number of Transcripts of Judgments received from other Courts.	Amount of Claims received by Transcripts of Judgments from other Courts.	Number of Judgment Summonses issued.	Balance of Cash in Court from the previous year.	Total amount of Suits' money paid into Court.	Total amount of Suits' money paid out of Court.	Balance of Cash in Court.	Number of Suits entered where the amount claimed exceeds \$100.	Number of actions for Tort, where the amount claimed exceeds \$10.	Number of actions of Replevin, where the value of the goods or other property or effects distrained, taken or detained exceeds the sum of \$10.	Number of Jury Trials by Juries summoned.	Amount paid to Jurors summoned.	Number of Jury Trials by Jurors called in pursuance of sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Emoluments payable to the Honourable the Treasurer for the use of the Province.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney or Agents' fees, under sec. 16 of "The Division Courts Act, 1880."	The amount of costs so taxed.										
<i>Brought forward.</i>	271	38921	1415246	71	3055	154153	26	4091	21215	61	482101	71	484487	12	20076	87	28081	274	83	169	1351	25	181	1282	96	3251	54	192	1207	50
Victoria...	7	835	29253	75	68	3008	16	82	300	19	8939	76	8965	95	308	00	54	5	2	2	28	561	1	28	561	4	30	00		
Waterloo...	7	906	30806	67	59	3055	16	48	478	47	13732	49	13608	57	477	12	47	2	2	2	29	35	29	35	6	35	00			
<i>Carried forward.</i>	285	40632	1475277	13	3182	160246	58	6221	21994	27	505163	96	504061	94	20861	99	2909	281	87	169	1351	25	191	1340	87	3251	54	202	1272	50

RETURN of Division Court Business. — *Continued.*

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	
The Name of County, United Counties or District.	Number of Suits entered, exclusive of Transcripts of Judgments and Judgment summonses.	Amount of Claims entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Number of Transcripts of Judgments received from other Courts.	Amount of Claims received by Transcripts of Judgments from other Courts.	Number of Judgment Summonses issued.	Balance of Cash in Court from the previous year.	Total amount of Sutors' money paid into Court.	Total amount of Sutors' money paid out of Court.	Balance of Cash in Court.	Number of Suits entered, where the amount claimed exceeds \$100.	Number of actions for Tort, where the amount claimed exceeds \$40.	Number of actions of Replevin, where the value of the goods or other property or effects distrained, taken or detained exceeds the sum of \$40.	Number of Jury Trials by Juries summoned.	Amount paid to Jurors summoned.	Number of Jury Trials by Jurors called, in pursuance of Sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Emoluments payable to the Honourable the Treasurer for the use of the Province.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney or Agents' fees, under Sec. 16 of "The Division Courts Act, 1880."	The amount of costs so taxed.	
Welland	1	234	8273 01	14	686 75	31 12	4167 30	4161 32	40 10	22	4					2 86			20 00	
	2	62	1687 51	4	97 33	13 60	615 27	580 85	48 02	1	1					1 15			1 15	
	3	90	3620 10	5	149 73	137 18	1283 97	1388 15	33 00	6	1					3 70			3 70	
	4	202	7410 53	23	361 62	98 67	3210 88	3239 21	70 31	17	3		15 00			2 34			3 00	
	5	86	2829 78	4	319 54	32 70	602 09	536 86	6 23	3	3					2 34				
	6	46	1275 95	2	85 66		478 90	481 40	30 20	3	3					1 41				
Wellington	1	364	13384 96	20	1324 87	392 73	4654 69	4394 29	250 40	27						13 69			2 00	
	2	23	507 93	2	93 88		532 77	532 77		1						33				
	3	30	708 95	3	104 51		223 21	191 33	31 88	1						30				
	4	190	9553 23	10	857 65	53 25	1443 41	1413 41		26						10 13				
	5	69	2038 77	9	531 77		869 87	909 99	13 13	4						1 90			8 00	
	6	54	2285 56	6	461 07		789 50	670 01	119 49	6			1	10 00		2 46				
	7	85	4188 72	22	1451 61	34 55	1617 30	1632 35	19 50	15						5 10			5 00	
	8	132	5137 17	13	657 94	89 17	1807 70	1780 93	26 77	10						5 11				
	9
	10	128	6162 00	28	1178 71	62 25	1600 34	1504 54	158 05	16						6 53				
	11	145	5031 53	9	382 01	302 56	1609 99	1571 79	240 76	4		2				3 94				

RETURN of Division Court Business.—Continued.

The Name of County, United Counties or District.	(1)	(2)	(3)	(4)	(5)	(7)	(8)	(6)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	
	Number of Divisions.	Number of Suits entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Amount of Claims entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Number of Transcripts of Judgments received from other Courts.	Amount of Claims received by Transcripts of Judgments, from other Courts.	Number of Judgment Summonses issued.	Balance of Cash in Court from the previous year.	Total amount of Suits' money paid into Court.	Total amount of Suits' money paid out of Court.	Balance of Cash in Court.	Number of Suits entered, where the amount claimed exceeds \$100.	Number of actions for Tort, where the amount claimed exceeds \$40	Number of actions of Replevin, where the value of the goods or other property or effects distrained, taken or detained exceeds the sum of \$40	Number of Jury Trials by Juries summoned.	Amount paid to jurors summoned.	Number of Jury Trials by Jurors called in pursuance of Sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Emoluments payable to the Honourable the Treasurer for the use of the Province.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney or Agents fees, under Sec. 16 of "The Division Courts Act, 1880."	The amount of costs so taxed.
<i>Brought forward.</i>	285	40662	1475277	13 3182	160216 58	6221	21391 27	503163 96	501061 91	2909	281	87	169	1351 25	19	1310 87	3254 51	202	1272 50	
Welland.	6	720	24596 91	52	1900 79	121	316 27	10358 41	10146 79	52	7	.....	2	15 00	.....	25 25	.....	4	23 00
Wellington.	11	1220	49298 82	125	6193 25	246	851 51	15158 78	14731 41	109	2	2	1	10 00	1	49 51	.....	3	21 00
<i>Carried forward.</i>	302	42602	1549172	86 3359	168610 62	6588	23165 05	531081 15	529240 14	3070	290	89	172	1376 25	20	1415 63	3254 51	209	1316 50	

Return of Division Court Business.—Continued.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
The Name of County, United Counties or District.	Number of Suits entered, exclusive of Transcripts of Judgments and Judgment summonses.	Amount of Claims entered, exclusive of Transcripts of Judgments and Judgment Summonses.	Number of Transcripts of Judgments received from other Courts.	Amount of Claims received by Transcripts of Judgments from other Courts.	Number of Judgment Summonses issued.	Balance of Cash in Court from the previous year.	Total amount of Suits' money paid into Court.	Total amount of Suits' money paid out of Court.	Balance of Cash in Court.	Number of Suits entered, where the amount claimed exceeds \$100.	Number of actions for Tort, where the amount claimed exceeds \$40.	Number of actions of Replevin, where the value of the goods or other property or effects distrained, taken or detained exceeds the sum of \$40.	Number of Jury Trials by Juries summoned.	Amount paid to Jurors summoned.	Number of Jury Trials by Jurors called in pursuance of Sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Emoluments payable to the Honourable the Treasurer for the use of the Province.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney or Agents' fees, under Sec. 16 of "The Division Courts Act, 1880."	The amount of costs so taxed.
Wentworth	1	30060 83	32	1280 72	67	419 26	7968 35	7761 08	626 53	67	4	2	2	17 00	1	30 76	138 75	3	15 00
	2	3199 40	6	495 27	3	33 41	912 23	888 69	56 95	5	2	1	1	9 00	1	3 49	..	..	..
	3	1629 34	7	251 14	7	36 57	645 30	645 30	6 00	4	4	..	..	..	..	1 63	..	..	..
	4	1916 70	4	77 78	3	36 50	1110 16	1140 76	6 00	4	..	..	2	24 00	..	2 05	..	..	..
	5	1180 93	..	..	..	..	627 52	627 52	..	5	..	..	..	..	..	1 69	..	..	..
	6	408 11	9	565 37	3	34 45	121 64	121 64	..	1	1	..	..	..	..	27	..	..	..
	7	469 39	..	..	1	..	286 01	291 01	..	1	..	..	..	..	..	40	..	..	..
	8	452 22	2	44 12	2	..	106 47	106 47	..	2	..	..	..	..	..	62	..	..	..
	9	19095 39	21	1030 03	54	758 63	4955 94	4623 60	1090 97	43	4	2	1	10 00	..	19 81	33 17	4	25 00
York	1	132922 46	58	4295 90	674	1263 74	17365 55	17610 82	1018 47	242	19	3	12	59 00	..	132 87	1509 68	21	54 00
	2	9415 60	23	1762 95	43	113 48	2865 43	2840 80	138 11	24	..	..	..	..	..	9 48	..	..	..
	3	2998 61	4	132 09	12	49 21	1237 33	1106 50	131 03	7	..	..	..	..	..	3 16	..	..	..
	4	11854 12	22	1149 00	39	76 41	3445 32	3181 87	6 87	29	9	3	..	..	..	13 61	..	..	..
	5	2322 58	19	975 17	3	45 17	1365 82	1521 27	295 72	2	..	..	..	..	..	2 48	..	..	..
	6	5620 48	6	437 46	26	65 52	2005 58	1978 58	27 00	12	..	..	1	8 00	..	5 40	..	..	..
	7	2076 78	1	13 97	21	31 75	864 93	860 75	35 75	4	1	..	..	..	..	1 99	..	..	..
	8	9883 18	14	941 14	33	274 30	2886 82	2872 99	288 13	20	..	..	2	22 00	2	9 44	..	..	..
	9	2845 92	10	564 33	10	26 70	812 94	824 64	15 00	6	..	..	..	..	..	2 97	..	..	..
	10	2835 155405 19	75	4612 36	745	131 50	24211 54	23853 99	357 55	414	1	3	5	58 00	..	165 96	1514 39	22	59 00

RETURN of Division Court Business.—Continued.

The Name of County, United Counties or District.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)						
	Number of Divisions.	Number of Suits entered, exclusive of Transcripts of Judgments and Judgment Summons.	Amount of Claims entered, exclusive of Transcripts of Judgments and Judgment Summons.	Number of Transcripts of Judgments received from other Courts.	Amount of Claims received by Transcripts of Judgments from other Courts.	Number of Judgment Summons issued.	Balance of Cash in Court from the previous year.	Total amount of Suits' money paid into Court.	Total amount of Suits' money paid out of Court.	Balance of Cash in Court.	Number of Suits entered, where the amount claimed exceeds \$100.	Number of actions for Tort, where the amount claimed exceeds \$40.	Number of actions of Replevin, where the value of the goods or other property or effects distrained, taken or detained exceeds the sum of \$40.	Number of Jury Trials by Juries summoned.	Amount paid to Jurors summoned.	Number of Jury Trials by Jurors called in pursuance of Sec. 122 of "The Division Courts Act."	Amount payable to County Treasurers for "Division Court Jury Fund."	The amount of Fees and Emoluments payable to the Honourable the Treasurer for the use of the Province.	Number of instances in which the Judge has allowed costs to be taxed for Counsel, Attorney or Agents fees, under Sec. 16 of "The Division Courts Act, 1880."	The amount of costs so taxed.						
<i>Brought forward.</i>	302	12602	1519172	803359	108610	6588	23165	65	529240	1421919	863070	290	89	172	1376	25	20	1415	63	3254	54	200	1316	50		
<i>Went worth.</i>	9	1329	58412	31	80	374	13	140	1318	82	1814	90	129	10	7	6	60	67	171	96	7	40	60			
York	10	6513	335354	92	232	14823	67	1606	2483	79	2313	63	760	30	9	20	147	00	2	317	36	3024	97	46	133	00
<i>Total.</i>	321	50144	1933940	993671	187178	728334	25967	66	602400	4226078	393959	330	105	198	1583	25	22	1823	66	6450	57	262	1489	50		

TABLE B.

LIST of Division Court Clerks, their Post Office Address, the County and Number of Division in which their Courts are situated, for the Province of Ontario, up to 31st December, 1893, inclusive.

County.	No. of Division.	Name of Clerk.	Post Office Address.
Algoma	1	E. Biggins	Sault Ste. Marie.
	2	Thomas Sullivan	Bruce Mines.
	3	Wm. L. Nichols	Thessalon.
	4	John Mackintosh	Webbwood.
Brant	4	Wm. J. Smith	Richard's Landing.
	1	Joseph Robinson	Brantford.
	2	John K. Finlayson	Paris.
	3	David Baptie	St. George.
	4	Hy. Cox	Burford.
Bruce	5	Walter E. Hooker	Scotland.
	1	Wm. Collins	Walkerton.
	2	H. B. O'Connor	Teeswater.
	3	Joseph Barker	Kincardine.
	4	N. McKechnie	Paisley.
	5	Robt. Munro	Port Elgin.
	6	Hugh Murray	Underwood.
	7	A. Neelands	Invermay.
	8	James Walmsley	Warton.
	9	Angus Martyn	Ripley.
10	W. Moshier	Lion's Head.	
Carleton	1	J. R. Armstrong	Ottawa.
	2	Wm. Henderson	Fallowfield.
	3	Henry W. McDougall	Carp.
	4	W. P. Taylor	Fitzroy Harbour.
	5	John Kerr	Kars.
	6	Daniel McLaurin	Metcalf.
	7	F. W. Harmer	Hintonburg.
Dufferin	1	Joseph Pattulo	Orangeville.
	2	Fras. G. Dunbar	Shelburne.
	3	Wm. Love	Stanton.
	4	James Henry	Mono Mills.
	5	R. E. Hamilton	Grand Valley.
Elgin	1	A. Love	Aylmer.
	2	Alex. McBride	St. Thomas.
	3	Alex. McBride	St. Thomas.
	4	A. N. C. Black	Dutton.
Essex	1	James A. Stewart	Sandwich.
	2	J. H. C. Leggatt	Amherstburg.
	3	E. Allworth	Kingsville.
	4	C. Bell	Oxley.
	5	George A. Morse	Leamington.
	6	E. P. Bouteiller	Belle River.
	7	John McCrae	Windsor.
	8	John Milne	Essex.
	9	Wm. A. McIntosh	Comber.

LIST of Division Court Clerks, etc.—*Continued.*

County.	No. of Division.	Name of Clerk.	Post Office Address.	
Frontenac.....	1	Wm. J. Robinson.....	Kingston.	
	2	P. McKim.....	Kingston.	
	3	C. Ruttan.....	Sydenham.	
	4	A. Grant.....	Verona.	
	5	John McGrath.....	Sunbury.	
	6	Jesse Shibley.....	Sharbot Lake.	
Grey.....	1	Benjamin Allen.....	Owen Sound.	
	2	David Jackson, jr.....	Durham.	
	3	Thomas Plunkett.....	Meaford.	
	4	T. J. Rorke.....	Heathcote.	
	5	J. W. Armstrong.....	Flesherton.	
	6	John McDonald.....	Chatsworth.	
	7	Duncan Campbell.....	Hanover.	
	8	Richard Stevens.....	Markdale.	
Haldimand.....	1	D. McGregor.....	Caledonia.	
	2	David T. Rogers.....	Cayuga.	
	3	T. Armour.....	Dunnville.	
	4	R. A. Havill.....	Rainham.	
	5	Elgin Birdsall.....	Canboro'.	
	6	C. E. Bourne.....	Jarvis.	
Haliburton.....	1	C. D. Curry.....	Minden.	
	2	Wm. Prust.....	Haliburton.	
	3	Stephen Kettle.....	Ursa.	
Halton.....	1	Wm. Panton.....	Milton.	
	2	R. Balmier.....	Oakville.	
	3	Lachlan Grant.....	Georgetown.	
	4	R. J. McNabb.....	Acton.	
	5	Neil McPhail.....	Nassagaweya.	
	6	James Robinson.....	Burlington.	
Hastings.....	1	Harford Ashley.....	Belleville.	
	2	Fras. B. Prior.....	Wallbridge.	
	3	A. B. Randall.....	Shannonville.	
	4	T. McCann.....	Tweed.	
	5	F. B. Parker.....	Stirling.	
	6	Arthur W. Coe.....	Madoc.	
	7	A. S. Vallean.....	Deseronto.	
	9	James B. Young.....	Trenton.	
	10	Marcus H. Powell.....	Marmora.	
	12	Dermott Kavanagh.....	Umfraville.	
	Huron.....	1	Charles Seager.....	Goderich.
		2	John Beattie.....	Seaforth.
3		W. W. Farran.....	Clinton.	
4		A. Hunter.....	Brussels.	
5		T. Trivitt.....	Exeter.	
6		Jas. Whyard.....	Dungannon.	
7		John Morgan.....	Bayfield.	
8		James McGuire.....	Wingham.	
9		Joseph Cowan.....	Wroxeter.	
10		M. Zeller.....	Zurich.	
11		Wm. Lewis.....	Crediton.	
12		Wm. Campbell.....	Blyth.	

LIST of Division Court Clerks, etc.—*Continued.*

County.	No. of Division.	Name of Clerk.	Post Office Address.
Kent.....	1	W. B. Wells	Chatham.
	2	J. Duck	Ridgetown.
	3	S. Wallace	Dresden.
	4	Arch'd Samson	Blenheim.
	5	D. C. McDonald.....	Wallaceburg.
	6	George Moore	Bothwell.
	7	D. K. Farquharson	Fletcher.
Lambton	1	H. M. Poussett.....	Sarnia.
	2	Wm. McLeay	Watford.
	3	John Webster.....	Florence.
	4	William W. Stover	Sombra.
	5	T. R. K. Scott	Florence.
	6	Martin Wattson.....	Theford.
	7	John McRae	Mooretown.
	8	W. G. Fraser.....	Petrolea.
	9	Richard Code	Alvinston.
Lanark	1	R. Jamieson	Perth.
	2	W. A. Field.....	Lanark.
	3	F. McEwen	Carleton Place.
	4	G. F. McKimm	Smith's Falls.
	5	Alex. Graham	Packenham.
	6	Wm. P. McEwen.....	Almonte.
Leeds and Grenville	1	D. B. Jones	Brockville.
	2	J. B. White.....	Prescott.
	3	S. McCammon	Guanoque.
	4	Oliver Bascom.....	Kemptville.
	5	E. H. Whitmarch	Merrickville.
	6	L. N. Phelps	Phillippsville.
	7	Cyrus A. Wood	Toledo.
	8	L. S. Lewis	Newboro'.
	9	Isaac C. Alguire	Athens.
	10	G. Fairbairn	Spencerville.
	11	J. B. Bellamy	North Augusta.
	12	M. J. Connolly.....	Caintown.
Lennox and Addington	1	George D. Hawley.....	Napanee.
	2	Fred. W. Armstrong	Bath.
	3	Joseph A. Allison	Adolphustown.
	4	P. Johnstone.....	Camden East.
	5	W. Whelan	Centreville.
	6	J. A. Timmerman.....	Odessa.
	7	James Aylesworth.....	Tamworth.
Lincoln	1	James B. Secord.....	Niagara.
	2	W. A. Middleberger	St. Catharines.
	3	Isaac Springstead.....	Abingdon.
	4	C. E. Ruggins.....	Beamsville.
Manitoulin.....	1	Samuel Jackson	Gore Bay.
	2	John Carruthers.....	Little Current.
	3	W. J. Tucker	Manitowaning.
Middlesex.....	1	Jno. W. McIntosh	London.
	2	William Dickson	Parkhill.
	3	Robt. J. McNamee.....	Lucan.
	4	W. C. Harris.....	Delaware.
	5	G. Wilson.....	Glencoe.
	6	Ed. Rowland.....	Strathroy.
	7	Ed. Thos. Shaw	Dorchester Station.
	8	Walter R. Westlake	Arva.
	9	E. S. Jarvis	London.

List of Division Court Clerks, etc.—*Continued.*

County.	No. of Division.	Name of Clerk.	Post Office Address.
Muskoka	1	T. M. Bowerman	Bracebridge.
	2	W. R. Tudhope	Gravenhurst.
	3	J. R. Reece	Huntsville.
	4	Fred. D. Stubbs	Port Carling.
Nipissing	1	J. D. Cockburn	Sturgeon Falls.
	2	John McMeekin	Mattawa.
	3	John G. McCormack	North Bay.
	4	Thomas J. Ryan	Sudbury.
	5		
Norfolk	1	Charles E. Freeman	Simcoe.
	2	Abraham M. Tobin	Waterford.
	3	R. Green	Windham Centre.
	4	Jas. F. Cohoe	Ronson.
	5	M. J. McCall	Vittoria.
	6	S. P. Mabee	Port Rowan.
	7	D. C. Brady	Houghton.
	8	Lawrence Skey	Port Dover.
Northumberland and Durham	1	F. Cubitt	Bowmanville.
	2	S. Wilmott	Newcastle.
	3	G. M. Furby	Port Hope.
	4	Henry Elliott	Millbrook.
	5	A. G. Boswell	Cobourg.
	6	Thomas E. Lawless	Grafton.
	7	S. S. Brintnell	Colborne.
	8	M. P. Ketchum	Brighton.
	9	R. P. Hurlburt	Warkworth.
	10	T. R. Garratt	Wooler.
	11	D. Kennedy	Campbellford.
Ontario	1	D. C. Macdonell	Whitby.
	2	M. Gleeson	Greenwood.
	3	J. W. Burnham	Port Perry.
	4	Jos. E. Gould	Uxbridge.
	5	Geo. Smith	Cannington.
	6	G. F. Bruce	Beaverton.
	7	F. J. Gillespie	Uptergrove.
Oxford	1	F. W. Macqueen	Woodstock.
	2	Chas. K. Currey	Drumbo.
	3	James Munro	Embro.
	4	Jas. Barr	Norwich.
	5	James Stevens	Ingersoll.
	6	John C. Ross	Tilsonburg.
Parry Sound	1	R. H. Stewart	Parry Sound.
	2	David Patterson	McKellar P.O.
	3	Wm. Ditchburn	Rosseau.
	4	Walter Sharpe	Burk's Falls.
	5	Saml. G. Best	Maganetawan.
	6	R. B. Maw	Commanda.
	7	James Dunn	Sundridge.

List of Division Court Clerks, etc.—*Continued.*

County.	No. of Division	Name of Clerk.	Post Office Address.
Peel	1	J. W. Main	Brampton.
	2	Thomas K. Beaty	Streetsville.
	3	John Harris	Caledon.
	4	David Pearcy	Bolton.
Perth	1	D. B. Burritt	Stratford.
	2	George K. Matheson	Mitchell.
	3	E. Long	St. Mary's.
	4	G. Brown	Shakespeare.
	5	Thomas Trow	Milverton.
	6	F. W. Hay	Listowel.
Peterborough	1	Francis James Bell	Peterborough.
	2	Thomas Fraser	Norwood.
	3	Jas. McNeil	Keene.
	4	W. Sherin	Lakefield.
	5	C. R. D. Booth	Apsley.
Prescott and Russell	1	David Buchan	L'Original.
	2	John Shields	Vankleek Hill.
	3	W. Allison	Stardale.
	4	Joseph Belanger	Plantagenet.
	5	J. S. Cameron	Cumberland.
	6	A. Carson	Russell.
	7	M. J. Costello	Hawkesbury.
	8	J. Downing	Fournier.
	9	F. W. Langrell	Alfred.
	10	Telesphore Rochon	Clarence Creek.
	11	Peter Stewart	Grant.
Prince Edward	1	G. C. Curry	Picton.
	2	Henry Hullett Haight	Milford.
	3	Charles H. Wright	Demorestville.
	4	William C. Delong	Ameliasburg.
	5	John W. Clarke	Wellington.
	6	A. B. Saylor	Bloomfield.
	7	J. M. Cadman	Consecon.
	8	B. E. Harrison	Waupoos.
Rainy River	1	P. H. Clark	Rat Portage.
	2	William Wilson	Fort Francis.
Renfrew	1	W. C. Irving	Pembroke.
	2	Hugh R. Dunn	Beachburg.
	3	George Eady, jr.	Renfrew.
	4	George E. Neilson	Arnprior.
	5	Thos. F. Gorman	Shamrock.
	6	James Reeves	Eganville.
	7	Robert Allan	Cobden.
	8	J. C. Gurney	Rockingham.

List of Division Court Clerks, etc.—*Continued.*

County.	No. of Division.	Name of Clerk.	Post Office Address.
Simcoe	1	J. C. McNab	Barrie.
	2	Thomas S. Graham	Bradford.
	3	Geo. Chrystal	Beeton.
	4	R. G. Campbell	Collingwood.
	5	A. Craig	Craighurst.
	6	J. P. Henderson	Orillia.
	7	J. A. Mather	New Lowell.
	8	J. G. Hood	Alliston.
	9	Andrew McNamara	Penetanguishene.
	10	J. C. Steele	Coldwater.
Stormont, Dundas and Glengarry	1	G. H. McGillivray	Williamstown.
	2	Dougall B. McMillan	Alexandria.
	3	C. J. Mattice	Cornwall.
	4	Asaph Dawson	Dickinson's Landing.
	5	Wm. Garvey	Morrisburg.
	6	J. N. Tuttle	Iroquois.
	7	W. J. Ridley	South Mountain.
	8	J. A. Cockburn	Crysler.
	9	Duncan C. McRae	North Lancaaster.
	10	W. Rae	Chesterville.
	11	D. McIntosh	Strathmore.
	12	John D. McIntosh	Dominionville.
Thunder Bay	1	Neil McDougall	Port Arthur.
	2	John Aikins	English River.
	3	William McLean	Fort William.
Victoria	1	Peter McIntyre	Woodville.
	2	Edward D. Hand	Penelon Falls.
	3	Irvine Junkin	Bobcaygeon.
	4	James D. Thornton	Omeme.
	5	O. J. McKibbin	Lindsay.
	6	J. F. Cunnings	Oakwood.
	7	A. C. Graham	Victoria Road.
Waterloo	1	A. J. Peterson	Berlin.
	2	Jas. D. Webster	Preston.
	3	Thomas Field	Galt.
	4	J. Allelin	New Hamburg.
	5	Alfred Boomer	Linwood.
	6	Wm. H. Winkler	St. Jacob's.
	7	W. D. Watson	Ayr.
Welland	1	G. L. Hobson	Welland.
	2	Paul J. Wilson	Marshville.
	3	Ernest Cruikshank	Fort Erie.
	4	J. A. Orchard	Niagara Falls, South
	5	T. F. Conlon, jr.	Thorold.
	6	A. K. Scholfield	Port Colborne.

List of Division Court Clerks, etc.—*Continued.*

County.	No. of Division.	Name of Clerk.	Post Office Address.
Wellington	1	Geo. Howard	Guelph.
	2	William Nicoll	Morrison.
	3	Hugh Black	Rockwood.
	4	T. W. Thomson	Fergus.
	5	Thomas Young	Erin.
	6	Henry Clarke	Elora.
	7	L. R. Adams	Drayton.
	8	Daniel Driscoll	Arthur.
	9	Joseph Patullo	Orangeville.
	10	John Livingston	Harriston.
	11	J. C. Wilkes	Mount Forest.
Wentworth	1	H. T. Bunbury	Hamilton.
	2	F. D. Suter	Dundas.
	3	Hugh Thompson	Waterdown.
	4	W. McDonald	Rockton.
	5	A. G. Jones	Stoney Creek.
	6	L. A. Gurnett	Ancaster.
	7	J. McClement	Glanford.
	8	Samuel C. Wright	Binbrook.
	9	R. L. Gunn	Hamilton.
York	1	A. McL. Howard	Toronto.
	2	J. Stephenson	Unionville.
	3	J. M. Lawrence	Richmond Hill.
	4	D. Lloyd	Newmarket.
	5	Warren P. Cole	Sutton West.
	6	A. Armstrong	King City.
	7	John Nattrass	Woodbridge.
	8	John Linton	Toronto Junction.
	9	J. H. Richardson	West Hill.
	10	E. H. Duggan	Toronto.

TABLE C.

LIST of Division Court Bailiffs, their Post Office Address, the County and Number of Division in which their Courts are situated, for the Province of Ontario, up to 31st December, 1893, inclusive.

County.	No. of Division.	Name of Bailiff.	Post Office Address.
Algoma	1	Robert Bush	Sault Ste. Marie.
	2	John Knight	Bruce Mines.
	3	Fred. Leighfield	Thessalon.
	4	Wm. Irving	Webbwood.
	6	Daniel McPhail	Marksville, St. Jos. Is.
Brant	1	Joseph Jackson	Brantford.
	2	A. Huson	Paris.
	3	David B. Wood	St. George.
	4	Daniel Dunn	Burford.
	5	A. M. Malcolm	Scotland.
Bruce	1	M. Thompson	Walkerton.
	2	P. Corrigan	Hollywood.
	3	John Farquharson	Teeswater.
	4	Alex. Campbell	Kincardine.
	5	W. W. Hogg	Paisley.
	6	M. Hunter	Port Elgin.
	7	Gore Leggett	Underwood.
	8	Charles A. Richards	Tara.
	9	H. Trout	Warton.
	10	John Ritchie	Ripley.
Carleton	1	E. A. Lapierre	Ottawa.
	2	John Whitton	Ottawa.
	3	W. H. Hamilton	Richmond.
	4	Wm Falls	Carp.
	5	Ed. W. Owens	Antriu.
	6	Wesley Hicks	Kars.
	7	John Watt	Metcalfe.
Dufferin.....	1	A. Wilson	Hintonburgh.
	1	James McQuarrie	Orangeville.
	2	E. F. Bowes	Shelburne.
	3	A. Cauthers	Stanton.
	4	James McQuarrie	Orangeville.
Elgin	5	Alfred Finbow	Grand Valley.
	1	W. W. White	Aylmer.
	2	Henry Thornton	St. Thomas.
	3	Henry Thornton	St. Thomas.
Essex	4	Duncan McGregor	Eagle.
	1	Alois Master	Sandwich.
	2	William Kelley	Amherstburgh.
	3	C. Wright	Amherstburgh.
	4	John S. Middough	Kingsville.
	5	W. L. Hughson	Harrow.
	6	Jesse T. Brown	Leamington.
	7	Charles F. Cornetel	Belle River.
	8	Fred. A. Malloux	Windsor.
9	J. S. Askew	Windsor.	
	Richard E. Millard	Essex.	
	Raphael Marion	Chevalier.	

LIST of Division Court Bailiffs, etc.—*Continued.*

County.	No. of Division.	Name of Bailiff.	Post Office Address.
Frontenac.....	1 {	George Greenwood.....	Wolfe Island.
		J. A. Gardner.....	Kingston.
	2 {	John A. Gardner.....	Kingston.
	3 {	Edmund G. Ruttan.....	Sydenham.
	4 {	Isaac L. Smith.....	Verona.
	5 {	William J. Arthur.....	Battersea.
	6 {	Matthew W. Price.....	Mountain Grove.
		Samuel Mitchell.....	Plevna.
Grey.....	1	James Sharpe, jr.....	Owen Sound.
	2	James Carson.....	Durham.
	3	George Brown.....	Meaford.
	4	George Mitchell.....	Clarksburg.
	5	A. S. Vandusen.....	Flesherton.
	6	W. B. Simpson.....	Chatsworth.
	7	John Small.....	Hanover.
	8	W. G. Pickell.....	Markdale.
Haldimand.....	1	Daniel T. Hind.....	Caledonia.
	2	Andrew Finlan.....	Cayuga.
	3	W. R. McIndoe.....	Dunnville.
	4	David Byers.....	Selkirk.
	5	Eli Piper.....	Canboro'.
	6	F. Hartwell.....	Jarvis.
Haliburton.....	1	R. C. Garratt.....	Minden.
	2	.....	Haliburton.
	3	Adam Graham.....	Ursa.
Halton.....	1	J. A. Fraser.....	Milton.
	2	Robert Lucas.....	Oakville.
	3	Alfred Benham.....	Georgetown.
	4	John Lawson.....	Acton.
	5	Jackson Worthington.....	Campbellville.
	6	J. W. Henderson.....	Burlington.
Hastings.....	1 {	John H. Gordon.....	Belleville.
		Jones Phillips.....	Foxboro'.
	2 {	W. D. Ketcheson.....	Wallbridge.
	3 {	W. E. Pearsall.....	Shannonville.
	4 {	W. J. Howell.....	Tweed.
	5 {	C. Butler.....	Stirling.
	6 {	John Allen Huff.....	Madoc.
	7 {	J. G. Ferguson.....	Deseronto.
	9 {	Wm. Henry Garratt.....	Trenton.
		Lewis Cruickshank.....	Trenton.
	10 {	James C. Bowen.....	Marmora.
	12 {	Walter Mullett.....	Bancroft.
		Bancroft.	
		Bancroft.	
Huron.....	1	John Knox.....	Goderich.
	2	Joseph D. Brine.....	Seaforth.
	3	D. Dickenson.....	Clinton.
	4	Finlay S. Scott.....	Brussels.
	5	John Gill.....	Exeter.
	6	Joseph Mallough.....	Dungannon.
	7	J. Ferguson.....	Bayfield.
	8	Francis Patterson.....	Wingham.
	9	John Brethauer.....	Wroxeter.
	10	Phillip Sipple.....	Zurich.
	11	J. Beanes.....	Crediton.
	12	James Davis.....	Blyth.

List of Division Court Bailiffs, etc.—*Continued.*

County.	No. of Division.	Name of Bailiff.	Post Office Address.	
Kent.....	1 {	Charles J. Moore	Chatham.	
		T. H. Nelson	Chatham.	
	2	Wm. Teetzel	Ridgetown.	
	3	Alex. Cuthbert	Dresden.	
	4 {	W. Fellows	Blenheim.	
		John M. Burke	Blenheim.	
	5	Thomas Forhan	Wallaceburg.	
6 {		G. A. Robier	Thamesville.	
		S. J. Thomas	Bothwell.	
Lambton.....	7	M. Dillon.....	Merlin.	
	1	Robert Miller	Sarnia.	
	2	J. F. Elliott	Watford.	
	3	Richard L. Bobier	Florence.	
	4	N. Cornwall	Sombra.	
	5	Eugene Mason	Wyoming.	
	6	J. G. Braddon	Theford.	
	7	John McGill	Corunna.	
	8	John Sinclair	Petrolia.	
9	W. Fitzpatrick	Alvinston.		
Lanark	1 {	P. J. Lee	Perth.	
		James Patterson	Perth.	
	2	James D. McInnes	Lanark.	
	3	John McPherson	Carleton Place.	
	4	James Murray	Smith's Falls.	
	5	Arthur H. Ellis	Pakenham.	
6	John Slattery	Almonte.		
Leeds and Grenville	1 {	H. McPhail	Brockville.	
		Uri Marshall	Brockville.	
	2	Charles H. Rowe	Prescott.	
	3	Edward McE. Hiscocks	Gananoque.	
	4	J. Dickinson	Kemptville.	
	5	P. Dowdall	Merrickville.	
	6 {		W. H. Denaut, jr.	Delta.
			S. R. Ransom	Delta.
	7	R. Richards	Frankville.	
	8 {		Chester Stewart	Newboro'.
			Delorna Deacon	Westport.
	9	G. W. Brown	Athens.	
10 {		Wm. Stitt, jr.	Spencerville.	
		James P. Lawrence	Spencerville.	
11	S. J. Whaley	North Augusta.		
12	W. J. Mallory	Mallorytown.		
Lennox and Addington	1	Z. Ham	Napanee.	
	2	R. R. Finkle	Bath.	
	3	D. Daverne	Adolphustown.	
	4	Z. Ham	Napanee.	
	5	P. Vandewater	Centreville.	
	6	John W. Denyes	Odessa.	
	7 {		P. F. Carscallen	Tamworth.
		Andrew Cowan	Vennachar.	
Lincoln		Thomas Neal	Cloyne.	
	1	P. Henigan	Niagara.	
	2	Richard E. Boyle	Merritton.	
	3	A. D. Lacy	Smithsville.	
4	James F. Carter	Beamsville.		

LIST of Division Court Bailiffs, etc.—*Continued.*

County.	No. of Division.	Name of Bailiff.	Post Office Address.
Manitoulin.....	1	Neil McLean, jr.....	Gore Bay.
	2	D. McKenzie.....	Little Current.
	3	John Gorley.....	Manitowaning.
Middlesex.....	1	John Burns.....	211 Richmond st., London.
	2	Edward Manes.....	Parkhill.
	3	G. W. Hodgins.....	McGillivray.
	4	Henry Lockwood.....	Delaware.
	5	James Poole.....	Strathburn.
	6	Malcolm McIntyre.....	Strathroy.
	7	John Beverley.....	Dorchester Station.
	8	Wm. Guest.....	Arva.
	9	L. W. Stevens.....	London.
Muskoka.....	1	W. J. Hill.....	Bracebridge.
	2	T. M. Robinson.....	Gravenhurst.
	3	Wm. Runsey.....	Huntsville.
	4	E. M. Davidson.....	Port Carling.
Nipissing.....	1	Louis Joudouin.....	Sturgeon Falls.
	2	Ed. J. Smith.....	Mattawa.
	3	Charles Lamarche.....	Mattawa.
	4	M. J. Powell.....	Sudbury.
	5		
Norfolk.....	1	E. G. Wells.....	Simcoe.
	2	Edward Grace.....	Waterford.
	3	D. C. Wood.....	Simcoe.
	4	Robert Power.....	Delhi.
	5	Joseph W. Shearer.....	Vittoria.
	6	Henry C. Ellis.....	Pcrt Rowan.
	7	H. J. Mitchener.....	Clear Creek.
	8	Hiram Fairchild.....	Port Dover.
Northumberland and Durham.....	1	Henry Metcalf.....	Bowmanville.
	2	N. A. Jerome.....	Orono.
	3	John Grimson.....	Port Hope.
	4	Wm. Carveth.....	Millbrook.
	5	O. Dean.....	Cobourg.
	6	Thomas Patterson.....	Grafton.
	7	John Reives.....	Colborne.
	8	Jay Chapin.....	Brighton.
	9	Luke Berry.....	Warkworth.
	10	Arthur Terrill.....	Wooler.
	11	Thomas G. Gillespie.....	Campbellford.
Ontario.....	1	J. W. Palmer.....	Whitby.
	2	Levi McKay.....	Greenwood.
	3	James D. Paxton.....	Port Perry.
	4	J. C. Widdifield.....	Uxbridge.
	5	R. J. Harwood.....	Cannington.
	6	James C. Edgar.....	Beaverton.
	7	Joseph Fox.....	Millington.

LIST of Division Court Bailiffs, etc.—*Continued.*

County.	No. of Division.	Name of Bailiff.	Post Office Address.
Oxford	1	M. Virtue	Woodstock.
	2	M. Virtue, jr	Woodstock.
	3	L. S. Kennedy	Richwood.
	4	George C. McKay	Embro.
	5	Wm. Stroud	Norwich.
	6	W. H. Cody	Ingersoll.
		M. Dillon	Tilsonburg.
Parry Sound.....	1	T. W. George.....	Parry Sound.
	2	Duncan McRae.....	French River.
	3	W. J. Moffatt	McKellar.
	4	Jas. G. Dixon	Rosseau.
	5	Chas. W. McKague.....	Burk's Falls.
	6	Joseph Wilson	Maganetawan.
	7	David Ricker	Commanda.
		Archibald McDonald	Sundridge.
Peel.....	1	Geo. William Broddy.....	Brampton.
	2	John H. Glendening.....	Streetsville.
	3	James K. Leslie	Caledon.
	4	J. C. Switzer.....	Albion.
Perth	1	Thos. Tobin.....	Stratford.
	2	Thos S. Tobin	Stratford.
	3	J. S. Coppin	Mitchell.
	4	William Box	St. Mary's.
	5	J. W. Donaldson	Shakespeare.
	6	W. D. Weir	Milverton.
		W. H. Hay	Listowel.
Peterborough	1	Joseph Griffin	Peterborough.
	2	A. R. Anderson.....	Norwood.
	3	Joseph Elmhirst	Keene.
	4	Thos. Nicolls.....	Lakefield.
	5	Thomas McIlmoyle.....	Burleigh.
Prescott and Russell.....	1	S. Wright	L'Orignal.
	2	Thomas Shields.....	Vankleek Hill.
	3	P. Kelly	St. Eugene.
	4	Wm. Adolphus McKay.....	Plantagenet.
	5	Docitte Lavergne.....	Cumberland.
	6	Thomas Young	Russell.
	7	S. Wright	L'Orignal.
	8	C. Gates	Fourmier.
	9	Napoleon Dupuis.....	St. Isidore.
	10	Jules Boileau.....	Alfred.
	11	John A. Dent	Rockland.
		Frs. Menard	Clarence Creek.
		E. M. Casselman	Casselman.
Prince Edward	1	A. M. Buchanan	Picton.
	2	Marshall Palen.....	Milford.
	3	George Farrell.....	Demorestville.
	4	A. Harvey	Ameliasburg.
	5	Chas. Herrington.....	Wellington.
	6	Alex. McDonald.....	Hallowell.
	7	Harman W. Weeks.....	Consecon.
	8	E. A. Williams.....	Waupoose.

LIST of Division Court Bailiffs, etc—*Continued.*

County.	No. of Division.	Name of Bailiff.	Post Office Address.
Rainy River.....	1	W. H. McKay	Rat Portage.
	2	Wm. Neil	Fort Francis.
Renfrew	1	George Mitchell	Pembroke.
	2	James Millar.....	Pembroke.
		A. Acheson.....	Westmeath.
	3	Jno. Beaupre.....	Beachburg.
		S. O'Gorman	Renfrew.
	4	Wm. Wilson	Arnprior.
		John Lyon	Arnprior.
	5	Thos. J. Gorman.....	Shamrock.
6	Hugh Gallagher.....	Eganville.	
7	George Marshall	Cobden.	
8	John Hartney	Rockingham.	
Simcoe	1	John Weaymouth.....	Barrie.
	2	L. Algeo	Bradford.
	3	Jno Wilson	Tottenham.
	4	A. W. S. Cunningham	Collingwood.
	5	James Martin	Hillsdale.
	6	J. G. Wilson	Orillia.
	7	Andrew Patton.....	New Lowell.
	8	W. H. McDougall.....	Alliston.
	9	Wm. Pratt	Penetanguishene.
	10	Thomas Blaney.....	Coldwater.
Stormont, Dundas and Glengarry.....	1	J. A. Robertson	Williamstown.
	2	Colin A. McLauren.....	Dalkeith.
	3	D. McDonald	Cornwall.
		Homer Stiles	Cornwall.
	4	H. Bush	Lunenberg.
		Simon Warner	Osnabrock Centre.
	5	Jacob Hopper	Morrisburg.
	6	Wm. A. Coons	Iroquois.
	7	Edward Barclay	Inkerman.
	8	Samuel Dillobough	Crysler.
	9	Wm. Cameron	Lancaster.
	10	A. Stallmayer	Chesterville.
11	Martin Maloney.....	Monckland.	
12	H. A. Conroy.....	Maxville.	
Thunder Bay	1	Jas. Alexander	Port Arthur.
	2	Joseph McKinnon	English River.
	3	Jas. Alexander	Port Arthur.
Victoria	1	Arch. J. Smith	Woodville.
	2	Stephen Nevison	Fenelon Falls.
	3	Thomas Cheetham	Bobcaygeon.
	4	Wm. Glass	Omeme.
	5	John Matthie	Lindsay.
	6	Wm. Henry McLaughlin	Oakwood.
	7	William Boden.....	Victoria Road.
Waterloo	1	J. Klippert	Berlin.
	2	Peter Gillies	Galt.
	3	Peter Gillies	Galt.
	4	Alex. Fraser	New Hamburg.
	5	Benj. J. Ballard	Hawkesville.
	6	Benj. J. Ballard	Hawkesville.
	7	Ed. Bouchier	Washington.

LIST of Division Court Bailiffs, etc.—*Concluded.*

County.	No. of Division.	Name of Bailiff.	Post Office Address.
Welland	1	Casper Ramey	Welland.
	2	John S. Stayzer	Marshville.
	3	J. Teal	Bertier.
	4	J. D. Fralick	Niagara Falls, South.
	5	Lanson Theal	Thorold.
	6	Elias Augustine	Port Colborne.
Wellington	1	John H. Doughty	Guelph.
	2	J. H. Doughty	Guelph.
	3	John W. Farries	Rockwood.
	4	Wm. M. Frank	Fergus.
	5	James Broddy	Erin.
	6	Wm. Findlay	Elora.
	7	S. B. Trask	Glen Allan.
	8	David T. Small	Arthur.
	9	James McQuarrie	Orangeville.
	10	Henry Torrance	Harriston.
	11	A. Godfrey	Mount Forest.
Wentwerth	1	Wm. Hunter	Hamilton.
	2	F. P. Hanes	Dundas.
	3	Wm. Harvey	Waterdown.
	4	Emerson Clement	Troy.
	5	J. C. Moore	Stoney Creek.
	6	F. P. Hanes	Dundas.
	7	A. de C. Boyes	Binbrook.
	8	A. de C. Boyes	Binbrook.
	9	J. Greenfield	Hamilton.
York	1	J. M. Wingfield	Toronto.
	1	St. John Severs	Toronto.
	2	James Stewart	Toronto.
	3	James Stewart	Toronto.
	4	Wm. Malloy	Newmarket.
	4	Amos H. Wilson	Newmarket.
	5	R. A. Sheppard	Sutton, West.
	6	James W. Crossley	King City.
	7	James Stewart	Toronto.
	8	James Stewart	Toronto.
9	W. Luke	West Hill.	
10	Peter Small	Toronto.	

TABLE D.

DIVISION COURTS AND THE LIMITS OF THE RESPECTIVE DIVISIONS IN THE PROVINCE OF ONTARIO.

DISTRICT OF ALGOMA.

1.—Bounded west by Thunder Bay District, 85th parallel of west longitude, and east by Barr River, including all the islands in front.

2.—Bounded west by Barr River, and east by the westerly boundary of the Townships of Thessalon River, Kirkwood, Bridgeland and Houghton, and by said boundary line of the last three named townships, produced northerly.

3.—Bounded west by the westerly boundary of the Townships of Thessalon River, Kirkwood, Bridgeland and Houghton, and the boundary line of the last named three townships, produced northerly, and on the east by the eastern boundary of the Township of Sprague, produced northerly.

4.—Bounded on the west by the boundary line between the Townships of Sprague and Lewis, produced north to the northern boundary of the District of Algoma, thence along the northern boundary of the said district, thence south along said eastern boundary to the waters of Lake Huron, thence westerly along the southern boundary of the District of Algoma, to a point opposite the boundary line between the Townships of Sprague and Long, thence northerly to said last mentioned boundary line, thence easterly along the said southern boundary line of the Township of Sprague to the place of beginning.

6.—Consisting of St. Joseph's Island.

COUNTY OF BRANT.

1.—The City of Brantford and that part of the Township of Brantford not included in the other divisions hereinafter described. The Townships of Onondago and Tuscarora, and that part of the Township of Brantford lying south of the main road from Brantford to Hamilton and east of Fairchild's Creek.

2.—The Town of Paris and that part of South Dumfries west of the line between lots 18 and 19, and that part of the first concession of the Township of Brantford lying west of a continuation of the last mentioned line.

3.—The remainder of the Township of South Dumfries and of the first concession of the Township of Brantford.

4.—The ten northern concessions of the Township of Burford, and that part of the 2nd, 3rd, 4th and 5th concessions of the Township of Brantford, west of the line between lots numbers 10 and 11, and that portion of the Kerr Tract west of a continuation of the last mentioned line.

5.—The Township of Oakland, the four southern concessions of the Township of Burford and lots numbers 1 to 5, inclusive, in the ranges east and west of the Mount Pleasant Road, in the Township of Brantford, adjoining the Township of Oakland.

COUNTY OF BRUCE.

1.—The Town of Walkerton and Township of Curriek, and all the Township of Brant south of the line between the 11th and 12th concessions.

2.—The Village of Teeswater, all the Township of Culross, and that part of the Township of Greenock lying south of the line between the 11th and 12th concessions, and Village of Lucknow, and all of Kinloss Township not in number nine.

3.—The Town of Kincardine and that part of the Township of Kincardine lying south of a line drawn between the 9th and 10th concessions.

4.—The Village of Paisley and that part of the Township of Brant lying north of a line drawn between the 11th and 12th concessions of the Township of Brant.

All the Township of Elderslie, except lots 16 to 36, both inclusive, in concessions 12, 13 and 14 of said Township.

All the Township of Greenock lying north of a line drawn between concessions 11 and 12 of said Township.

Lots 26 to 35, both inclusive, in the 8th, 9th, 10th, 11th, 12th, 13th and 14th concessions of the Township of Bruce; and that part of the Township of Saugeen lying east of a line between lots 28 and 29, and south of the production of the town line between the Townships of Arran and Elderslie to the Saugeen River.

5.—All Saugeen Township not included in No. 4, all that part of the Township of Arran lying west of a line between lots 10 and 11 and north of Arran Lake and the outlet of said lake, and that part of the Township of Anabel lying south of the 10th concession of Anabel, and the Villages of Port Elgin and Southampton.

6.—The Village of Tiverton, and that portion of Kincardine Township north of a line drawn between concessions 9 and 10 in said Township, and all the Township of Bruce, except that part included in No. 4.

7.—That part of the Township of Elderslie not included in No. 4, and that part of Arran Township not included in No. 5, and the Village of Tara.

8.—The Village of Wiarton, the Township of Albemarle, and that part of the Township of Anabel lying north of a line between the 9th and 10th concessions.

9.—All the Township of Huron, and that part of the Township of Kinloss, described as follows:—

Commencing at the boundary line between said Townships of Huron and Kinloss, at a point at which the blind line between the 12th concession of said Township of Kinloss and the third range south of the Durham Road, in the said

Township of Kinloss, commences; thence in an easterly direction along said blind lane to the westerly side of the Goderich Gravel Road, or the 10th side line of said Township of Kinloss; thence along said 10th side line in a southerly direction to the boundary line of the County of Huron; thence in a westerly direction along said last mentioned boundary to the said line between Huron and Kinloss aforesaid; thence northerly along said last named boundary line to the place of beginning.

10. All the Townships of Eastnor, Lindsay and St. Edmunds.

COUNTY OF CARLETON.

1.—Comprising all the City of Ottawa, and the Township of Gloucester, to lot 15, inclusive, Rideau front and concessions 1 to 6, inclusive, Ottawa front and the islands in the Ottawa River opposite thereto.

2.—All the Township of Goulbourn; the 8th, 9th and 10th concessions of the Township of Marlborough; all that portion of the Township of Nepean south of the River Goodwood; and the 4th, 5th and 6th concessions thereof north of the same river to the boundary line between lots 20 and 21 in the last mentioned concessions.

3.—All the Township of Huntley, and all the Township of March, except lots 1 to 5, inclusive, in concessions 1, 2, 3, and 4 thereof.

4.—All the Townships of Fitzroy and Torbolton.

5.—All the Township of North Gower; Long Island in the Rideau River and the 1st, 2nd, 3rd, 4th, 5th, 6th and 7th concessions of the Township of Marlborough.

6.—All the Township of Osgoode; the 6th, 7th and 8th concessions Ottawa front and from lots 16 to 30, inclusive, of the Rideau front of the Township of Gloucester.

7.—All the Township of Nepean, except the City of Ottawa, and the part of the said township lying south of the River Goodwood, and concessions 4, 5 and 6 north of said River Goodwood to the boundary line between lots 20 and 21 in said last mentioned concessions, and including also lots 1 to 5, inclusive, in concessions 1, 2, 3, and 4 in the Township of March.

COUNTY OF DUFFERIN.

1.—The Town of Orangeville, the Township of East Garafraxa, and all that portion of the Township of Amaranth lying south of the southerly boundary of lot number 26, in each concession of the Township of Amaranth.

2.—The Village of Shelburne, the Township of Melancthon, and all that portion of the Township of Amaranth lying north of the southerly boundary of lot number 26, in each concession of the Township of Amaranth.

- 3.—The Township of Mulmur.
- 4.—The Township of Mono.
- 5.—The Township of East Luther.

COUNTY OF ELGIN.

- 1.—The Townships of Bayham, Malahide and South Dorchester.
- 2.—The Townships of Southwold and Yarmouth (except the City of St. Thomas).
- 3.—The City of St. Thomas.
- 4.—The Townships of Aldborough and Dunwich.

COUNTY OF ESSEX.

- 1.—Town of Sandwich and Township of Sandwich West.
- 2.—Town of Amherstburgh and Townships of Alden and Anderdon.
- 3.—The Village of Kingsville, and all that part of the Township of Gosfield not included in Division No. 8.
- 4.—The Township of Colchester South, and all that part of Colchester North, south of the 9th concession, exclusive of the said concession and the lots on both sides of Malden Street.
- 5.—Township of Mersea and Village of Leamington.
- 6.—The Township of Rochester, the Village of Belle River, the first concession of the Township of Maidstone, and all north of the Middle Road in said Township of Maidstone.
- 7.—Town of Windsor, the Town of Walkerville, and all that part of Sandwich East, north of the Talbot Street range.
- 8.—The Town of Essex, all that part of the Township of Maidstone lying west of the first concession and south of the Middle Road; so much of Sandwich East as is south of Talbot Street, including the lots on both sides of said street to Nos. 306 and 307; all of Colchester north of the 9th concession, including said concession and lots on both sides of Malden Street, and all that part of Gosfield lying north of concession 6, and extending as far east from the limits between Gosfield and Colchester as lot No. 12, including such lot in each concession north of concession 6, inclusive.
- 9.—The Township of Tilbury West.

 COUNTY OF FRONTENAC.

- 1.—City of Kingston, Township of Garden Island, Wolf Island, Howe Island and part of the Township of Pittsburg.
- 2.—Cataragui, comprising the Township of Kingston and the Village of Portsmouth.
- 3.—Loughboro', comprising the Townships of Loughboro' and Bedford.
- 4.—Verona, comprising the Townships of Portland and Hinchinbrooke.
- 5.—Sunbury, comprising the Township of Storrington and part of the Township of Pittsburg.
- 6.—Comprising the Townships of Kennebec, Olden, Oso, Barrie, Clarendon, Palmerston, Miller, North Canonto and South Canonto.

 COUNTY OF GREY.

- 1.—The Town of Owen Sound, the Village of Brook, and the Townships of Derby, Keppel, Sarawak and Sydenham.
- 2.—The Town of Durham, the Township of Egremont, and those portions of the Townships of Bentinck, Normanby and Glenelg, as follows:—That part of the Township of Bentinck lying east of the line between lots 30 and 31 in the 1st, 2nd and 3rd concessions south of the Durham Road, and in concessions 1, 2 and 3 north of the Durham Road, and east of the line between lots 15 and 16 in concessions 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 and 15 thereof. That part of the Township of Normanby lying east of the line between lots 20 and 21, in the 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th, 12th, 13th, 14th, 15th, 16th, 17th and 18th concessions, and all the Township of Glenelg, excepting that portion lying east of the line between lots 10 and 11 in the 7th, 8th, 9th, 10th, 11th, 12th, 13th, 14th and 15th concessions thereof.
- 3.—The Town of Meaford, the Township of St. Vincent, and that part of the Township of Euphrasia lying west of the line between the 6th and 7th concessions and north of the line between lots 15 and 16.
- 4.—The Township of Collingwood and the east half of the Township of Euphrasia, excepting that part thereof lying west of the line between the 4th and 5th concessions, and south of the lots between lots 12 and 13, and east half of the Township of Osprey.
- 5.—The Township of Proton, the west half of the Township of Osprey, and those parts of the Township of Artemesia, consisting of the ranges of lots lying parallel to the Toronto and Sydenham Road, and south of the line between lots 130 and 131, and concessions 1, 2 and 3 south of the Durham Road, and 1, 2, 3, 4, 5 and 6 north of the said Durham Road, and those portions of concessions 7, 8 and 9 lying east of the ranges of lots parallel with the Toronto and Sydenham Road, and those portions of concessions 10, 11, 12, 13 and 14 lying east of the line between lots 30 and 31.

6.—The Township of Sullivan and the Township of Holland, excepting those portions of concessions 9, 10, 11 and 12 lying south of the line between lots 15 and 16, and those portions of concessions 7 and 8 west of the ranges of lots lying parallel with the Toronto and Sydenham Road, and the ranges of lots lying parallel with the Toronto and Sydenham Road, and south of the line between lots 50 and 51.

7.—All the lots from 1 to 30 inclusive, in the three concessions south, and the three concessions north of the Durham Road, in the said Township of Bentinck; and all the lots from 1 to 15 inclusive, in the 12th concession, from the 4th to the 15th concessions, inclusive, of the said Township of Bentinck; and all the lots from 1 to 20 inclusive, in all the concessions from 4 to 18, inclusive, in the Township of Normanby aforesaid.

8.—All the lots from 51 to 130, inclusive, in all the concessions parallel, to (and being north-east and south-west), of the Toronto and Sydenham Road, in the Townships of Artemesia, Glenelg and Holland aforesaid; all lots to the westward of the dividing line between lots 30 and 31, in all the concessions from 10 to 14, inclusive, and all the lots from 1 to 5 in the 7th, 8th and 9th concessions, inclusive, which lie to the south-west of the 3rd concession, south-west of the said Toronto and Sydenham Road, in the said Township of Artemesia; all the lots from 1 to 12, inclusive, in concessions 5 and 6, and the lots from 1 to 15, inclusive, in the concessions from 7 to 12, inclusive, in the Township of Euphrasia; all lots south of the allowance for road between lots 15 and 16 in the 9th, 10th, 11th and 12th concessions, and from lots 25 to 30, inclusive, in the 7th concession, and lots 28, 29 and 30, in the 8th concession of the said Township of Holland; and all the lots lying east of the allowance for road between lots 10 and 11, in all the concessions from 7 to 15, inclusive, in the said Township of Glenelg.

COUNTY OF HALDIMAND.

1.—All the Township of Seneca, except the first and second concessions, the Young tract, and the property of the late Richard Martin, and the late Robt. Weir; all the Township of Oneida, except the first range north of the Cayuga line; the Dennis tract and the lots southerly of said tract.

2.—The whole of the Township of North Cayuga, except that portion thereof lying north-east of side line between lots 12 and 13; the first and second concessions of the Township of Seneca, excepting that portion thereof lying north-east of the side line between lots 12 and 13; the Young tract, and the lands of the late Robert Weir and the late Richard Martin, Esquires; the first range of Oneida and north of Cayuga line; also the Dennis tract and river lots lying south.

3.—The Townships of Moulton, Sherbrooke and Dunn, including the Village of Dunnville.

4.—The Townships of South Cayuga and Rainham.

5.—The Township of Canboro, and those portions of North Cayuga and Seneca not included in the other divisions.

6.—The Township of Walpole.

 COUNTY OF HALIBURTON.

1.—The Township of Glamorgan and Snowden, except that portion of both, included in the 3rd division, and all of the Townships of Snowden, Lutterworth, Minden, Anson, Stanhope, Hindon, Sherbourne and McClintock.

2.—The Townships of Dysart, Guilford, Havelock, Livingstone, Lawrence, Eyre, Harburn, Dudley, Harecourt, Bruton, Clyde and Nightingale and that portion of Monmouth not included in the 3rd division.

3.—The Township of Cardiff, the Township of Monmouth (except lots 1 to 19 inclusive) in the 13th, 14th, 15th, 16th and 17th concessions; the south 12 concessions of the Township of Glamorgan, and from lot 21, inclusive, to the eastern boundary in the south six concessions of Snowden.

 COUNTY OF HALTON.

1.—All the territory comprised in the new survey of the Township of Trafalgar, and the first ten lots in concessions 1, 2, 3, 4, 5 and 6 in the Township of Esquesing, and the first five lots in concessions 7, 8, 9, 10 and 11 in said township.

2.—That part of the Township of Trafalgar known as the Old Survey.

3.—All the rest of the territory comprised in concessions 8, 9, 10 and 11 in the Township of Esquesing not comprised in the first division.

4.—All the rest of the territory comprised in concessions 1, 2, 3, 4, 5 and 6 in the Township of Esquesing.

5.—The Township of Nassagaweya.

6.—The Township of Nelson.

 COUNTY OF HASTINGS.

1.—To comprise the City of Belleville and the Township of Thurlow.

2.—To comprise all that part of the Township of Sidney which lies east of the line between lots No. 6 and 7 in the several concessions and south of the 9th concession.

3.—The Township of Tyendinaga, except that part called Deseronto.

4.—The Township of Hungerford.

5.—All that part of the Township of Sidney which lies to the north of the 8th concession, and to the east of lot No. 6 in each concession north of the 8th concession, and all that part of the Township of Rawdon which lies to the south of the 9th concession, and that part of the Township of Huntingdon south of the 6th concession.

6.—The Townships of Madoc, Tudor, Limerick, excepting that part lying north of the 10th concession, and also that part lying west of lot 25 in the different concessions south of the 11th concession of said township, and including all that part of the Township of Huntingdon north of the 6th concession of said township, the Townships of Elzevir, Grimsthorpe, Cashel, excepting that part of Cashel lying north of the 10th concession of the said township.

7.—The Village of Deseronto.

9.—The Town of Trenton, and all that part of the Township of Sidney which lies to the west of lot No. 7 in each of the concessions of the said township, including Mill Island.

10.—The Townships of Marmora, Lake, and all that part of the Township of Rawdon which lies to the north of the 8th concession.

12.—The Townships of Wollaston, Faraday, Herschel, McClure, Wicklow, Bangor, Carlow, Monteagle, Dungannon, Mayo, and all that part of the Township of Cashel lying north of the 10th concession of said township, and all those parts of the Township of Limerick lying north of the 10th concession, and west of lot No. 25 in the several concessions of the said Township of Limerick.

COUNTY OF HURON.

1.—Comprising that part of the Township of Goderich to the north of the Cut Line and the Huron Road until the same meets the road allowance between the 13th and 14th concessions; then back along the Huron Road to its junction with the Cut Line; then west by the road allowance between concessions 11 and 12 to the River Maitland; then along the River Maitland to Goderich, together with the Township of Colborne.

2.—Comprising the Township of McKillop, the Town of Seaforth, and all that portion of the Township of Tuckersmith not included in the third division, south of the blind line between the 7th and 8th concessions of the said Township of Hullett.

3.—Comprising the Township of Hullett; that part of the Township of Goderich not included in Nos. 1 and 7; 1st, 2nd, 3rd and 4th concessions Township of Stanley; 1st and 2nd concession Township of Tuckersmith, L. R. S., north of lot 15, and that portion west of side road between lots 25 and 26, H. R. S., and Town of Clinton.

4.—Comprising the Township of Grey; all of the Township of Morris east of side road between lots numbers 10 and 11 (which is not included in No. 12) and the Village of Brussels.

5.—Comprising the Townships of Usborne and Stephen, and the Village of Exeter.

6.—Comprising the Townships of Ashfield and West Wawanosh, except that portion east of Maitland River.

7.—Comprising the Township of Goderich south of Cut Line and Huron Road until the same joins the road between the 12th and 14th concessions of the Township of Goderich; thence along the said concessions until the same joins the River Bayfield; all Stanley not included in number 3; and the Village of Bayfield.

8.—Comprising the Village of Wingham, the Township of Turnberry; all that part of East Wawanosh not included in number 12, and all the Township of Morris not included in Nos. 4 and 12.

9.—Comprising the Township of Howick and the Village of Wroxeter.

10.—Comprising the Township of Hay.

11.—Comprising the Township of Stephen.

12.—Commencing at the north-east angle of the Township of Hullett, thence southerly along the easterly boundary of the said Township of Hullett to the blind line, between the 7th and 8th concessions of said township; thence westerly along said line to the western boundary of the township; thence northerly along the westerly boundary of the township to the Maitland River at the south-eastern corner of the Maitland Block; thence along the said river northerly till the western boundary of East Wawanosh is reached; thence northerly along said westerly boundary to the road running between the 6th and 7th concessions, of said Township of East Wawanosh; thence easterly along said road to the easterly limit of said township: thence northerly along the gravel road to the road running between the 5th and 6th concessions of the Township of Morris; thence easterly along said road to the line between lots 10 and 11; thence southerly along said line between the 6th and 7th concessions; thence easterly along said line to the line between lots 15 and 16; thence southerly to the boundary line between the Townships of Morris and Hullett; thence easterly to the place of beginning, including the Village of Blyth.

COUNTY OF KENT.

1.—The First Division to consist of the Town of Chatham and that part of the Townships of Dover East and West to the south of the 12th and 13th concession line of the Township of Dover East; and that part of the Township of Chatham south of the 12th and 13th concession line, and west of the side road between lots 12 and 13, from the first mentioned 12th and 13th concession line to the 5th and 6th concession line, and all south of the said 5th and 6th concession line of said township; that part of the Township of Harwich north of 5th and 6th concession line by the eastern boundary: that part of the Township of Raleigh north of the 16th concession to the west side road between lots 12 and 13 north to the 6th and 7th concession line, and all of the said township north of the said last mentioned line, and that part of the Township of Tilbury East north of the 4th concession.

2.—The Second Division to consist of that part of the Township of Howard south of the 2nd and 3rd concession line by the eastern boundary (known as the Botany Road), and that part of the Township of Orford south of the 10th and 11th concession line of said township.

3.—The 3rd division to consist of all that part of the Gore of Camdem lying west of the 10th and 11th concession line, and that part of the Township of Camdem lying west of the side line between lots 6 and 1; the Village of Dresden; and that part of the Township of Chatham north of the 5th and 6th concession line and east of the side road between lots 12 and 13.

4.—The Fourth Division to consist of that part of the Township of Harwich south of the 5th concession of the eastern boundary, and south of the 3rd concession by the western boundary, and that part of Raleigh south of the 15th concession and east of the side road between lots 12 and 13, and the road to the Lake shore through lot 146 on the Talbot road.

5.—The Fifth Division to consist of the Village of Wallaceburg, the Gore of Chatham, and that part of the Township of Chatham north-west of the 12th and 13th concession line and west of the said road between lots 12 and 13, and that part of Dover East lying north of the 12th and 13th concession side road.

6.—The Sixth Division to consist of that part of the Township of Howard, north of the Botany Road aforesaid, and of that part of the Township of Orford north of the 10th and 11th concession line, the Township of Zone, the Town of Bothwell, the Village of Thamesville, and that part of the Gore of Camden east of the 10th and 11th concession line, and that part of the Township of Camden east of the side line between lots 6 and 7.

7. The Seventh Division to consist of that part of Tilbury East south of the 3rd concession, the Township of Romney, and that part of the Township of Raleigh, south of the 6th and 7th concession line and west of the side road between lots 12 and 13 in the said Township, and the road through lot 147 on Talbot road.

COUNTY OF LAMBTON.

1.—The external boundaries of the Township of Sarnia and the Town of Sarnia.

2.—The external boundaries of the Township of Warwick, including that portion of the Village of Arkona south of the township line.

3.—The external boundaries of the Townships of Euphemia and Dawn.

4.—The external boundaries of the Township of Sombra.

5.—The external boundaries of the Township of Plympton.

6.—The external boundaries of the Township of Bosanquet, including that portion of the Village of Arkona north of the township line.

7.—The external boundaries of the Township of Moore.

8.—The external boundaries of the Township of Enniskillen.

9.—The external boundaries of the Township of Brock.

COUNTY OF LANARK.

1.—The Townships of Drummond, Bathurst, South Sherbrooke, Burgess North, and that part of the Township of Elmsley North, north of the Rideau River, within the County of Lanark and west of lot No. 12 in each concession.

2.—The Townships of Lanark, Dalhousie, Darling, Lavant and North Sherbrooke.

3.—The Township of Beckwith, and the first six lots in the first seven concessions of the Township of Ramsay.

4.—The Township of Montague, and that part of the Township of North Elmsley from lot No. 1 to lot No. 12 in each concession, both inclusive.

5.—The Township of Pakenham.

6.—The Township of Ramsay, with the exception of the first six lots on the first seven concessions of the said township.

UNITED COUNTIES OF LEEDS AND GRENVILLE.

1.—To consist of the 1st, 2nd, 3rd, 4th, 5th, 6th and 7th concessions and broken front of the Township of Elizabethtown, and the concession roads between them.

2.—To consist of the 1st, 2nd, 3rd, 4th and 5th concessions, and broken front, and that part of the 6th, 7th and 8th concessions from the town line of Edwardsburgh, to lot number 18; inclusive of the Township of Augusta, and the concession roads between them.

3.—To consist of the 1st, 2nd, 3rd, 4th and 5th concessions and broken front, of the Townships of Leeds and Lansdowne, respectively, and the concession roads between them.

4.—To consist of the Township of South Gower, the Township of Oxford, from the west side line of lot numbers 11 in all the concessions of the eastern boundary of the township, and the gore of land between South Gower, Oxford and Edwardsburgh.

5.—To consist of the Township of Wolford (except the 7th and 8th concessions and the allowance of road between them), lots numbers 1 to 10, inclusive, in the 1st, 2nd, 3rd, 4th, 5th, 6th, 7th and 8th concessions of the Township of Oxford, and the allowance of roads within and between them.

6.—To consist of the Townships of Bastard and Burgess, and those parts of the Township of Leeds and Lansdowne, on the north side of the rear of the 5th concession in each respectively.

7.—To consist of the Townships of Kitley and Elmsley.

8.—To consist of the Townships of North Crosby and South Crosby.

9.—To consist of that part of the Townships of Escott and Yonge, in rear of the 4th concession of Yonge, and in the rear of the 6th concession of Escott; that part of the Township of Elizabethtown, in rear of the 7th concession, and west of lot number 18 in the 8th, 9th, 10th and 11th concessions, and the allowances for roads embraced therein.

10.—To consist of the Township of Edwardsburgh.

11.—To consist of that part of the Township of Augusta, in rear of 5th concession and west of lots numbers 18, in the 6th, 7th and 8th concessions; the whole of the 9th and 10th concessions of the Township of Augusta; the Gore between the Townships of Oxford, Wolford and Augusta; that part of the Township of Elizabethtown in rear of the 7th concession, and east of the commons, between lots numbers 18 and 19th in the 8th, 9th and 10th concessions; the 7th and 8th concessions of the Township of Wolford; lots numbers 1 to 10, inclusive, in the 9th and 10th concessions of the Township of Oxford; and the allowances for roads embraced therein.

12.—To consist of the 1st, 2nd, 3rd and 4th concessions and broken front of the Township of Yonge; the 1st, 2nd, 3rd, 4th, 5th and 6th concessions and broken front of the Township of Escott, and the allowances for roads embraced therein.

The said 1st, 2nd, 3rd and 12th divisions shall, respectively, embrace and comprehend within their limits those portions of the River St. Lawrence, and Islands therein, within the exterior side lines of which such portions of said river and islands would lie and be, if such exterior side lines were produced and extended in that direction to the utmost limits of the Province.

COUNTY OF LENNOX AND ADDINGTON.

1.—The Town of Napanee; Township of Richmond; all that part of North Fredericksburg and Adolphustown lying north of Hay Bay; and all that part of North Fredericksburg lying north of Big Creek.

2.—Comprises 1st concession of Ernestown, the Village of Bath, the Township of Amherst Island, and the 2nd, 3rd and 4th concessions of the said Township of Ernestown, from the west limits thereof to the west limit of lot No. 21, in each concession.

3.—Township of South Fredericksburg and all that part of North Fredericksburg and Adolphustown, not included in Division No. 1.

4.—1st, 2nd and 3rd concessions of the Township of Camden and the Village of Newburg.

5.—All that part of the Township of Camden not included in Division No. 4.

6.—All that portion of the Township of Ernestown, not included in the limits of Division No. 2.

7.—Townships of Sheffield, Kaladar, Anglesea, Abinger, Effingham, Ashby and Denbigh.

 COUNTY OF LINCOLN.

1.—The Town and Township of Niagara.

2.—The Township of Grantham (including the City of St. Catharines, the Villages of Merriton and Port Dalhousie), and the Township of Louth.

3.—The Townships of Caistor and Gainsborough, and the 9th concession of the Township of Grimsby, including the 1st and 2nd ranges as part of the said concession.

4.—The Villages of Grimsby and Beausville; the Township of Clinton and the Township of Grimsby, except the 9th concession and 1st and 2nd included as part of the said 9th concession.

 DISTRICT OF MANITOULIN.

1.—The Town of Gore Bay, the Townships of Gordon, Allan, Campbell Mills, Burpee, Robinson, Dawson, the islands known as Cockburn, Barrie, Clapperton and the Duck Islands, and that part of the Township of Billings lying west of the road allowance between lots fifteen and sixteen in the several concessions thereof and so much of the Township of Carnarvon as lies west of Lake Mindemoya and north of the line between the sixth and seventh concessions thereof.

2.—The Town of Little Current, the Township of Howland, and those parts of the Townships of Sheguindah and Bidwell lying north of the line between the sixth and seventh concessions of Sheguindah, and fourth and fifth concessions of the Township of Bidwell, and the sixth and seventh concessions of the line between lots seventeen and eighteen in the Township of Billings and the adjacent islands lying north and east of the said Townships, except the Clapperton Island.

3.—Manitowaning, the Townships of Assiginack, Tehkummah and Sandfield, and those parts of the Township of Sheguindah lying south of the line between the sixth and seventh concessions of Sheguindah, and fourth and fifth concessions of the Township of Bidwell, and the sixth and seventh concessions of the Township of Billings to the line between lots seventeen and eighteen of said township, and the Township of Carnarvon, except so much of the same as lies west of Mindemoya Lake, and all that part of Manitoulin lying east of the Township of Assiginack, Manitowaning and South Bays and the islands adjacent thereto.

 COUNTY OF MIDDLESEX.

1.—That part of the City of London lying to the west of Maitland street, with that portion of the Township of London lying south of the line between the 4th and 5th concessions and west of the said street, produced northerly or a line in the same direction to the line between the said 4th and 5th concessions, and with that portion of the Township of Westminster lying west of the main road leading south from Clarke's Bridge across the Thames; south to the line be-

tween the 1st and 2nd concessions: and westerly to the line between lots 42 and 43, and extending northerly to the River Thames; and also including the Village of London West.

2.—The Villages of Parkhill and Ailsa Craig, the Townships of East Williams and West Williams, and that portion of the Township of Lobo lying north of the line between the 11th and 12th concessions; and east of the line between lots numbers 12 and 13.

3.—The Townships of McGillivray and Biddulph, and the Village of Lucan.

4.—The Township of Delaware, with that portion of the Township of Westminster west of the line between lots 30 and 31, in the second concession; then southerly on the line between lots 20 and 21, to the southerly limit of the township, including all west of said line, and also including all that portion of the front of said Township of Westminster, lying west of the line between lots numbers 42 and 43, not included in the first division; with that portion of the Township of Caradoc lying south of the line, between the 5th and 6th concessions, to the River Thames; and with that portion of the Township of Lobo, lying south of the line, between the 6th and 7th concessions, to the River Thames.

5.—The Townships of Ekfrid and Mosa, including the Villages of Wardsville, Newbury and Glencoe.

6.—Townships of Adelaide and Metcalfe; the Town of Strathroy, with that portion of the Township of Cardoc lying north of the line, between the 3rd and 4th concessions; with that portion of the Township of Lobo which lies north of the 6th concession, and west of the line between lots 12 and 13 of the said Township.

7.—The Township of North Dorchester, north and south of the River Thames; that portion of the Township of West Nissouri which lies south of the line between lots 14 and 15; and with that portion of the Township of Westminster lying south of the line between the 1st and 2nd concessions, and east of the line between lots 30 and 31, in the second concession, and thence east of the line between lots 20 and 21, continued south to the southerly limit of the said Township of Westminster.

8.—All that portion of the Township of London which lies north of the line between the 4th and 5th concessions; that portion of the Township of Lobo which lies north of the line between the 6th and 7th concessions, and east of the line between lots 12 and 13, to the line between the 11th and 12th concessions, and with all that portion of the Township of West Nissouri which lies north of the line between lots numbers 14 and 15.

9.—That part of the City of London lying east of Maitland street; that part of the Township of London lying south of the line between the 4th and 5th concessions and east of the said street, produced northerly or in a line in the same direction to the line between the said 4th and 5th concessions; and that part of the Township of Westminster lying north of the line between the 1st and 2nd concessions, and east of the main road leading south from Clarke's Bridge, across the Thames.

DISTRICT OF MUSKOKA.

1.—The Village of Bracebridge, and the Townships of Macaulay, McLean, Ridout, Monck and Cardwell, concessions 1, 2, 3, 4, 5, 6, 7, 8, and 9 in the Townships of Stephenson, Bruce and Franklin, and that part of the Township of Watt, situated east of lot 21, in the several concessions thereof; and concessions thereof; and concessions 7, 8, 9, 10, 11, 12 and 13 in the Townships of Muskoka and Draper.

2.—The Village of Gravenhurst; the Townships of of Morrison, Ryder and Oakley, and concessions 1, 2, 3, 4, 5 and 6 of the Townships of Muskoka and Draper.

3.—The Village of Huntsville; the Townships of Stisted, Chaffey and Sinclair; and concessions 10, 11, 12, 13 and 14 in the Townships of Stevenson, Brunel and Franklin.

4.—The Townships of Wood, Medora and Humphrey, and that part of the Township of Watt situated west of lot 21 in the several concessions thereof.

DISTRICT OF NIPISSING.

1.—To be composed of the Townships of Springer, Field, Badgerow, Caldwell, Kirkpatrick, Hugel, Rattler, Dunnet, Hagar and Appleby, and all that part of the District of Nipissing which is situated west of the line between the Indian Reserve and the Township of Widdifield, produced north and south, to the boundary of the said District and the east of the eastern boundary of the fourth division.

2.—To be composed of the Townships of Mattawan, Orlig, Calvin, Papineau, Lauder, Pentland, Boyd, Osler, McLaughlin, Canisby, Sabine, Lyell, Airy, Murchison and Robinson, and all that part of the District of Nipissing situated east of the line between the Townships of Bonfield and Calven, produced south to the provisional County or Haliburton, and east of the line between the Townships of Phelps and Orlig, produced north to the Ottawa River.

3.—To be composed of the Townships of Widdifield, Merrick, Mulock, Phelps, Ferris, Chisholm, Ballantyne, Wilkes, Biggar, Paxton, Butt, Devine, Hunter, McCraney, Finlayson, Peek, and all that part of the District of Nipissing situated west of the line between the Townships of Phelps and Orlig, produced north to the Ottawa River and east of the eastern boundary of first division.

4.—To be composed of the Townships of McKim, Neelon, Dryden, Awrey, Hawley, Blezard, and all that part of the District of Nipissing which is situated west of the line between the said Township of Awrey and the Township of Hagar, produced north and south to the boundary of the said district.

5.—To be composed of the Townships of Bonfield and Boulter.

 COUNTY OF NORFOLK.

1.—The Gore of the Township of Woodhouse, and all that part of said Township lying west of the side line between lots 5 and 6, together with that part of the 4th, 5th and 6th concessions lying west of the side line, between lots 12 and 13, including that part of the Town of Simcoe within the same.

2.—The Township of Townsend.

3.—The Township of Windham.

4.—The Township of Middleton.

5.—The Township of Charlottetown.

6.—The Township of Walsingham.

7.—The Township of Houghton.

8.—All that part of the Township of Woodhouse not included in Division No. 1, viz: all that part of the 1st, 2nd and 3rd concessions lying east of the side line, between lots 5 and 6, and that part of the 4th, 5th and 6th concessions lying east of the said line, between lots Nos. 12 and 13 in said Township.

 UNITED COUNTIES OF NORTHUMBERLAND AND DURHAM.

1.—Townships of Cartwright and Darlington, and the Town of Bowmanville.

2.—Township of Clarke and Village of Newcastle.

3.—Township of Hope and Town of Port Hope.

4.—Townships of Cavan, Manvers, South Monaghan and Village of Millbrook.

5.—Township of Hamilton and Town of Cobourg.

6.—Townships of Haldimand and Alnwick.

7.—Township of Cramahe and Village of Colborne.

8.—Township of Brighton and Village of Brighton.

9.—Township of Percy and Village of Hastings.

10.—Township of Murray.

11.—Township of Seymour and Village of Campbellford.

 COUNTY OF ONTARIO.

1.—Including the Townships of Whitby and East Whitby and the Towns of Whitby and Oshawa.

2.—The Township of Pickering.

3.—The Townships of Reach and Scugog, and the Village of Port Perry.

4.—The Townships of Uxbridge and Scott, and the Town of Uxbridge.

5.—The Township of Brock and the Village of Cannington.

6.—The Township of Thorah, and all that part of the Township of Mara lying south of the line, between the 4th and fifth concessions.

7.—All that part of the Township of Mara, lying north of the line, between the 4th and 5th concessions thereof, and the Township of Rama.

 COUNTY OF OXFORD.

1.—Comprising the Town of Woodstock, the Townships of Blanford, East Zorra, East Oxford, and that part of the Township of North Oxford, situated east of lot 16, and that part of West Oxford lying east of lot No. 7, to the Stage Road, thence on the north side of the Stage Road, to where the said road intersects the Township of East Oxford.

2.—Comprises the Township of Blenheim.

3.—Comprises the Township of West Zorra and East Nissouri.

4.—Comprises the Townships of North Norwich and South Norwich and the Village of Norwich.

5.—Comprises all those portions of the Townships of North Oxford and West Oxford not comprised in the 1st Division; the Town of Ingersoll, and those portions of the 1st and 2nd concession of the Township of Durham west of the Middle Town line.

6.—Comprises the Town of Tilsonburg, and all that portion of the Township of Durham not included in the 5th Division.

 DISTRICT OF PARRY SOUND.

1.—The town of Parry Sound, and the Townships of Foley, McDougall, Cowper and Carling, and all that portion of the District lying to the west of the east boundary of Carling, produced to the French River.

2.—The Townships of McKellar, Croft, Hagerman, Ferguson, and all that portion of the District lying between the east boundary of Ferris and the west boundary of Ferguson, produced to the French River.

- 3.—Townships of Humphrey, Christie, Monteith and Conger.
- 4.—Townships of McMurrich, Perry and Armour.
- 5.—The Townships of Spence, Chapman, Ryerson, Lount, Proudfoot, Bethune and Sinclair.
- 6.—That territory bounded on the west by the western boundaries of Townships of Pringle and Patterson, and the western boundary of the Township of Patterson, produced to French River and Lake Nipissing; on the east by the eastern boundary of the District of Parry Sound, and on the south by the southern boundaries of the Townships of Himsworth, Gurd and Pringle.
- 7.—The Townships of Machar, Laurier, Strong and Joly.

COUNTY OF PEEL.

- 1.—Town of Brampton, Township of Chinguacousy and northern Division of Township of Toronto Gore.
- 2.—Village of Streetsville, Township of Toronto, and southern Division of Township of Toronto Gore.
- 3.—Township of Caledon.
- 4.—Village of Bolton, Township of Albion.

COUNTY OF PERTH.

- 1.—To consist of all that part of the Township of North Easthope west of the line, between lots 25 and 26, and south of the road between the 8th and 9th concessions, and all that part of the Township of South Easthope west of the side line, between lots 25 and 26; all that part of the Township of Downie and Gore north and east of the concession line, between the 10th and 11th concessions and the Oxford Road; and all the Township of Ellice from the 1st to the 13th concessions, inclusive.
- 2.—To consist of all that part of the Township of Fullarton not included in Division No. 3, and the Townships of Hibbert and Logan.
- 3.—To consist of that portion of the Township of Downie west of the Oxford Road, and south of the concession line between the 10th and 11th concessions; the Township of Blanshard; all that part of the Township of Fullarton comprising the 13th and 14th concessions, and south of a road leading from the Mitchell Road, between lots 24 and 25, east to lot 3 in the 10th concession: thence east along the line between the 10th and 11th concessions to the town line.
- 4.—To consist of that part of the Township of North Easthope east of the line, between lots 25 and 26, and north of the 8th concession, inclusive, with the 9th and 10th concessions: all that part of the Township of South Easthope not included in Division No. 1.

5.—To consist of the Township of Mornington, and all that part of the Township of Elma from lots No. 53 to 72, both numbers inclusive of the 1st concession, and from lots No. 27 to No. 36, both numbers inclusive, in and from the second to the eighteenth concessions, both concessions inclusive, of the said Township of Elma; and concessions 14, 15 and 16 of the Township of Ellice; and concessions 11th, 12th, 13th and 14th of the Township of North Easthope.

6.—To consist of the Township of Wallace, and all that part of the Township of Elma from the 1st concession to the 18th concession, both concessions inclusive, and comprising lots Nos. 1 to 52, both inclusive, of the 1st concession, and lots Nos. 1 to 26, inclusive, from the 2nd to the 18th concessions, both concessions inclusive.

COUNTY OF PETERBOROUGH.

1.—Composed of the Town of Peterborough, the Village of Ashburnham, the Townships of North Monaghan and Ennismore, and all that part of the Township of Harvey lying west of Pigeon Lake and south of Bobcaygeon; and all the Township of Smith lying south of the 7th concession; and all the Township of Otonabee lying west of the 8th concession and north of lots 21 from the said 8th concession to the western boundary of said Township of Otonabee; and all the Township of Douro lying south of lots number 11; and all that part of the Township of Dummer lying south of lots numbered 11 and west of the 5th concession.

2.—Composed of the Townships of Asphodel, Belmont and Methuen, and that part of the Township of Dummer lying east of the 4th concession and south of lots numbered 11.

3.—Composed of all that part of the Township of Otonabee lying east of the 9th concession; and all that part of said Township of Otonabee lying south of lots numbered 22 and west of the 8th concession.

4.—Composed of all that part of the Township of Smith, lying north of the 6th concession; and all that part of the Township of Douro, lying north of lots numbered 10; and all that part of the Township of Dummer, lying north of lots numbered 10; and also of the Village of Lakefield, and of the Township of Galway; and all the Township of Harvey, except that portion lying west of Pigeon Lake, and south of Bobcaygeon.

5.—Composed of the Townships of Burleigh, Cavendish, Anstruther and Chandos.

UNITED COUNTIES OF PRESCOTT AND RUSSELL.

1.—Comprises the whole of the Township of Longueuil, the municipality of the Village of L'Orignal, and the first concession of the Township of Caledonia.

2.—Comprises all that part of the Township of West Hawkesbury, extending from the front of the third concession, to the rear of the said township.

3.—Comprises the whole of the Township of East Hawkesbury.

4.—Comprises the Township of North Plantagenet, and that part of the Township of South Plantagenet, lying north of the Nation River.

5.—Comprises the whole of the Township of Cumberland.

6.—Comprises the whole of the Township of Russell.

7.—Comprises the two front concessions of the Township of West Hawkesbury, and the municipality of Hawkesbury Village, within the same.

8.—Comprises the Township of Caledonia (excepting the 1st concession of the said township), and also that portion of the Township of South Plantagenet, lying south and east of the Nation River.

9.—Comprises the whole of the Township of Alfred.

10.—Comprises the whole of the Township of Clarence.

11.—Comprises the whole of the Township of Cambridge.

COUNTY OF PRINCE EDWARD.

1.—The Town of Picton, the 2nd and 3rd concessions "Military Track," from the west line of lot No. 13, eastward; Gore "G": 1st and 2nd concessions north of the Carrying Place; 1st concession south-east of the Carrying Place, and 2nd concession north of Black River, including Gore "K" and "L" and McCaen Gores, all in the Township of Hallowell; Block "I" the concessions north and east of East Lake, and Gore "B" in the Township of Athol, and the 1st and 2nd concessions south of the Bay of Quinte, and Gore "A," in the Township of North Marysburg, and 1st concession south-west of Green Point, to the end of Carman's Point in Sophiasburg.

2.—The Township of South Marysburg, and the southern part of Athol, commencing at the outlet of East Lake, thence down to the head of the lake, thence down to the base line between the 1st concession south and the 1st concession north of East Lake, till it strikes the Township line of Hallowell, thence down said township line till it strikes South Marysburg.

3.—The Township of Sophiasburg, together with Big Island, excepting the 1st concession south-west of Green Point to the end of Carman's Point.

4.—All that part of the Township of Ameliasburg lying east of the line between lots Nos. 86 and 87, in the 1st, 2nd, 3rd and 4th concessions of said Township, including Huff's Island.

5.—That part of the Township of Hillier not included in the 7th Division, also the 1st and 2nd concessions north of West Lake, and west of lot No. 7 in the said concession, and that part of Irwin Gore lying north of and west of lot No. 7 in the 2nd concession, and the west part of the 2nd concession produced west of lots No. 74, in that concession, in the Township of Hallowell.

6.—Block (IV.) four, concession south side of West Lake, 1st concession "Military Tract," 2nd and 3rd concessions of said Tract west of lots No. 13 in those concessions, Gore "E," 1st and 2nd concessions north of West Lake and east of lot No. 6 in those concessions; the Gerrow Gore and that part of Irwin Gore not included in Division No. 5, and all that part of the 2nd concession produced east of lot No. 75 in the Township of Hallowell.

7.—All that part of the Township of Ameliasburg lying west of the line between lots Nos. 86 and 87, in the 1st, 2nd, 3rd and 4th concessions of said Township; all that part of the 4th and 5th concessions of the Township of Hillier west of the line between lots Nos. 86 and 87, and the 3rd concession west of the line between lots No. 22 and 23, with that part of the 2nd concession lying north of Pleasant Bay, in the said Township of Hillier.

8.—All the point lying east of the west line of Marsland's Gore, the concession north of Smith's Bay and Waupoos Island in the Township of North Marysburgh.

DISTRICT OF RAINY RIVER.

1.—That part of the district composed of the territory to the north of the south-easterly shore of the Lake-of-the-Woods, and a line drawn in a north-easterly direction from Rat Portage to the north end of Lake Manitou; thence in an easterly direction to the south end of the lake known as the lake where the river bends; thence in an easterly direction to a point where the said meridian of the most easterly part of Hunter's Island intersects the Canadian Pacific Railway at the south-west angle of Hawke Lake.

2.—The territory lying south and east of the Lake-of-the-Woods, and of the said line.

COUNTY OF RENFREW.

1.—Comprising the Town of Pembroke, the Townships of Pembroke, Stafford, Alice, Petewawa, Buchanan, Rolph, Wylie, McKay, Fraser, Head, Clara and Maria, and all that part of the Township of Wilberforce from the 18th to the 25th concessions, both inclusive; and also all those parts of the 14th, 15th, 16th and 17th concessions of the same Township of Wilberforce lying north of Snake River and east of Lake Dore.

2.—Comprising all that part of the Township of Westmeath lying east and north of the Muskrat Lake and River and all those parts of the Township of Ross, from the 5th to the 9th concessions, both inclusive, east of Muskrat Lake, and from the 7th to the 13th (of the other) concessions of Ross, both inclusive, of the said township of Ross.

3.—Comprising the Village of Renfrew, and the Townships of Horton and Admaston, excepting the lots numbered 1 to 22, inclusive, in the 9th, 10th, 11th and 12th concessions and the whole of the concessions numbered 13, 14, 15 and 16 in said township.

4.—Comprising the Village of Arnprior and the Township of McNab.

5.—Comprising the Townships of Bagot, Blythefield, Brougham, and Matawatchan, and all the Lots numbered 1 to 22, inclusive, in the 9th, 10th, 11th and 12th concessions in the said Township of Admaston, and the whole of the concessions numbered 13, 14, 15 and 16 in the said townships.

6.—Comprising the Townships of Grattan, Sebastopol, South Algoma, North Algoma, and all that part of the Township of Wilberforce from the 1st to the 17th concessions, both inclusive, excepting those parts of the 14th, 15th, 16th and 17th concessions of said Township of Wilberforce lying north of Snake River and east of Lake Dore.

7.—Comprising the Township of Bromley, and all that part of the Township of Westmeath west of Muskrat Lake, and all those parts of the Township of Ross from the 1st to the 4th concessions, both inclusive, east of Muskrat Lake, and from the 1st to the 6th of the other concessions, both inclusive of the said Township of Ross.

8.—Comprising the Townships of Brudenell, Radcliffe, Raglan, Lynedoch, Griffith, Hagarty, Sherwood, Jones, Richards and Burns.

COUNTY OF SIMCOE.

1.—Comprising the Town of Barrie, the Township of Vespra, except that portion lying west of the Nottawasaga River, and excepting also lots Nos. 38, 39 and 40 in the 1st and 2nd concessions, and lots Nos. 1, 2 and 3 in the 3rd, 4th, 5th, 6th and 7th concessions, respectively. That portion of the Township of Oro lying south of lots Nos. 21 in the 1st and 2nd concessions (including the Ranges), and south of lots Nos. 13 in the 3rd, 4th, 5th, 6th, 7th and 8th concessions, respectively; that portion of the Township of Innisfil lying east of lots Nos. 5 in the 6th, 7th and 8th concessions, and that portion lying north of the 8th concession; that portion of the Township of Essa lying north of lots Nos. 19 in the 7th, 8th, 9th, 10th and 11th concessions.

2.—The Village of Bradford; the Township of West Gwillimbury, excepting thereout lots Nos. 1, 2, 3, 4 and 5 in the 14th and 15th concessions; the Township of Innisfil, except that portion lying north of the 5th concession, and excepting also lots Nos. 1, 2, 3, 4 and 5 in the 1st, 2nd, 3rd, 4th and 5th concessions.

3.—The Township of Tecumseth, except concessions 12, 13, 14 and 15; the Township of Adjala, except that portion lying north of lots Nos. 25 in the 8th concession thereof.

4.—The Town of Collingwood, the Village of Stayner, that portion of the Township of Nottawasaga lying north of lots Nos. 18 in the twelve concessions thereof; that portion of the Township of Sunnidale lying north of the 8th concession; that portion of the Township of Flos lying west of the Nottawasaga River; the Islands in Lake Huron contiguous to the Township of Nottawasaga.

5.—The Township of Flos, except that portion lying west of the Nottawasaga River; the Township of Medonte, except that portion lying east of the 10th concession; and north of lots Nos. 10 in the 9th and 10th concessions, respectively; that portion of the Township of Oro, lying north of the southern boundaries of lots Nos. 21 in the 1st and 2nd concessions, and north of the southern boundaries of lots Nos. 13 in the 3rd, 4th, 5th, 6th, 7th and 8th concessions, respectively; lots 38, 39 and 40 in the first and second concessions, and lots Nos. 1, 2 and 3 in the 3rd, 4th, 5th, 6th and 7th concessions of the Township of Vespra

6.—The Town of Orillia, the Township of Orillia, southern division, the Township of Orillia, northern division, except that portion lying north of lots Nos. 15 in the first seven concessions thereof; that portion of the Township of Oro lying east of the 8th concession; that portion of the Township of Medonte being composed of lots Nos. 1 to 6 (both inclusive) in the 11th, 12th, 13th and 14th concessions; the Islands in Lake Simcoe contiguous to the townships and portions of townships above described lying wholly or for the most part opposite thereto.

7.—The Township of Nottawasaga, except that portion lying north of lots Nos. 18 in the 12th concession thereof; the Township of Sunnidale, except that portion lying north of the 8th concession; that portion of the Township of Vespra lying west of the Nottawasaga River; that portion of the Township of Essa lying north of lots Nos. 19 in the 1st, 2nd, 3rd, 4th, 5th and 6th concessions; that portion of the Township of Tossorontio lying north of lots Nos. 20 in each of the seven concessions thereof.

8.—The Township of Essa, except that portion lying north of lots Nos. 19 in each of the eleven concessions thereof; the Township of Tossorontio, except that portion lying north of lots Nos. 20 in each of the seven concessions thereof; that portion of the Township of Innisfil, being composed of lots Nos. 1, 2, 3, 4 and 5 in the 1st, 2nd, 3rd, 4th, 5th, 6th, 7th and 8th concessions; the 12th, 13th, 14th and 15th concessions of the Township of Tecumseth; lots Nos. 1, 2, 3, 4 and 5 in the 14th and 15th concessions of the Township of West Gwillimbury; that portion of the Township of Adjala lying north of lots Nos. 25 in the eight concessions thereof.

9.—The Town of Penetanguishene, and the Village of Midland, the Township of Tiny; that portion of the Township of Tay lying west of the 8th concession; the Islands in Lake Huron contiguous to the Township of Tiny, and to that part of the Township of Tay, forming part of the ninth division, and lying wholly and for the most part opposite thereto.

10.—The Township of Matchedash, that portion of the Township of Orillia, northern division, lying north of lots Nos. 15 in the first seven concessions thereof; that portion of the Township of Medonte lying north of lots Nos. 6, in the 11th, 12th, 13th and 14th concessions, and that portion lying north of lots Nos. 10, in the 9th and 10th concessions thereof; the Township of Tay, except that portion lying west of the 8th concession; the Island in Lake Huron, contiguous to that part of the Township of Tay, forming part of the 10th division, and lying wholly or for the most part opposite thereto.

NOTE.—Each of the said several Divisions shall include all allowances for roads embraced within its external limits, and shall also extend to the centre of every allowance for road lying external and adjacent to every such Division excepting always where any such last-mentioned allowance is hereinbefore declared to belong to or form part of any particular Division.

 UNITED COUNTIES OF STORMONT, DUNDAS AND GLENGARRY.

- 1.—Township of Charlottenburg, in the County of Glengarry.
- 2.—Township of Lochiel, in the County of Glengarry.
- 3.—Town and Township of Cornwall, in the County of Stormont.
- 4.—Township of Osnabruck, in the County of Stormont.
- 5.—Township of Williamsburg, in the County of Dundas.
- 6.—Township of Matilda, in the County of Dundas.
- 7.—Township of Mountain, in the County of Dundas.
- 8.—Township of Finch, in the County of Stormont.
- 9.—Township of Lancaster, in the County of Glengarry.
- 10.—Township of Winchester in the County of Dundas.
- 11.—Township of Roxborough, in the County of Stormont.
- 12.—Township of Kenyon, in the County of Glengarry.

 DISTRICT OF THUNDER BAY.

- 1.—All that part of the District lying west of the meridian of 87 degrees of west longitude, to the meridian of the most easterly part of Hunter's Island, excepting therefrom the Municipality of Neebing.
- 2.—
- 3.—Comprising the Municipality of Neebing.

 COUNTY OF VICTORIA.

- 1.—The first consists of the following townships and parts of townships, viz.: of the 15th concession of the Township of Mariposa, and the Township of Eldon, except the ranges north and south of Portage Road.
- 2.—The second consists of the following townships: all of the Township of Fenelon, except that portion lying east of the Scugog River, and south of Sturgeon Lake, and the Township of Somerville.
- 3.—The third consists of the Township of Verulam.
- 4.—The fourth consists of the Township of Emily.

5.—The fifth consists of the Town of Lindsay, Township of Ops, and that portion of the Township of Fenelon, lying east of the Scugog River, and south of Sturgeon Lake.

6.—The sixth consists of the Township of Mariposa, except the 15th concession.

7.—The seventh consists of the Townships of Carden and Dalton, Laxton, Digby and Longford, and the Township of Bexley, and that portion of the Township of Eldon north of Portage Road, and the Range south of Portage Road.

COUNTY OF WATERLOO.

1.—All that portion of the Township of Waterloo lying north of Block line on the west side of the Grand River, and that part of the upper block of said Township, lying on the east side of the Grand River, north of lots Nos. 115, 109, 104, 86 and 95 to the Guelph Township line, including the Towns of Berlin and Waterloo.

2.—All that part of the Township of Waterloo, lying south of the Block Line on the west of the Grand River, and that part lying on the east side of the Grand River, south of the northern boundary of lots Nos. 115, 109, 104, 86 and 95, to the Guelph Township line, including the Villages of Preston and Hespeler.

3.—All that part of the Township of North Dumfries, lying east of lot No. 19, in the 7th concession; and running a course with the eastern boundary of the said lot in a northerly direction up to the 12th concession; thence along the eastern boundary of lot No. 23, in the said 12th concession, to the township line, including the Town of Galt.

4.—The Township of Wilmot, including the Village of New Hamburg.

5.—The Township of Wellesley.

6.—The Township of Woolwich.

7.—All that part of the Township of North Dumfries, lying west of the eastern boundary of said lot No. 18, in the 7th concession; thence along the eastern limits of said lot No. 19, the same course thereof, in a northerly direction to the 15th concession; thence along the westerly limit of lot No. 23, in the said 12th concession, to the township line, including the Village of Ayr.

THE COUNTY OF WELLAND.

1.—Comprising the Township of Crowland; that part of the Township of Thorold, lying south of the line between lots 178 and 195, running through to Pelham; that part of Pelham, lying south of the 4th concession, and that part of Humberstone, lying north of the concession line, between the 4th and 5th concession, being the whole of the 5th concession and the Town of Welland.

2.—Comprising the Township of Wainfleet.

3.—Comprising the Township of Bertie, and those parts of the Township of Humberstone not included in Nos. 1 and 6, and the Village of Fort Erie.

4.—Comprising the Township of Willoughby, the Village of Chippawa, and that part of the Township of Stamford, south of the line between lots 136 and 137 : easterly from the western limit of the Township to the south-east angle of lot No. 133 : thence north on the line between lots Nos. 132 and 133, to the northern boundary of the township, including the Town of Clifton and Navy Island.

5.—Comprising those parts of the Townships of Stamford, Thorold and Pelham, not included in any other Division, and the Town of Thorold.

6.—Comprising all the Township of Humberstone, lying south of the 5th concession, and west of the side lines, between lots Nos. 9 and 10 in the several other concessions thereof, and the Village of Port Colborne.

— — — —

COUNTY OF WELLINGTON.

1.—The Town and Township of Guelph.

2.—The Township of Puslinch.

3.—The Township of Eramosa.

4.—Consisting of the Township of Nichol, excepting the 11th and 12th concessions; the Municipality of Fergus; the first eight concessions of the Township of Garafraxa, and lots 1 to 18, both inclusive, in concessions A and B of the Township of Peel, lots 13, 14, 15, 16, 17 and 18, in concessions 18 and 19, and lots 19, 20 and 21, in the 17th concession of the Township of Peel.

5.—The Township of Erin

6.—Consisting of the Township of Pilkington, and the 11th and 12th concessions of the Township of Nichol: the Municipality of the Village of Elora; and lots numbers 19 and upwards belonging to the 9th, 10th, 11th, 12th, 13th, 14th, 15th and 16th concessions of Peel.

7.—Consisting of concessions 1 to 16, inclusive, of the Township of Maryboro' and concessions 1 to 16, both inclusive, of the Township of Peel, except lots 19, 20, 21, 22 and 23 of those concessions in that Township.

8.—Consisting of that part of the Township of Arthur, south and south-east of lot 15, on the west side of the Owen Sound Road: lot 16 on the Owen Sound Road, and lot 12 east of the Owen Sound Road, in the Township of Arthur; that part of the Township of Luther, from lots 1 to 16, both inclusive; and lots 1 to 12, both inclusive, of the 17th and 18th concessions of the Township of Peel; lots 5 to 11, both inclusive, of the 19th concession of said Township of Peel; and lots 19 to 23, both inclusive, of concessions "A" and "B," of said Township of Peel.

9.—The territory formerly comprised in this Division is now in the County of Dufferin.

10.—Consists of the Township of Minto.

11.—Consists of the Town of Mount Forest, and that part of the Township of Arthur north of lot 16, west of the Owen Sound Road; lot 17, on the Owen Sound Road, and lot 13, east of the Owen Sound Road.

COUNTY OF WENTWORTH.

1.—All that part of the Township of Barton lying east of the line between lots 14 and 15, and all that part of Hamilton City east of Hughson Street.

2.—The whole of the Township of Flamboro' West.

3.—The whole of the Township of Flamboro' East.

4.—The whole of the Township of Beverly.

5.—The whole of the Township of Saltfleet.

6.—The whole of the Township of Ancaster.

7.—The whole of the Township of Glanford.

8.—The whole of the Township of Binbrook.

9.—All that part of the Township of Barton, lying west of the lines between lots 14 and 15, and that part of Hamilton City west of Hughson Street.

COUNTY OF YORK.

1.—The City of Toronto, east of Yonge Street, at date of 14th Sept., 1875 (*i.e.* Bloor, Sherbourne and Howard Streets on the north, the Don on the east, down to Queen Street, then all south of Queen Street as far as Lee Avenue.)

2.—Concessions 5 to 11, inclusive, of the Township of Markham; and concessions 5 to 10, inclusive, of the Township of Whitechurch, from 1 to 10, inclusive, together with the Villages of Markham and Stouffville.

3.—Concessions 1 to 4, inclusive, of the Township of Markham; and concessions 1 to 4, inclusive, of the Township of Whitechurch from lot 1 to 10, inclusive; and concession 1 to 4, inclusive, of the Township of Vaughan.

4.—The Township of Whitechurch, from the line between lots 10 and 11, northward, and the Township of East Gwillimbury.

5.—The Townships of Georgina and North Gwillimbury.

- 6.—The Township of King and the Incorporated Village of Aurora.
- 7.—Concessions 1 to 11, inclusive, of the Township of Vaughan.
- 8.—All that portion of the Township of York lying west of Yonge Street, and the Township of Etobicoke.
- 9.—Township of Scarboro' and all that portion of the Township of York which lies east of Yonge Street and the Village of Leslieville.
- 10.—The City of Toronto, west of Yonge Street, at date of 14th Sept. 1875 (*i.e.* Bloor Street on the north and Dufferin Street on the west.)

DIVISION COURT TARIFF.

Fees to be received by the several Clerks and Bailiffs of Division Courts, from and after 1st July, 1894.

FORM 1.

CLERK'S FEES.

1. Receiving claim, numbering and entering in procedure book	\$0 15
(This item to apply to entering in the procedure book a transcript of judgment from another Court, but not an entry made for the issue of a judgment summons.)	
2. Issuing summons, with necessary notices and warnings thereon, or judgment summons (as provided in the forms), in all :	
Where claim does not exceed \$20	40
" exceeds \$20 and does not exceed \$60	50
" exceeds \$60 and does not exceed \$100	60
" exceeds \$100	1 00
(N. B.—In replevin and interpleader suits the value of goods to regulate the fee.)	
3. Copy of summons, including all notices and warnings thereon	25
4. Copy of claim (including particulars), when not furnished by plaintiff	25
5. Copy of, set off or counterclaim (including particulars), when not furnished by the defendant	25
(Note.—In either of the last two preceding items the fees may be taxed against the party ordered to pay costs.)	
6. Receiving and entering bailiff's return to any summons, writ or warrant issued under the seal of the Court (except summons to witness and return to summons or papers from another division)	15
7. Taking confession of judgment	10
(This does not include affidavit and oath, chargeable under item 8.)	
8. Every necessary affidavit, if actually prepared by the clerk, and administering oath to the deponent	25
9. Furnishing duly certified copies of the summons and notices and papers with all proceedings for purposes of appeal (under section 151 as required by either party, per folio of 100 words	05

10. Certificate therewith	80	25
11. Certifying under the seal of the Court, and delivering to a judgment creditor a memorandum of the amount of judgment and costs against a judgment debtor, under The Creditors' Relief Act, or for any other purpose.....		25
12. Copies of papers for which no fee is otherwise provided, necessarily required for service or transmission to the judge, each	10	
If exceeding two folios, per folio		05
13. Every notice of defence or admission entered, or other notice required to be given by the clerk to any party to a cause or proceeding, including mailing, but not postages		15
14. Entering final judgment by clerk, on special summons, where claim not disputed		50
15. Entering every judgment rendered at the hearing, or final order made by the judge		50
(NOTE.—This fee does not apply to any proceeding on judgment summons.)		
(This one fee of 50 cents will include the service of recording at the trial and afterwards entering in the procedure book the judgment, decree and order in its entirety, rendered or made at the trial. If a garnishee proceeding before a judgment, the fee of 50 cents will be allowed for the judgment in respect to the primary debtor, and a like fee of 50 cents for the adjudication, whenever made, in respect to the garnishee.)		
16. Subpoena to witness.....		25
(The subpoena may include any number of names therein, and only one original subpoena shall be taxed, unless the judge otherwise orders.)		
17. For every copy of subpoena required for service		05
18. Summons for jury (including copy for each jurymen) when required by the parties	1	25
19. Calling and returning jury ordered by the judge.....		25
20. Every order of reference or order for adjournment made at hearing, and every order requiring the signature of the judge and entering the same, including final order on judgment debtor's examination		25
(Any warning necessary with order, <i>e.g.</i> , the warning in Form 73 forms part of the order.)		
21. Transcript of judgment to another Division Court		25
22. Transcript of judgment to the County Court		50
23. Every writ of execution, warrant of attachment, or warrant of commitment and delivering same to bailiff		50
24. Renewal of every writ of execution, when ordered by the judgment creditor or of warrant of commitment, when ordered by the judge.....		15
25. Every bond, when necessary and prepared by the clerk, (including affidavits of justification and of execution).....	1	00
26. For necessary entries in the debt attachment book, in each case, (in all)		20
27. Transmitting transcript of judgment; or transmitting papers for service to another division, or to the judge, on application to him, including necessary entries and mailing, but not including postages		25

28. Receiving papers from another division for service, entering the same, handing to the bailiff, receiving and entering his return, and transmitting the same (if return made promptly, not otherwise)	80 30
29. Search by person not party to the suit or proceeding, to be paid by the applicant	10
Search by party to the suit or proceeding, where the suit or proceeding is over one year old	10
(No fee is chargeable for search to a party to the suit or proceeding, if the same is not over one year old.)	
30. Taxing costs in defended suits, after judgment pronounced	25
31. Making out statement of costs in detail, (including bailiff's fees), at the request of any party, or for the purpose of settlement, or upon entering judgment by default	10
(Neither item 30 nor 31 applies to statement of costs endorsed on summons or copy to be served.)	
32. Taxing bailiff's costs, under section 7 of the Division Courts Act, 1889.	25
33. Copying and transmitting to municipal clerk judge's decision in appeal.	50

2. BAILIFF'S FEES.

1. Service of summons issued under the seal of the Court, or judge's summons or order, on each person (except summons to witness and summons to juryman):	
Where claim does not exceed \$20	30
" exceeds \$20 and does not exceed \$60.	40
" exceeds \$60 and does not exceed \$100.	50
" exceeds \$100	75
(In interpleader suits the value of the goods to regulate the fee.)	
2. For every return as to service under item 1: attending at the clerk's office and making the necessary affidavit (as provided by Rule 183)	15
3. Service of summons on witness or juryman, or service of notice	15
4. Taking confession of judgment and attending to prove	10
5. For calling parties and their witnesses at the sittings of the Court, in every defended case, and at the hearing of every judgment summons	15
6. Enforcing every writ of execution, or summons in replevin, or warrant of attachment, or warrant against the body, each:	
Where claim does not exceed \$20.	50
" exceeds \$20 and does not exceed \$60	75
" exceeds \$60	1 00
(When goods replevied, the value of the goods to regulate the amount of the fee). This fee does not include service of summons in replevin on defendant.	
Fees under Creditors' Relief Act (see section 7 of 52 Vict. cap. 12; and sect. 25 of R. S. O. cap. 65 shall be taxed according to this tariff.	
7. Every mile necessarily travelled to serve summons, or process or other necessary papers, or in going to replevy goods, or to seize on attachment, or in going to seize on a writ of execution, where money paid on demand, or made on execution, or case settled after seizure	12

8. Mileage going to arrest under a warrant, when arrest made, per mile	\$0 12
9. Mileage carrying delinquent to prison, including all expenses and assistance, per mile	20
10. Every schedule of property seized, attached or replevied, including affidavit of appraisal, when necessary :	
Not exceeding \$20	30
Exceeding \$20 and not exceeding \$60.....	50
Exceeding \$60	75
11. Every bond, when necessary, when prepared by the bailiff, including affidavits of justification and of execution.....	50
12. Every notice of sale, not exceeding three, under execution or under attachment, each	15
13. Reasonable allowances and disbursements, necessarily incurred in the care and removal of property.	
(a) If a bailiff removes property seized, he is entitled to the necessary disbursements, in addition to the fees for seizure and mileage.	
(b) If he takes a bond, then to 50 cents, instead of disbursements, for removal of property.	
(c) If assistance is necessary in the seizure, or securing, or removal, or retaining of property, the bailiff is entitled to the disbursements for such assistance.	
(d) All charges for disbursements are to be submitted to the clerk for taxation, subject to appeal to the judge.	
(e) The bailiff must in all cases endorse a memorandum of all his charges on the back of the execution or state them on a separate slip of paper, so that the clerk may conveniently tax the bailiff's charges for fees and disbursements.	
(f) The clerk is in all cases to sign the memorandum of his taxation and preserve it among the papers in the cause, together with the execution, for future reference, and thereby enable the clerk to certify the bailiff's returns properly.	
14. If execution, or process in attachment in the nature of execution, be satisfied, in whole or in part, after seizure and before sale, whether by action of the parties or otherwise, the bailiff shall be entitled to charge and receive 3 per cent. on the amount directed to be levied, or on the amount of the value of the property seized, whichever shall be the lesser amount.	
15. Poundage on executions, and on attachments in the nature of executions, 5 per cent., exclusive of mileage for going to seize and sell, upon the amount realized from property necessarily sold.	

3. FEES TO WITNESSES AND APPRAISERS.

Allowance to Witnesses.

Attendance, <i>per diem</i> , to witnesses residing within 3 miles of the place where the Court is held, if within the county	\$ 75
And if without the county.....	1 00
Attendance, if witness resides over 3 miles from the place of sittings, and within the county, <i>per diem</i>	1 00
Attendance, if witness resides without the county and more than 3 miles from the place of sittings, <i>per diem</i>	1 25
Barristers and solicitors, physicians and surgeons, engineers and veterinary surgeons, other than parties to the cause, when called upon to give evidence of any professional service rendered by them, or to give professional opinions, <i>per diem</i> .	4 00

(Note.—Disbursements to surveyors, architects and professional witnesses, such as are entitled to specific fees by statute, are to be taxed, as authorized by such statute.)

If witnesses attend in one case only, they will be entitled to the full allowance.

If they attend in more than one case, they will be entitled to a proportionate part in each cause only.

The travelling expenses of witnesses, over three miles, shall be allowed, according to the sums reasonably and actually paid, but in no case shall exceed twenty cents per mile, one way.

FEEs TO APPRAISERS.

Fees to Appraisers of Goods, etc., Seized under Warrant of Attachment.

To each appraiser, 50 cents, per day, during the time actually employed in appraising goods to be paid in the first instance by plaintiff, and allowed in the costs of the cause.

FEEs IN SUITS UNDER \$10.

Clerk.

For all services, from entering action, or suing out a judgment or interpleader summons, up to and including the entering of final judgment, or final order on any such judgment, or interpleader summons, in case the action proceeds to judgment or final order \$1 25

In case the action does not proceed to judgment or final order, the fees heretofore, or that may hereafter be payable, but not exceeding in the whole the said sum.

For issuing writ of execution, warrant of attachment, or warrant for arrest of delinquent, and entering the return thereto 0 50

Bailiff.

For all services rendered in serving summons and making return, and any other service that may be necessary, before judgment is entered by the clerk or pronounced by the judge, mileage excepted..... 0 40

For enforcing execution, schedule of property seized or attached, bond, where necessary, and all other necessary acts done by him, after seizure, mileage excepted, if money made, or case settled after levy..... 1 00

(Necessary disbursements incurred in the care and removal of property shall be allowed, to be first allowed by the clerk, subject to the approval of the judge.)



REPORT
OF THE
ONTARIO
FISH AND GAME COMMISSIONERS
FOR THE YEAR
1893.

PRINTED BY ORDER OF THE LEGISLATIVE ASSEMBLY.



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1894.



REPORT

OF THE

ONTARIO GAME AND FISH COMMISSIONERS.

His Honor, The Lieutenant-Governor of Ontario.

SIR,—Your Commissioners beg herewith to present their second annual report Annexed to it will be found the reports of the Wardens, and other tables and matter which will be found self-explanatory.

Your Commissioners are pleased to be able to report that undoubted good has resulted from the establishment of the Commission, and from the efforts put forth by them during the past two years to protect the Game and Fish of the Province.

The Game Laws continue to receive the general support of all right-thinking people, and the wanton slaughter of Game and Fish which obtained for years has almost ceased. Your Commissioners, in saying this, do not pretend that the Law is never broken now, because, unfortunately, there is abundant evidence to prove the contrary, but they assert positively that the sickening slaughter of former years which went on without let or hindrance in and out of season has been forcibly met and checked.

The number of Commissioners remains unchanged and consists of the following members :—

Dr. G. A. McCallum, Dunnville, Chairman.

Mr. J. H. Willmott, Beaumaris, Muskoka.

W. G. Parish, Athens.

W. B. Wells, Chatham.

H. P. Dwight, Toronto.

During the early part of the year, your Commissioners urged upon the Provincial Secretary the necessity of consolidating the Game Laws, and this suggestion was acted on at the last session of the Ontario Legislature.

It was not to be expected that the Act would prove perfectly pleasing to every one, but it is acknowledged on the whole to be a fairly good measure, and it receives, as it deserves, general approval.

Your Commissioners have had hundreds of applications during the year for copies of the Game Act, and recommend that a number of copies be printed in pamphlet form for distribution. A supply such as this is rendered doubly necessary now, owing to the fact that the large posters issued in 1892, are out of date, on account of the amendments recently made in the Act above referred to.

WARDENS.

Your Commissioners have much pleasure in testifying to the intelligent manner in which the work of the Wardens has been done. These officers have proved themselves to be active and zealous, and have done their work with an amount of care and tact which is highly creditable to them.

Your Commissioners desire to point out however, that the area which these officers have to cover is so vast that much of it remains, of necessity, unvisited, and this is by no means desirable.

In order to facilitate the work the Province has been mapped out into four divisions, and one of these divisions has been assigned to each of the Wardens.

This division has been made with a view, if possible, of bringing the Deputy-Wardens into more direct communication with the Wardens; but, in order to carry out the work more perfectly, at least two more Wardens are needed, and your Commissioners trust that these may be appointed without delay.

Your Commissioners are glad to report that the nominal salary of \$10 per month which was paid last year to the Wardens has this year been increased; three of the Wardens now being paid at the rate of \$400 per annum, and one, whose district is smaller than the others, and whose work is consequently not so heavy, at the rate of \$300.

DEPUTY-WARDENS.

Your Commissioners desire to point out that the system of appointing and paying the Deputy-Wardens has not proved to be altogether satisfactory.

There are at present on the rolls 413 Deputies, and whilst many of these are active and intelligent officers, the fact remains that the greater part of them are never heard from.

This might be taken as an indication of the perfect observance of the Game Laws, but unfortunately, complaints have been as a rule, most numerous from the localities in which the silent Deputies reside.

Under the terms of their appointment, the Deputy-Wardens are not paid by salary, and receive no remuneration except that they are entitled to half the fines accruing from convictions in cases where they are themselves the informants. It

is apparent, therefore, that these officers will not act unless they are absolutely certain of securing convictions, and for this reason many offenders who should be prosecuted, and who probably would be convicted if tried, are allowed to go free.

It often happens also that cases prosecuted by the Deputies result in dismissal through the stupidity of some country magistrate, or through the inability of the Deputies to prosecute properly. In such cases the Deputies, although they have acted in perfect good faith, are called upon to pay all the costs of the trial, and this, of course, is a proceeding not calculated to encourage them in the way of future prosecutions.

Your Commissioners recommend that the list of Deputy-Wardens be carefully revised, and that the Wardens in charge of each division be allowed to pick out one or two good men in each county who would report all cases coming under their notice, to the Wardens. If, after close investigation, the Wardens are of opinion that the cases are good ones, and can be successfully prosecuted, they could then be undertaken, and, in case of failure, the Deputies who have acted in perfect good faith, could be relieved from the responsibility of expense and having to defray the costs consequent upon a lost case.

FRAUDULENT CONVICTIONS.

Your Commissioners desire to point out that their officers suffer continually on account of a piece of sharp practice resorted to by persons charged with violations of the Game Laws.

It is the habit of the offenders to wait until summoned for trial, when they proceed in company with an accomplice, to a friendly magistrate other than the one, of course, who issued the original summons. Before this friendly magistrate, the accomplice charges the offender, and the offender is then fined a nominal sum. Half of the fine is handed by the magistrate to the accomplice, and by the accomplice it is handed back to the offender. The Deputy-Warden is saddled with the costs and the law-breaker laughs at him.

Your Commissioners strongly recommend that action should be taken to prevent this fraud, otherwise the Deputy-Wardens will soon cease acting altogether.

GAME IN ONTARIO.

Your Commissioners are glad to be able to report that the enforcement of the Game Laws for the past two years has had the effect of increasing the Game in the Province.

The severity of last winter killed off many of the Quail, but the sportsmen throughout the country are going to some pains and expense in the way of restocking, and from the reports which have reached your Commissioners, it is evident that they have shot carefully during the season with a view of saving this little bird as far possible.

Partridge has been more plentiful than for some years past, and Duck shooting has been very good. It is the opinion of all those best competent to judge, that the increase of Partridge is almost entirely owing to the observance of the law which prohibits the sale of this fine game bird, and in order to prevent its incessant pursuit by idle pot hunters and boys who endanger its extinction, your Commissioners trust that the law will be continued as it is.

DEER.

A great many deer were killed during the season, and the proportion of does was greater than when the open season was later, that is during the first two weeks of November. A great many sportsmen and others think the open season entirely too long, and that when each hunter is only allowed two deer, two weeks (and those the first two in November) should be quite long enough for the open season.

As the season is now, and with dogs allowed during the whole twenty-five days, it is even more destructive than before the present law was enacted. Your Commissioners are at least agreed that the use of dogs should not be allowed for longer than the first ten days of the season.

Complaints are continually reaching the Commissioners regarding the persistent and unreasonable slaughter of game by Indians, but in the large tracts of territories where these protected children are domiciled it is almost impossible to bring home to these people the proof of their crime.

INSECTIVOROUS BIRDS.

Your Commissioners are glad to report that the issue of permits to take insectivorous and other birds and their eggs for scientific purposes has now been entrusted to the Chief Warden.

These permits have been issued indiscriminately for years past and have been grossly abused.

In future the issue will be limited strictly to *bona fide* scientists, and boys, taxidermists, and so-called sportsmen who have hitherto made commercial and other improper use of the privilege granted them will be precluded from getting the permits which have been so freely given out in the past.

FISHERIES.

Your Commissioners regret that the dispute in the matter of the Fisheries existing between the Dominion and Ontario Governments still remains unsettled, for in the meantime the slaughter of Fish and the destruction of their ova goes on as before.

Your Commissioners strongly and unanimously recommend that the test case which they understand is pending between the two Governments in regard to this dispute should be brought on without delay so that the question of jurisdiction may be definitely settled.

Until this is done your Commissioners are afraid to act, and the country can ill afford the losses she is suffering at present in the destruction of fish.

Your Commissioners last year caused 60,000 speckled Trout Fry to be planted in some of the best streams in the Counties of Wentworth and Brant and look for good results from this experiment in the near future. They also caused over 2,000 mature and gravid Bass, Pickerel and Carp to be placed in the upper Grand River during the spawning season of last spring, which they hope will go far towards restocking the waters of that depleted stream. Your Commissioners think that this work should be continued as there are many large waters in the Province almost barren of fish, which could easily be made great food-producing areas besides as affording recreation for its people.

The Chairman of your Commission was honored by being placed on the Advisory Council of the Fisheries Congress of the World's Columbian Exposition, and in being invited to read a paper before the Congress. This he accepted, choosing as his subject "The Assimilation of the Fishery Laws of the Great Lakes," in which he strongly urged the different States bordering on the lakes to enact a close season at least for the great commercial fish—the *Salmonidae*, as the White Fish, Salmon Trout and Herring. He also urged that the rules and regulations agreed upon at the last International Fisheries Conference held in Detroit be adopted by both countries.

STEAM YACHT NEEDED.

Your Commissioners beg to point out that a steam yacht is urgently needed to enable them to stop the spring shooting and incessant poaching in Canadian waters near the American frontier. Such a vessel is absolutely necessary and your Commissioners hope that one will be provided during the coming year.

UNORGANIZED TERRITORY.

Your Commissioners experience much difficulty in determining what is, and what is not, unorganized territory, and respectfully urge that this matter may be fully explained to them at an early date.

OFFICE HELP.

Your Commissioners beg to point out that a vast amount of correspondence has accumulated in the Chief Warden's office during the last three years. It is of great importance that this matter should be carefully tabulated, filed and indexed and for this purpose, as well as owing to the fact that the volume of office business is yearly increasing they strongly recommend that an assistant be furnished to take charge of the office work.

The needs of the Commission absolutely require this, and your Commissioners therefore, unanimously urge that this suggestion be carried into effect.

SHOOTING LICENSES.

Your Commissioners are pleased to be able to report an increase in the number of licenses taken out during the year by foreign sportsmen. In 1892, fifty-six licenses were issued, whilst last year the number reached seventy.

Your Commissioners have no reason to doubt that with a more active force of Deputy-Wardens this revenue could be largely increased.

PROVINCIAL MUSEUM.

Your Commissioners are unanimously of the opinion that in view of the scarcity of some of the game animals which were at one time abundant in the Province, a collection should be made without delay. The specimens obtained should be well mounted, and a room found for such a collection in the Parliament Buildings. The collection would be largely added to by interested persons outside of the Commission, and a good collection of specimens and curios, all found within the Province, could soon be obtained.

APPROPRIATION.

Your Commissioners, whilst thankful for the help given them during the past year by the Government, beg to point out that a larger appropriation is necessary in order to enable them to overtake the important work in which they are engaged, and for this reason, respectfully urge that the sum of \$10,000 be placed to their credit for the year 1894.

It is obvious, of course, that as the Game Laws are rigidly enforced from year to year, the offenses against these laws will grow fewer and fewer. It may even be that in course of time the revenue from fines and fees will be reduced to a nominal sum, but this will not be regretted if it means a corresponding gain and increase in the amount of fish and game intended by Almighty God as a cheap food for the citizens of the country.

PROPOSED AMENDMENTS TO THE GAME ACT.

Your Commissioners have very carefully considered many propositions made to them during the year in the way of amendments to the Game Act. They are convinced, however, that the Consolidated Act of 1893 is, in the main, a sound one, and they have resolved, therefore, to recommend as few amendments as possible. The following recommendations are made advisedly and in the best interests of the Province, and your Commissioners trust that they will receive the careful consideration which they deserve at the hands of the Government.

(1) Sec. 4, Sub-sec. 5: Which prohibits the purchase or sale of Snipe, Woodcock, Partridge, Quail, and Wild Turkey before the 15th September, 1894, to be changed so as to enlarge the same protection for three years more or, until 1897

(2) Clause 8 referring to Musk-rats : To be changed so as to make the open season for Musk-rat from the 1st January to 1st May, but allow trapping only, and not shooting during the month of April.

(3) Clause 8, Strike out the words "Sable or Marten."

(4) Provide where certain periods are mentioned in the Act as open seasons that the first and last days mentioned should be "both inclusive."

(5) Clause 14, sub.-sec. 3 : This clause to be enlarged so as to allow any non-resident who obtains a license to hunt in Ontario to take with him out of the Province, two deer or any less number hunted and taken by him, upon obtaining the permit provided for in the said clause.

(6) Sec. 2, sub.-sec. 2 : Deer season to remain as at present, but amend section so as to provide that no dogs should be used for hunting Deer after 31st October.

(7) Sec. 14, sub.-sec. 4 : Abolish this altogether, except as referring to the Provincial Secretary.

(8) Sec. 15, sub.-sec. 3 : This clause should be enlarged by specifying that suspected persons may be searched by Wardens or Deputy-Wardens.

Your Commissioners also recommend that a clause should be framed to reach the guides who assist foreign sportsmen to break the law by accompanying them and shooting the game for them.

All of which is respectfully submitted.

G. A. MACCALLUM,

Chairman Ontario Game and Fish Commission.

DUNNVILLE, 31st December, 1893.

REPORT OF THE CHIEF WARDEN.

HAMILTON, Ont.,

December 31st, 1893.

G. A. McCALLUM, ESQ., M.D.,

*Chairman,**Ontario Game and Fish Commission.*

SIR,—I beg herewith to submit a summary of the work of the Department for the season of 1893.

I am glad to be able to say that the Game Laws have been, on the whole, rigorously enforced and that they still remain popular with the masses of the people.

My duties during the year have consisted for the most part, in answering and following up the enormous volume of correspondence which has continued to pour in upon me ever since the Commission was organized.

I have also made frequent trips to various parts of the Province to advise the officers under me and to assist in the prosecution of cases where these officials have experienced difficulty in their work.

I have been unable, for want of clerical assistance, to tabulate and keep my office correspondence in such order as I should like to have been able to do, but have found it quite impossible to overtake all the work of this Department single handed.

Attached to this report, however, will be found the usual tables and reports which, I trust, will not only speak for themselves, but be found to be full of interest.

WARDENS.

The manner in which the duties of the four Wardens have been performed during the season has been most satisfactory, and I am glad of this opportunity of being able to testify publicly to their earnestness and worth, and to the zealous assistance which they have given me.

In order to systematize the work as much as possible, I lately made a division of the Province into five parts, giving each Warden a district of his own, and taking another under my own charge. The division of districts was made as follows:—

No. 1. In Charge of A. D. Stewart, Hamilton.

Counties of Bruce, Brant, Dufferin, Grey, Halton, Huron, Oxford, Perth, Peel, Wentworth, Waterloo, Wellington, York.

No. 2. In Charge of H. K. Smith, Belleville.

Counties of Addington, Carleton, Durham, Dundas, Frontenac, Grenville, Glengarry, Hastings, Haliburton, Lanark, Leeds, Lennox, Northumberland, Ontario, Prince Edward, Peterborough, Prescott, Russell, Renfrew, Stormont Victoria.

No. 3. In Charge of Jno. A. Gill, Dunnville.

Counties of Haldimand, Lincoln, Monck, Norfolk, Welland.

No. 4. In Charge of F. C. Quallins, Leamington.

Counties of Elgin, Essex, Kent, Lambton, Middlesex.

No. 5. In Charge of J. H. Willmott, Beaumaris, Muskoka.

Districts of Algoma, Muskoka, Nipissing, Parry Sound, and County of Simcoe.

Under the new system, the Wardens in charge of these districts are responsible for the work carried out by the Deputy Wardens under them. The division has lightened my work somewhat, whilst it establishes a direct connection between myself and the officials under me.

DEPUTY-WARDENS.

As against 392 Deputies who held office last year there are now 413 on the rolls.

No provision is made for a salary to these officers, but they are entitled to receive half the fines following convictions in cases where they are the informants.

I have not had time to visit the Deputy-Wardens personally since their first appointment, and although I happen to know some of them, and hear regularly from a few others, I never get a line or report of any sort from a large majority of them.

Some of the Deputies are undoubtedly live men and have done excellent work in their own localities, but others appear to be purely ornamental and apparently take no pains whatever to carry out or enforce the law.

The division of districts before alluded to is the best, which, under the circumstances could be made, but as will be readily seen, some of them are far too large to be superintended efficiently by any one man.

The present system of appointing Deputy-Wardens is not, in my opinion, a good one, although I confess it is difficult to suggest an improvement.

A large paper force of officers may, of course look well, but if the staff is not composed of active, zealous men, it can be of little service.

I am strongly of the opinion that the Wardens in charge of districts should be allowed to select a few good men here and there in each county under their charge, and if this were done the force could then be weeded out and remodelled with advantage.

It is only fair to say that many of the Deputy Wardens, who under other circumstances, might possibly prove to be good officers, will not take any trouble to enforce the Game Laws on account of the conditions under which they serve the Government. Should they happen themselves to lay the information in cases where convictions are obtained they are entitled to receive half the fines following convictions, but if unsuccessful, although their cases may be perfectly clear and lost only through the stupidity of some country magistrate, or through their own inability to prosecute properly, they are called upon to bear all the expenses themselves.

In one sense of course, this system is a wise one, because it undoubtedly prevents hot headed officers from rushing into court on speculation with cases which they cannot hope to be successful with; but on the other hand it is hardly fair to expect men to go to any large amount of trouble or to lose time and money in the prosecution of cases which may be decided against them, and as a result of which they will be out of pocket.

This is the weakness of the present system, and as long as it continues, no improvement can possibly be expected, nor will the laws ever be enforced as thoroughly and efficiently as they should be.

FRAUDULENT CONVICTIONS.

I have to report that our officers have on several occasions been put to a good deal of inconvenience on account of a piece of sharp practice resorted to by persons charged with violations of the Game Laws.

The offenders wait until they are regularly summoned to appear for trial, and then, ignoring the fact that the law has been set in motion, proceed in company with an accomplice to a friendly magistrate. Upon arrival the accomplice lays an information against his friend, and the friendly magistrate thereupon proceeds to inflict the lowest possible fine.

The fine is then paid, and half of it is paid over by the friendly magistrate to the accomplice, who of course hands the money over to the defendant. In this way the defendant escapes with a nominal fine.

When the original case is called for trial the offender produces a record of his conviction, and as he cannot be tried twice, the constable is saddled with heavy costs and is out of pocket, whilst the law-breakers for miles around laugh him to scorn and set to work again to outwit him if possible.

Some steps should certainly be taken to prevent this species of fraud, otherwise our officers will stop acting altogether.

THE GAME LAWS.

Referring to the present Game Laws, I am satisfied that they were never more thoroughly popular. They have received the general support of all right-thinking people and they are generally endorsed throughout the Province.

As a result of the enforcement of these laws, Game of all sorts has become more plentiful, and the wanton slaughter, which for years existed and by which the Province was being rapidly depleted of its Game and Fur-bearing animals has to a large extent ceased.

This is a state of affairs on which the Commission can well congratulate itself. Even those who have demurred at the restrictions put upon their hunting propensities will find consolation in the fact that game of all sorts will probably be more plentiful than ever and that the Province will be a distinct gainer by the vigorous enforcement of the laws.

GAME IN ONTARIO.

The severity of last winter killed many of the Quail, and that little bird has not been found in such large numbers this year as usual.

Partridge has been on the whole plentiful, whilst the Duck-shooting has been better than for some years past.

Very plentiful also has been the supply of Deer, but I am convinced that a great mistake has been made in making the open season commence so early and last so long. As the law only allows two Deer to each hunter, a shorter season should suffice than the law at present allows.

I regret to say that from the reports which reach me, and from my own observation, the settlers and Indians who are allowed by law to kill Game at all seasons for their own immediate use and for the reasonable necessities of their families, are themselves the most persistent violators of the law. But in the large tracts of territory where these people are domiciled, it is almost impossible to bring home to the law breakers the proof of their crime.

I have not this year heard of a single case of destruction of Fur-bearing animals protected by the Game Act, and this leads me to believe that a valuable industry is being husbanded, and the effect of this protection will be apparent in years to come.

INSECTIVOROUS BIRDS.

The issue of permits to take Insectivorous Birds and their eggs for scientific purposes, was entrusted to me at the last session of the Ontario Legislature.

These permits were, prior to this year, issued direct from the Department of Agriculture.

I have no means of knowing, of course, whether enquiries were made before these permits were issued, with a view of ascertaining whether the persons applying for them were bona fide scientists, but in looking over the list of persons to whom permits have been granted, I find the names of many who are in no way deserving, and to whom, in my opinion, permits should never have been issued.

A large percentage of permit holders was composed of boys and taxidermists, and frequent complaint has been made to me that the holders take advantage of the permits to openly break the Game Laws.

I have been inundated already with requests for renewals but have almost invariably replied refusing the applications, intimating at the same time that in future the issue would be strictly limited to bona fide scientists.

If this course is not strictly lived up to there is danger that the feathered songsters of the Province will disappear as the Game has done.

FISH.

I regret to say that the dispute in the matter of the Fisheries at present existing between the Dominion and the Ontario Governments still continues.

I have deemed it best, therefore, to remain inactive, being by no means sure what powers I had to administer the Fishery Laws.

I sincerely trust that this matter may be settled one way or another at an early date, for, whilst the days are slipping by, the slaughter of fish and the destruction of their ova continues at an alarming rate and the country cannot afford such losses as she is imperceptibly but surely suffering.

At the suggestion of the Commissioner of Crown Lands, who has at all times manifested a lively interest in the matter of fish protection, I caused to be planted last summer in some of the streams in the neighborhood of Brantford and Hamilton, in the counties of Brant and Wentworth respectively, 60,000 speckled trout fry. These fish were planted under most favorable circumstances and were uniformly strong and healthy; I am hopeful that this effort to restock the streams alluded to will prove successful, although of course, no definite results can be looked for for at least a couple of years.

I again point out that there is nothing in the Fisheries' Act to prohibit the illegal sale of fish during the close season "no matter where killed or procured." For the want of such a clause as this the law is openly violated.

SHOOTING LICENSES.

I have to report that as against 56 licenses issued in 1892, we have this year issued 70, making, at \$25 per license, a total revenue of \$1,750.

Under a more perfect system and with a force of Deputy-Wardens which could be depended upon to pay more attention to their work than some of the present officers evidently care to do, I am confident that this sum could be very largely increased.

The list of the persons to whom these licenses were issued will be found annexed to this report.

STEAM YACHT NEEDED.

I beg to point out that our officers are greatly handicapped at all seasons of the year, in localities where the American frontier is separated from their

territory by water, on account of the habitual poaching of American pot-hunters, who slip over in fast steam launches, and not only shoot without licenses, but, by means of swivel guns and through illegal practices, destroy game in large numbers.

To attempt to capture these offenders by means of row boats, is, of course farcial, and nothing less than a shallow draught, fast running steam launch can meet our wants. The expense of hiring such a vessel from time to time would be very large, and I cannot, for this reason recommend the expenditure, but I have no hesitation in urging and recommending the purchase of a small boat for next year's work.

The outlay would be very small, whilst the work accomplished would be correspondingly great.

CONFISCATION OF WEAPONS.

Under Section 22 of the Ontario Game Act which empowers the seizure of weapons found in the possession of offenders, three guns were seized lately in possession of masked hunters, who were found trespassing on the Long Point Preserves. The offenders were fined for trespassing, and their guns and other appliances were confiscated and sent to me by the presiding Magistrate. One of the guns was shortly afterwards replevined by the owner and the other two are still in my possession.

The case is to be tried at Woodstock, but will not come on, I understand, until the June assizes.

As it is important that the powers given by the clause alluded to should be at all times exercised, I have, under advice from the Provincial Secretary, engaged counsel to prosecute this matter.

I have to thank the Commissioners heartily for the support they have given me and for the kindness and courtesy with which they have treated me throughout the year.

I have the honor to be

Your obedient servant,

A. D. STEWART.

Chief Warden.

REPORTS OF WARDENS.

BELLEVILLE, 31st December, 1893.

A. D. STEWART, ESQ.

Chief Warden

SIR,—I have the honor to submit this my second annual report.

The year just closed has given us further evidence of the popularity of the Game Laws with the great majority of the people of the Province, and of their value as a means of protecting the Game from the ruthless slaughter of past years.

Deer have been quite numerous this season, indicating a substantial increase in their numbers, due no doubt to the protection afforded by the Game Laws, and to the short and inclement open season of 1892. But the hunting season just closed, having been unusually favorable, the number killed has been largely in excess of that of last year.

The regulations respecting Partridge continue in favor with all classes, and it is generally believed that these birds are increasing in numbers very satisfactorily, while the Wild Ducks have been plentiful enough to afford ample sport as well as profit to those who prefer that kind of shooting.

While under this head, I beg to remind you of the complaints respecting the methods pursued by shooters on Lake St. Francis, and would respectfully refer you to my report on that matter dated the 6th of November.

During the year, infractions of the Laws have been of frequent occurrence, these in many instances, have been followed by speedy punishment which no doubt will have a salutary effect in the future.

There is, however, a class of offenders, who live in the unsettled districts and on the borders of settlements who, apparently, make no pretensions of gaining a livelihood in any way other than hunting and trapping the year round, but who have hitherto escaped punishment from the fact that their locations are so remote from settlements that evidence sufficient to convict cannot be obtained. Complaints against this class are frequently made by *bona fide* settlers, who have no sympathy with them in their lawless pursuits.

Notwithstanding the fact that the present Laws give general satisfaction, I have been asked by a large number of sportsmen to point out to the Commissioners that the Law respecting Hares or Rabbits, is practically prohibitive and that it is not advisable to protect them to such an extent; and the petitioners would respectfully suggest, that as it would not injuriously affect any other class of Game, the Law should be amended, so as to allow of Hares and Rabbits being hunted up to the 1st of February.

I also enclose herewith, a petition from the Reeves and Deputy-Reeves of the northern part of the County of Hastings, for which I would beg the most serious consideration of the Commissioners.

I have the honor to be, Sir

Your obedient servant.

H. K. SMITH,
Warden.

A. D. STEWART, ESQ.

LEAMINGTON, December 31st, 1893.

Chief Warden.

SIR :—I have the honor to submit the following report of my work for the year 1893.

Early in spring I received word from Mr. McCollum, a Deputy Game Warden in Kent County, that a great deal of unlawful shooting was going on at Rondeau, and that poachers were coming in from the country and bringing their tents with them, as many others had done in the past, previous to the passing of the new Game Law. We soon caught a couple of them but let them go with a warning as they pleaded ignorance of the Law in regard to spring shooting. This had a good effect and in less than two days there was no more violation going on.

DUCKS AT RONDEAU.

I proceeded then to make a survey of the different channels and marshes of Rondeau Bay with Mr. McCollum, as he desired to prove to me the benefit of not allowing spring shooting. We made trips both by water and by land and I must acknowledge that the trip was an instructive one; we passed on several occasions, ponds where Ducks were feeding by hundreds within a stone throw: they would hardly pay attention and showed no signs of fear.

The Eau is a beautiful bay of about 10 to 12 miles, and one of the best Duck-shooting grounds in Western Ontario. It is surrounded by a point of solid timber which so many newspapers have mentioned as a proper place for a national park.

OPINIONS OF SPORTING MEN.

The sporting men generally, claim that the prohibiting of Duck-shooting in the spring is unjust, owing to the loose laws of Michigan and Ohio which allow it.

FOXES AND OUR GAME BIRDS.

I wish again to draw your attention to the need of a Law encouraging the killing of Foxes and Wild-cats. I spoke of this in my first report and I am deeply impressed from what I see and hear from good sportsmen, that Foxes do as much damage as cold winter and pot hunters combined. I hope the Government will see its way clear to enact a law giving a bounty for killing these pests; it would encourage Fox-hunting after the close season, and an increase of Quail and Partridge would naturally follow. Foxes are very numerous in this western district and hunters tell me if a bounty of one dollar was given they would make it a business to clear the county of the enemy of our game birds.

DEER.

Deer are becoming more scarce from year to year and different causes are given; as a true sportsman remarked the other day it was a pity the Ontario Game Law had not been enforced ten years sooner. The Deer would then have been plentiful all through this part of the country. There is still a tract of woods between Essex and McGregor station on the L.E. & D.R. road where a few can be found, and even these would have been exterminated by this time but for the keen vigilance of Mr. Walker's caretaker and the fear of the new Game Law. Of course cutting and clearing the forests has something to do with the scarcity, but the main cause has been unlawful hunting in and out of season by Indians, and the oft-times killing of does heavy with fawn, and the hounding of Deer with dogs the whole season.

And now lovers of sport repent and ask what can be done? The answer is re-stock our woods with Deer, protect them for five years and live up to the Law so that the Game may be preserved and spared.

POACHING IN CANADIAN WATERS.

Before closing my report I think it would be wise for me to mention to you that poaching has not been stopped as much as one would naturally think, though some improvement has been made.

The Game Law is no terror to the American poacher, but the license of \$25 is the thing he dreads, and he would rather run chances of getting caught than pay for his shooting in Canada. The most troublesome and persistent district in this respect is the City of Wyandotte on the Detroit River opposite the Anderdon Marsh, and the St. Clair Flats, where a large number of sporting people live a great part of the year; they have easy access to Canadian territory as it is only a stone's throw across to Walpole Marsh and Toronto Club grounds. They shoot whenever they are ready (Sunday included) and more especially when they know I am not there to look after them; the result is I receive letters of censure occasionally from people who want a stop put to this, but it is not quite as easy as some people imagine to stop the evil. Of course the arrests I made on the St. Clair Flats and on Anderdon Marsh had some good effect, but I will have to be there early in spring the same as in fall or repetition of the same will take place.

ONTARIO INLAND FISHERIES.

The fish question I have so far left untouched until I received orders from you regarding the same. On account of the unsettled question between the Dominion and Ontario Governments as to jurisdiction I found myself in an embarrassed position last spring at Rondeau concerning Pike spearing, where a Dominion overseer claimed full power and spoke very unbecomingly of the Ontario laws.

I am, Sir,

Your obedient servant,

F. C. QUALLINS,

Warden.

BEAUMARIS, MUSKOKA, 31st December. 1893.

A. D. STEWART, Esq.,
Chief Warden.

SIR :—I have the honor of submitting to you my annual report in respect to Game and Fish and my duties in connection therewith as Warden.

DEER.

Deer have been more plentiful the past season than for many previous years and owing to the exceptionally fine weather we had during the hunting season, the influx of hunters was greater than last year, and I may safely say that double the number of Deer were taken out this fall than in that of 1892. I should estimate that 600 or 800 Deer were taken out of Muskoka and Parry Sound Districts combined, to say nothing of those consumed in camp and by residents.

The repeal of the Fawn clause has met with the approbation of all with whom I have spoken on the subject.

The great majority of the settlers are decidedly against the running of dogs, but as a compromise would be satisfied if dogs were only permitted to run part of the open season, say ten or fifteen days.

The lengthening of the open season seems to have given satisfaction to hunting parties from the older settled portions of the Province.

The Laws are well observed although there have been, and always will be infractions, and during the present year there have been 24 prosecutions in this Districts, as follows :

Hunting out of season	5
“ on the Sabbath.....	6
Breach of the Fishery Laws.....	7
Allowing saw-dust to escape.....	2
Unlawfully shooting Ducks.....	1
Shooting Partridges out of season	1
Killing a Moose	1
Having portions of Moose in possession	1
Amount of fines inflicted	\$245 00

Two persons were imprisoned in default of payment of fines.

As there are several prosecutions pending, the evidence in which is not at present strong enough to warrant their being proceeded with, I have taken out warrants for suspected parties, so that we may not lose our cases through lapse of time for the laying of informations.

PARTRIDGES.

Partridges are more numerous in certain localities, but it will take some years of strict preservation before they are as plentiful as they were ten or fifteen years ago.

WOLVES.

Wolves are numerous in the more outlying districts ; I have not heard of any hunters preparing to hunt these animals this winter. I notice that the clause in connection with Wolves does not appear in the Consolidated Act, this should be rectified.

MINK.

Mink is not mentioned either in the Consolidated Game Act.

DEPUTY-WARDENS.

Some of these men are most active in their efforts to have the law observed and offenders punished, but, I regret to say that this does not apply to them as a body.

UNORGANIZED TERRITORY.

The clause in respect to this causes a vast amount of trouble and I strongly urge that such territory be distinctly defined. From the Act it would appear that Sec 27 quashes Sec. 2 with regard to Moose killed by settlers in unorganized districts, as the former reads (3rd line) "With regard to *any* game killed, etc."

FISHERY LAWS.

Fishery Laws are fairly observed, but the unsettled question at issue between the Dominion and Provincial Governments, as to which has the jurisdiction over the inland waters, is a bar to the laws being thoroughly and satisfactorily carried out. There has not, however, been nearly so much netting and spearing carried on as formerly, and the confiscation of a number of nets, spears, etc., will have a salutary effect on many who are inclined to infringe the laws.

Settlers are agitating for permits to be issued allowing them to use short nets for the purpose of taking Whitefish and Herring for their own use only. These fish abound in many of the Inland Lakes, and cannot be procured except by netting.

FOREIGNERS.

Foreigners have not been so numerous as last year, probably owing to the World's Fair. Two only of those I met were without licenses and these I provided them with and accounted to you for same.

I received a number of circulars relating to an order in Council, dated 13th May, 1893, changing the close sea-on for bass. One of these I forwarded to each Deputy Warden in the Districts of Muskoka, Parry Sound, Nipissing, Algoma and the County of Simcoe.

During the hunting season I engaged extra help for a few days as follows:
For Muskoka, Rosseau, and Joseph Lakes, Moon River, etc.—Wolstan Riley.

For Southern portion of Parry Sound District and Northern portion of Muskoka District—John Lawrence.

For Northern portion of Parry Sound District—C. W. Burns, Sr.

For Trading Lake, Lake of Bays, and neighborhood—E. J. Gouldie.

For Lakes Vernon, Fairy, Peninsula and lakes lying north-east—C. N. Chapman.

I have instructed these gentlemen to forward reports of their proceedings during their term of service.

It is most gratifying to hear on every hand, that the Game Laws are working admirably, and that a very apparent good result will be recognized in a few years. I may safely say that last winter, owing to the unsettled depth of snow, had it not been for the new Game laws thousands of Deer would have been ruthlessly butchered in the "yards" and on the "crust". As it was, comparatively few cases came under my observation and the offenders in these were prosecuted.

I have endeavored, as far as possible, to keep down expenses, not having made trips unless absolutely necessary. This, however, I am not satisfied is a wise policy to pursue, as I think the occasional presence of an official has a beneficial effect, and I believe a run through Algoma and the remoter portions of the Province would be productive of good.

I am, Sir,

Your obedient servant,

JOHN H. WILLMOTT,

Warden.

DUNNVILLE, Dec. 31st, 1893.

A. D. STEWART, Esq.,

Chief Warden.

SIR,—I beg to submit my second annual report in connection with the Game and Fish in the south-eastern portion of Ontario.

During the past winter the wild ducks have been unusually plentiful, and these birds have remained in open waters by the dams, waste-mires and mill flumes in the Grand River until late in the spring, thus showing the good results of the Game Act, for it has been long since ducks remained in such numbers in this section as during the past year.

Illegal shooting has not been very noticeable during the winter. Of course some poaching has been done, and this has been encouraged by certain persons who have acted as fences for the disposal of the game bought of them.

As soon as the Grand River is clear of ice the dwellers in the little hamlet, known as Scottsville, commence their operations to take their annual catch of fish. I was instructed by the Chairman of the Commission to visit these fishermen daily to receive and carefully count all the black bass, pickerel, white bass and German carp, which might be caught in their nets during the close season, my orders being to have such fish transferred alive into the upper river.

These instructions I have carefully carried out, the fish seized by me being carefully placed alive in the upper river for the purpose of propagation.

The number of fish thus transferred amounted to two thousand seven hundred and fifty-three (2,753) exclusive of some small fish which were too small to sell and which I thought would be of some value if transplanted, as they cost nothing except the trouble of transfer.

Of these four hundred were carp of the best varieties.

The Chairman of the Commission also received a case of German carp from the United States Fish Hatchery, and these fish were carefully transferred to a suitable place and will, I think, in time greatly assist in stocking the river with valuable fish.

During the month of May I was notified by you to proceed to Hamilton to patrol the bay and Dundas marsh for the purpose of preventing spring shooting and enforcing the game laws generally.

I remained on the ground two weeks looking carefully over it and found three or four men who had been in the habit of breaking the laws, and these I warned against the continuance of the evil practices.

One man I caught shooting on the bay opposite the Des Jardines bridge, but not having a boat at hand and being unable to get near him, I was unable to effect his arrest.

When I left Hamilton, I left a deputy warden in charge and carefully instructed him as to the manner in which he was to proceed, and I was glad to hear later on that some cases had been successfully prosecuted.

I think the Game Act was being better observed in Hamilton than was reported. I saw a good deal of target shooting along the bay frontier, and this leading as it did to the constant report of guns lead many to think that spring shooting was being indulged in.

During the summer season the law was very generally observed in this district. I kept a very close watch; I found but little to complain of until the shooting season commenced, when I found that the law might be improved from a warden's point of view at all events.

I beg to point out that foreign shooters come here regularly and engage guides to carry the guns and do all the shooting; the foreigners following and bagging the game, thus avoiding the necessity of taking out licenses.

This is certainly a violation of the spirit of the law and I intend, at the first opportunity, to test the matter in court.

Partridge and quail have been reported to me as more abundant than they were last year. I certainly see a great improvement in the number of these birds in the localities immediately adjoining Dunnville, Ridgeway, Seneca and Caistor.

The supply of black squirrel was very good but the grey ones were rare. Woodcock were more numerous, and there were several flocks of plover, but not many were shot here.

Foreign sportsmen were not very numerous this year, most of them being fishermen and not shooters.

Native large white hare appears to be disappearing, but the cotton tail is as much in evidence as ever.

The law which now allows of the cotton tail being shot at all seasons makes it most difficult for the wardens to control poachers, for these men may now be found roaming over the haunts of the game birds, pretending of course, that it is the cotton tail rabbit for which they are hunting.

In accordance with your instructions I have kept a sharp look out for American sportsmen who may come over in steam yachts or sail boats. Several of these have been warned off, but occasionally a small tug or steam launch will run over to the Canadian shore.

These men cannot be captured or prevented without the use of a quick running vessel similar to their own.

I was sent by you to Hamilton, Brantford and London towards the end of December, to visit certain game dealers who were reported to have been selling game illegally.

I carefully searched many stores, hotels, restaurants and other such places, but failed to find a single case in which the law was being broken.

I waited after this for some time at Ridgeway in the hope of being able to capture some of the American poachers who break the law in that locality, but I was not successful in making any arrests.

Since last June I have been almost entirely engaged in patrolling the territory under my charge.

The number of convictions obtained by me during the year, together with the account of the amount collected in fines, has been duly sent you.

On the whole, I think the present game law is a good one and generally popular, and the more rigidly it is enforced the more plentiful will the supply of game become and the fewer will be the convictions arising from infractions of the law.

I am, Sir,

Your obedient servant,

JOHN A. GILL,
Warden.

REPORT OF SPECIAL PATROL OF DEPUTY WARDEN WOLSTAN RILEY, MADE IN THE MUSKOKA DISTRICT.

To A. D. STEWART, ESQ.,

Chief Warden.

October 24th.—Went from Beaumaris to Balla; saw a camp on Long Lake. All from London, Ontario.

October 25th.—Visited three camps down Moon River; about 30 hunters from Toronto, Milton, Belleville, London and Hamilton. Saw one deer killed,—reports say deer are not as thick round there as usual. One camp had killed a few and shipped before I got there.

October 30th.—Went to Port Carling; saw a hunting party from London,—all quiet in that part.

October 31st.—Visited Port Sandfield, not many hunters in that part of the peninsula.

November 1st.—At Foots Bay. Visited a number of hunters in that neighborhood, (all Canadians), a great many deer being killed round there, but could not find that any party had taken more than their number.

November 2nd.—Visited a party at Barnsdall, all from Toronto and Hamilton, was told they had been hunting on the Sunday before—believe Warden Wilmott is prosecuting them for the same.

November 3rd.—At Port Cockburn found two Americans without licenses, one of them was from New York State, and the other pretended to be from St. Catharine's Ont.; took them down to Beaumaris to get licenses from Warden Willmott. A number of deer killed there.

November 4th.—Around Lake Leonard and neighborhood. All quiet in these parts.

November 7th.—Up to Gregory and little Lake Joseph; only one camp there all Canadians.

November 8th.—Down Lake Joseph to Port Sandfield—all quiet down the shore and round that part.

November 9th.—Came from Sandfield to Milford Bay, calling at some points on the way but not finding any camps. During the time I was out I waited for and went on board the steamers often, and saw about 60 deer being sent away,—made enquires but could not find out that any party had above their number

WOLSTAN RILEY,
Deputy-Warden.

REPORT OF SPECIAL PATROL OF DEPUTY WARDEN THOMPSON
ALONG THE NIAGARA FRONTIER.

To A. D. STEWART,

Chief Warden.

November 18th.—Went to Fort Erie.

November 19th.—Patrolled river all day; saw three men shooting, belonging to city of Buffalo, was unable to catch them.

November 20th.—Watched three men shooting all day, they did not come ashore; put up for night at Barneys Hotel, Victoria.

November 21st.—Rowed Fort Erie to Burnship Creek, saw steam yacht and two row boats with two men each, all were shooting. I went to Lascelle and put up for night.

November 22nd.—Rowed river all day and came to Fort Erie, put up for night.

November 23rd.—Went to Chrystal Beach, stopped all day. Saw two Yank-ees shooting over decoys, could not get them, had no boat, went to Ridgeway, put up for night.

November 24.—Walked from Crystal Beach to Fort Erie and saw nothing,—put up for night.

November 25.—Commenced to board at Globe Hotel, patrolled river, saw nothing.

November 26.—Patrolled river: saw steam yacht, came from Black Creek. Walked fourteen miles, put up for night.

November 27.—Rowed to Black Creek and back, and put up for night.

November 28.—Walked to Black Creek and back, saw steam yacht, named "Island Belle" of Buffalo, towing two duck boats, put up there for night.

November 29.—Went to Port Colborne, walked to Welland, put up for night.

November 30.—Went to Chippawa and back to Port Colborne for night, and saw three men shooting, but found they were Canadians.

December 1.—Patrolled river, saw no shooting. Put up for night.

December 2nd.—Patrolled river, saw nothing, put up for night.

December 3rd.—Went to Black Creek and back, saw one steam yacht and two row boats and four men with white suits, then came to Fort Erie, put up for night.

December 4th.—Patrolled river, saw nothing.

December 5th.—Came home.

REPORT OF SPECIAL PATROL MADE BY DEPUTY-WARDEN
C. N. CHAPMAN, OF MUSKOKA.

To A. D. STEWART,

Chief Warden.

On Oct. 18th I met all trains from south and saw all steamboats depart. One party from Grimsby with four hounds went east.

On Oct. 19th Came to Peninsula Lake and camped, intending to board all incoming steamers at Portage wharf by day and to watch spawning beds at night.

Oct. 20th: No spearing last night; one party of seven hunters from Canada West arrived by morning boat. After dusk went over to Lake of Bays. All was right.

Oct. 21st: No sports by boats. Returned home at night.

Oct. 24th: Went south to Mary Lake in quest of netters; was wind bound at mouth of river and camped for night.

Oct. 25th: 7 a.m. went down lake to Lawrence's Island and found large net hidden beneath a shingle bolt. I ambushed myself and watched for some one to come and set it. I cooked my dinner with some Indians who were camped near Mud Lake. At 2.30 p.m. I returned to Island and found a man in the act of setting net. I also found a large net set along Roper's Point. I took both and returned to Huntsville. I could not accost the man, for I was in a small bark canoe and alone.

Oct. 26th: This morning I heard reports of illegal fishing on Rebecca Lake, in the Township of Sinclair. I set out in that direction at once, and camped at Wills' Mill. Bad snow-storm and cold.

Oct. 27th: Looked over Pell's Lake and Benson's Lake. Paddled round Rebecca Lake and crossed Sand Lake; all seemed quiet. I saw no one. Camped in empty house on lake shore, and put in a cold night, having no blankets and very little fire.

Oct. 28th: Rain. Left Rebecca Lake at 8 a.m., came to Eagle's Lake at noon; still raining. Looked over Walker's Lake, Jerrie's Lake and Near Cut Lake. All's well. Came home in heavy snow-storm, arriving at 9 p.m.

Nov. 1st: Came east in canoe, bound for Black Point, on Lake of Bays; met Mr. Wilmott in the canal. Crossed portage and came to Lighthouse Bay and camped; had a rough paddle against high sea and head wind.

Nov. 2nd: Paddled to Black Point, found that the hunting parties were from Grimsby and Clinton. They seem to have had but poor luck. Their camps were at Black River. On returning was blown ashore and wind-bound on Hume's Point and had to stay all night and sleep on the ground under canoe.

Nov. 3rd: Put in a tough night—cold and rain; came to Lighthouse Bay; got pack and came home.

Nov. 4th: Dried and packed nets (taken on 25th of October) and shipped them to Warden Wilmott at Beaumaris.

Nov. 13th: Came west to East River and camped on way to Long Lake, where netting is known to take place.

Nov. 14th: Hid my stuff in camp, took canoe and gun and portaged to Long Lake, arriving there at 7.10 a.m. Went all over Long and Juice Lakes and to Hopkins Lake; camped on portage.

Nov. 15th: Took a turn up lake and round island with grapple; found no nets so far; portaged back to river camp, thence home.

C. N. CHAPMAN,
Deputy-Warden.

LIST OF DEPUTY-WARDENS BY COUNTIES, 1893.

Algoma.

Anderson, Alexander	Pearl River, C. P. R.
Gilmore, William	Sault Ste. Marie.
Harris, John	Sault Ste. Marie.
Brown, Frank	Port Arthur.
Emons, John	Rat Portage.
Fraser, D	"
Gardner, J	"
McKewen, S. R	Tehkummah.
McKirdy, William	Nepigon.
Whalen Joseph	Port Arthur.
Wetmore, Geo. L	Schreiber.
Riley, Edward	Port Arthur.
Little, J. T	Iron Bridge.
Rush, Robert	Sault Ste. Marie.
Piche, John	Sudbury.
Bole, Duncan	Sault Ste. Marie.

Addington.

Donaldson, William J	Donaldson's Mills.
Meeks, Mortimer	Bell Rock.
Sly, Henry	Verona.
Tryon, Levi	Sharbot Lake.
Tallon, James	Arden.
Vaness, Marshall	Harlowe.

Bruce.

Farquharson, John	Teeswater.
Armstrong, Joseph	Kinloss.
Barley, Edward	Lion's Head.
Garnier, Dr. Jno. H	Lucknow.
Henderson, James	Kincardine.
Heffernan, Patrick	Walkerton.
Hogg, Wm. W	Paisley.
Lawson, W. H.	Park Head.
Millons, Robert	Walkerton.
Mauly, David	Riversdale.
McKillop, Hugh	Hepworth.
Grey, Wesley	Chesley.
McIvor, John	McIvor.
McFarlane, Duncan	Red Bay.
McDonald, Donald	Ripley.
Pratt, John	Kincardine.
Richards, Chas. A	Tara.
Scott, John	Dyer's Bay.
Henry, George	Port Elgin.

Brant.

Montgomery, C. A	Brantford.
McLaughlin, Geo. W	Brantford.
Irving, Robert P	Glenmorris.
Kitchen, Dr. E. C	St. George.

Carleton.

Graham, R. T South March.

Dufferin.

Durkin, William Bowling Green.
 Marshall, James E Shelburne.
 Rowbotham, Wm Redickville.

Durham.

Hales, Hugh B. Port Hope.

Dundas.

Cameron, Lachlin Iroquois.
 Price, James Inkerman.

Elgin.

Fairbrother, Wm St. Thomas.
 Fowler, Jacob Fingal.
 Gignac, Hilaire Gordon.
 Hannen, Isaac Union.
 Hopkins, John St. Thomas.
 Huffnan, Jeremiah Aylmer.
 Hammond, John Aylmer.
 Kirkpatrick, Donald West Lorne.
 Miller, Robert Lawrence Station.
 Neely, John R. Fingal.
 Philpott, Wm. J Iona.
 Thornton, Henry St. Thomas.

Essex.

Banks, Anthony Harrow.
 Britt, G Wheatley.
 Cornette, Charles F Belle River.
 Campbell, Duncan C Staples.
 Holland, Hugh Comber.
 Hillman, Jonas Hillman.
 Lindsay, William Comber.
 Lemaitre, Seraphim Tecumseth.
 Mills, Charles Wheatley.
 Masters, Allios Sandwich.
 Meloche, Joseph "
 Robert, Joseph "
 Rivard, Napoleon Tecumseth.
 Soulliere, Stephen Tecumseth.
 Souchereau, Stephen St. Clair Siding.
 Wilson, Samuel Sandwich.
 White, James H Pelee Island.
 Walker, Noe St. Joachim.
 King, George Ruthven.
 Uyder, Charles Windsor.
 Ives, Arthur Leamington.
 Antago, Daniel Petite Cote.

Frontenac.

Brickwood, James H	Kingston.
Albertson, George	Verona.
Clark, Norman	Mississippi Station.
Dermott, J. A	Tichborne.
Dowker, William S	Harrowsmith.
Gates, George	Westbrook.
Greenwood, George	Wolfe Island.
Halliday, F	Mississippi Station.
Martin, John	Barriefield.
Pallier, Alexander	Wilmer.
Snooks, Edward H	Desert Lake.
Walker, Nelson	Cataraqui.
Smith, David John	Parham.
Theobald, John M	Kingston
Gilbert Robert	Ompah.
Kirkwood, Jas W	Levant Station.
Woodman, W. G	Allan, Wolfe Island.
York, E. M	Bellrock.
Burke, Robert Jr.	Clarendon Station.
Davey, Sydney W	Murvale.

Grey.

Campbell, Malcolm	Hanover.
Holmes, Geo. B	Walter's Falls.
Long, William	Kolapore.
Wilson, William H	Shouldice.
Siegman, Ludwig	Neustadt.

Grenville.

McConnell, Wayland F	Gladstone.
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Glengarry.

Clark, James	Dominionville.
McGillivray, Donald W	Dalkeith.
McNaughton, J. P	Laggan.
McDougall, D. P	Maxville.
McRae, Donald C	North Lancaster.
Stewart, M. W	Greenfield.
Dickson, Daniel	Williamstown.
Dunn, Ambrose	South Lancaster.

Hastings.

Airhart, Geo. W	Stirling.
Adams, George	Hermon.
Barr, Peter	Maynooth.
Brinklow, Henry	Ormsby.
Birrel, James	Glanmire.
Faulkner, Dr. D. W	Foxboro.
Faulkner, Dr. G. W	Stirling.
Foster, Alexander	Egan Creek.
Mairs, James H	Bridgewater.
Reid, George	Madoc.
Speck, William	Bridgewater.
Sweet, W. H	Bancroft.
Sweet, W. James	Bancroft.

Stayer, Thomas	Bancroft.
Tivy, Richard S	Coe Hill.
Unwin, Walker	Bannockburn.
Bowell, W. J.	Tweed.
Rupert, Thomas	Spring Brook.

Halton.

Bradley, Stinson	Milton.
Brown, Robert M.	Campbellville.
Crawford, Murray	Campbellville.
Grant, Lachlin	Georgetown.
Johnson, Walter M.	Milton.
Saunders, Edward G	Agerton.
Wilson, James	Bronte.
Lawson, John	Acton.

Huron.

Dalton, Morgan	Kingsbridge.
Kinnsman, R.	Wingham.
Naftel, Charles J. S.	Goderich.
Paisley, William	Clinton.
Ross, John M	Blyth.
Gill, John	Exeter.
Creech, James	Exeter.
Sands, John	Saltford.
Seager, Charles	Goderich.
Scott, Alex	Westfield.
Horton, George	Gerrie.

Haliburton.

Day, Joseph	Essonville.
Paul, Joseph	Haliburton.
Turnbull, James	Minden.

Haldimand.

Chrysler, Robert	North Cayuga.
Everingham, William	Canfield.
Farrell, John	Cayuga.
Johnson, Peter	Dunnville.
Thompson, Wellington	Port Maitland.
Winslow, Martin	Dunnville.

Kent.

Boles, Gordon	Chatham.
Crouch, Samuel	Ridgetown.
Eberts, Frank G.	Chatham.
Johnson, W. J.	Fargo.
Kime, George	Big Point.
Merritt, Asra	Ouvry.
McCullum, Thomas	Morpeth.
Robinson, Victor	Chatham.
Southgate, R. M	Wallaceburg.
Thomas, Joseph	Williams.

Lambton.

Blair, William	Port Lambton.
Bell, John	Port Franks.

Deans, James	Inwood.
Kennedy, Joseph	Port Lambton.
Miller, Frank	Port Franks.
Mott, Edwin L.	Alvinston.
Everest, G. M.	Arkona.
Taylor, J. P.	Watford.

Lanark.

Mair, David	Lanark.
Farnall, William	Smith's Falls.

Leeds.

Smith, Justus	Charleston.
Sly, Lester	Morton.
Bilton, George	Newboro.
Lappin, J. J.	Westport.
Sliter, A. E.	Morton.
Murchie, Robert	Wilstead.

Lennox.

Huff, Hiram W.	Napanee.
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Lincoln.

McPherson, James	St. Anns.
Kennedy, C. A.	Smithville.

Middlesex.

McCann, Peter	London.
O'Neil, W. H.	Dorchester.
Ward, R. W.	London West.
Ralph, Thomas J.	Ballymute.
Beverley, John	Dorchester Station.
Dixon, Michael	Cashmere.
Williams, Alfred M.	Lobo.

Monck.

McDowell, Andrew	Stromness.
Pettit, Arthur	Moulton Station.
Barwell, John	Wellandport.
Moore, Daniel	Perry Station.

Muskoka.

Butler, C. F.	Point Kaye.
Brown, Robert D.	Port Sydney.
Brooks, Edgar, jr.	Huntsville.
Berry, William	Walker's Point.
Bettes, J. H.	Muskoka Mills.
Broadley, Enos	Beaumaris.
Chapman, Charles N.	Huntsville.
Crompton, W. B.	Aspdin.
Davidson, William	Brackenrig.
Foreman, Walter	Port Carling.
Gouldie, E. J.	Dwight.
Gohm, William	Bracebridge.
Henderson, Charles	Bracebridge.
Harborn, John	Whiteside.

Hollingshead, Walter M.	Sprucedale.
Kaye, Alfred	Port Sydney.
Mitchell, Robert	Cecebe.
McLeod, John	Hannil's Point.
Grenke, Gustav	Rosseau.
Dart, Stephen	Dorset P. O.
Paget, George	Huntsville.
Stephens, George	Shannon Hall.
Traves, Elias H	Fraserburg.
Laurence, John	Shannon Hall.
Shannon, Peter	Port Carling.
Taylor, C. N.	Gravenhurst.
Thornton, Richard	Huntsville.
Wood, Michael	Clevalands.
Warne, Francis P.	Baysville.
Wroe, Thomas W.	Beaumans.
Wasdell, John	Bracebridge.

Norfolk.

Baker, Huit	Windham Centre.
Brown, Isaiah	Port Rowan.
Barrett, A. P	Port Royal.
Clark, Benjamin	Simcoe.
Duncan, James L.	Forrestville.
Dowswell, John	Lynedoch.
Ewing, Alex. R.	Waterford.
Fick, Jerome B.	Port Dover.
Hambly, Wm. E	Rockford.
Nickerson, W. F	Simcoe.
Randall, Robert	Bookton.
Wilson, Abner	Lynedoch.
Kramer, Conrad	Delhi.

Northumberland.

Diamond, T	Cobourg.
Field, Cyrus W	Cobourg.
Fairbanks, Dr. Charles S	Cobourg.
Nimmo, T. J.	Bensford.
Wedlock, James	Bensford.
Wallace, Thomas	Gore's Landing.

Nipissing.

Huntington, S. L.	North Bay.
Garrow, E.	Nipissing Junction.
McNab, Donald	Nipissing.
Bard, F.	Sturgeon Falls.

Oxford.

Tisdale, J. C.	Woodstock.
Martin, Richard	Woodstock.

Ontario.

Bagshaw, Obed E.	Vroomanton.
Hall, Maxwell	Longford Mills.
Frankish, F. M.	Uxbridge.

McGrath, Michael	Brechin.
McMillan, D.	Beaverton.
Sutcliffe, James.....	Prince Albert.
Williams, Chas.....	Glen Major.
Gordon, John	Pickering.
Willis, James.....	Whitby.
Henry, T. S	Cedardale.
McDermott, George.....	Port Perry.
Miller, Arthur	Seagrave.

Prince Edward.

Lake, Stephen	West Lake.
Sprague, Geo. G	Demorestville.
Rorabeck, Athol	Crofton.

Peterborough.

Ludgate, Theodore	Peterborough.
Lambert, Henry	Silver Lake.
Moore, F. J	Lakefield.
Moore, D. H	Peterborough.
Merriam, H. N.....	Harwood.
McWilliams, J. B.....	Peterborough.
Smith, J. W	Peterborough.
Wedlock, William	Keene.
Hartley, E. J.....	Peterborough.

Parry Sound.

Burns, C. W., sr	South River.
Doupe, Sydney.....	Laurence Mills.
Draycott, F. W.....	Ashdown.
Fry, Arthur.....	Seguin Falls.
Hall, William H	Sprucedale.
Johnston, John A.....	Parry Sound.
Kennedy, W. E.....	Maganetawan.
McDermott, Benjamin.....	Sundridge.
McGowan, William	Parry Sound.
Ward, Thomas B	Burk's Falls.
McAmmond, William	Dunchurch.
LaBrash, James P	Maple Island.
French, Benjamin	Dunchurch.
Sloman, Alfred.....	Trout Creek.
Butler, Clarence H.....	Trout Creek.
Carmichael, William.....	Powassan.
McDonald, Arch.....	Sundridge.
Ricker, David	Commanda.
Groom, Henry.....	Kearney.

Prescott.

Bonville, Leon.....	St. Isidore de Prescott.
Barrett, John	Fournier.
Cunningham, A	Wendover.
Ferguson, William.....	Vankleek Hill.
James, Richard.....	Alfred.
LaBelle, Leonce.....	Curran.

Marston, Lewis F	L'Orignal.
Martineau, Joseph	Alfred.
McKercher, Peter	L'Orignal.
Ross, Joseph	Vankleek Hill.
St. Pierre, Pierre	St. Eugene.
Scott, David	Riceville.
LeRoy, Ralph	Barb.
Lefavre, Hercule	Lefavre.

Peel.

Rayburn, John	Caledon.
Walterhouse, Edward	Cooksville.

Perth.

Climie, W. R	Listowell.
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Renfrew.

Brady, John	Renfrew.
Biggs, William E.	Pembroke.
Biggs, Aaron	Pembroke.
Coffey, William	Pembroke.
Johnston, S. M.	Arnprior.
Kennedy, John	Pembroke.
McCagherty, P.	Pembroke.
McDonald, Alex	Pembroke.
Plaunt, Xavier	Renfrew.
Smith, Robert R.	Eganville.
Halliday, James	Springtown.

Simcoe.

Bathie, Edward	Cookstown.
Beardsley, Alfred W.	Barrie.
Chapman, James	Cookstown.
Fildey, George	Cookstown.
Hines, John	Barrie.
Kearns, George	Ivy.
Moir, John	Cookstown.
Mills, William	Elmvale.
McLaughlin, James	Anten Mills.
Primrose, Alex.	Apto.
Pollock, Thomas	Cookstown.
Ross, Joseph	Cookstown.
Regan, John	Orillia.
Rawson, William	Coldwater.
Somerville, David	Stayner.
Upton, George	Nicolston.
Wilson, J. J.	Fesserton.
Kitchen, Joseph	Lovering.
Shakell, William	Lovering.

Victoria.

Bowins, Charles	Coboconk.
Crowe, Nathaniel	Bobcaygeon.
Dewdney, Arthur W	Bobcaygeon.

Daniel, John	Balsam Grove.
Ellis, J. A.	Fenelon Falls.
Galloway, David	Moore's Falls.
Howie, John	Bury's Green.
Junkin, James	Fenelon Falls.
Harris, Noxon	Bobeaygeon.
Lysh, William	Bobeaygeon.
Nicholls, Gardiner	Bobeaygeon.
McArthur, Donald	Manilla.
Silverthorn, George	Balsover.
Wills, T. J	Bobeaygeon.
Ray, John	Kirkfield.

Welland.

Augustine, Elias	Stonebridge.
Barnhart, George	Sherkston.
Griffin, Richard	Fort Erie.
Hershey, Milford	Garrison Road.
Nixon, J. C	Welland.
Neff, Peter	Marshville.
Page, A. E. O	Ridgeway.
Rose, Charles, jr	Garrison Road.
Risley, E. E.	International Bridge.
Teal, Irwin	Ridgeway.
Miller, Charles A.	Black Creek.
Beam, Horace H	Black Creek.
Teal, C	Ridgeway.
Michener, Cyrenus	Ridgeway.

Waterloo.

Bulmer, George	Elmira.
Devitt, John	Waterloo.
Fraser, Alex	New Hamburg.
Gildner, Henry	Berlin.
Gillies, Peter	Galt.
Hall, James	Hawksville.
Menger, William	St. Jacobs.
Mickers, Joseph	Heidelberg.
Mayers, Frederick	Bridgeport.
McCruden, Robert	Galt.
McMaster, Thomas	Hespeler.
Stark, John	Hespeler.
Springer, Joseph	Kossuth.

Wentworth.

Raspberry, William	West Flamboro.
Gallin, Warran	Waterdown.

Wellington.

Atkinson, Geo. Osborn	Guelph.
Hull, Wellington	Erin.
Gordon, James	Monticello.
Love, James	Guelph.
McGinnis, Alex	Arkell.

Smith, George	Eden Mills.
Williams, Henry M	Guelph.
Gay, William	Elora.
Lang, George	Hillsburg.
Gilchrist, John W.	Kilean.
Robertson, Thos	Kilean.

York.

Browne, Hume	Toronto.
Hope, W. B.	Toronto.
Tidsberry, James L	Coleman.
Kennedy, James	Toronto.

Province of Quebec.

*Cowley, E. A.	Montreal.
*Finnie, Dr. J. T.	Montreal.

SHOOTING LICENSES ISSUED TO FOREIGN SPORTSMEN, 1893.

Averell, James G.	Ogdensburg, N. Y.
Knapp, James G.	Ogdensburg, N. Y.
Clark, George C.	New York, N. Y.
Averell, S. Gilbert	Ogdensburg, N. Y.
Voight, O. H.	Alleghany Co., Pa.
Grove, Jas. W.	Alleghany Co., Pa.
Baird, Ulysses.	Alleghany Co., Pa.
McKee, Samuel H.	Alleghany Co., Pa.
Collins, Jas. W.	Alleghany Co., Pa.
Meyrick, Wm. H.	Alleghany Co., Pa.
Davidson, J. N.	Alleghany Co., Pa.
Henley, W. M.	Newboro', Mass.
Cooper, A. D.	Buffalo, N. Y.
Smith, E. Ashley.	Lockport, N. Y.
Keep, R. W.	Lockport, N. Y.
Johnson, H. M.	Boston, Mass.
Smalley, George N.	Westboro', Mass.
Smalley, Leonard D.	Westboro', Mass.
Vanderkupt, A. B.	Orange, N. J.
Visger, H. W.	Alexandria Bay, N. Y.
Hudson, C. J.	New York, N. Y.
Seyebel, D. E.	New York, N. Y.
Nichol, W. H.	Brooklyn, N. Y.
Steele, S. H.	Brooklyn, N. Y.
Hume A. E.	Alexandria Bay, N. Y.

*These officers have been specially appointed to enforce the Game Law on Lake St. Francis which is partly in Ontario and partly in Quebec.

Bedore, Joseph	St. Clair Flats, Mich.
Wittmore, John	St. Clair Flats, Mich.
Beath, Thomas	Detroit, Mich.
Stanton, Marvin M.	Detroit, Mich.
Day, Caleb.	St. Clair Flats, Mich.
Monday, St. Marks M.	Louisville, Ky.
Hutchins, W. P.	Detroit, Mich.
Bambler, Gustav	Wyandotte, Mich.
Nelson, E. H.	Detroit, Mich.
McKay, J. B.	Detroit, Mich.
Oelrichs, Wm.	Wyandotte, Mich.
Clark, A. B.	Wyandotte, Mich.
Baugh, A. B.	Detroit, Mich.
Walker, Franklin H.	Detroit, Mich.
Hathaway, Horatio.	New Bedford, Mass.
Brush, A. E.	Detroit, Mich.
Hayden, Charles	Alexandria Bay, N. Y.
Derian, Louis	Alexandria Bay, N. Y.
Lothrop, Geo. H.	Detroit, Mich.
Knapp, Jos. P.	New York, N. Y.
Lord, Jno. T.	London, England.
Wittwer, Jno.	Detroit, Mich.
Smith, Jay C.	New York, N. Y.
Page, F. Seaver	New York, N. Y.
Curtis, Lawrence.	Boston, Mass.
Hill, G. B.	Pittsburg, Pa.
McAffie, Jas.	Pittsburg, Pa.
McMillan, D. H.	Buffalo, N. Y.
Lauder, Walter	New York, N. Y.
Wainwright, Jno. H.	New York, N. Y.
Hendrie, Strathearn	Detroit, Mich.
Sweney, H. R.	Albany, N. Y.
Dickerman, W. B.	New York, N. Y.
Rhoades, R. L.	Lockport, N. Y.
Kennard, P. S.	Cleveland, O.
Cabot, Arthur T.	Boston, Mass.
Hemenway, Augustus	Boston, Mass.
Logie, L. A.	Buffalo, N. Y.
Gregg, F. M.	Buffalo, N. Y.
Richards, Geo. H.	Boston, Mass.
Ward, Jno. M.	New York, N. Y.
McMillan, Jas. H.	Detroit, Mich.
Paton, S.	New York, N. Y.
Cabot, Louis	Boston, Mass.
Dominick, W. G.	New York, N. Y.

District or County.	Name of Prosecutor.	Date.	Name of Offender.	Address.	Offense Charged.
		1893.			
Algoma	D. Bole	April 27			
Addington	Levi Tryon	October 14			
		" 16			
Bruce	Patrick Hefferman	August	J. McKay	Lovatt	Putting saw-dust in river
Carleton	R. T. Graham	Mar. 23	C. Lyon	Inverary	Illegal fishing
Frontenac	Jas. H. Brickwood	May 20	M. Van Order	Portsmouth	"
"	"	" 25	Isaiah Van Order	Williamsville	"
"	"	June 3	E. Staley	Wolfe Island	Illegal hunting
"	"	" 3	H. Staley	"	"
"	"	" 3	Jas. Conley	"	Illegal fishing
"	"	July 14	Jas. Han	Portsmouth	"
"	"	" 14	Thos. Van Order	"	"
"	"	Sept. 2	J. Lappum	Mill Haven	"
"	"	Nov. 20	A. Lake	Inverary	"
"	"	Dec. 19	Alfred Webb	"	"
"	"	Nov. 16	R. B. Howes	Bedford	Illegal hunting
"	"	Jan. 6	J. Amey	Sydenham	Illegal fishing
"	Nelson Walker	April	Isaiah Van Order	Williams	Trapping
"	Wm. Dowker		Reuben Jackson	Verona	Shooting ducks
Grey	Malcolm Campbell	Oct. 27	Philip Fischer	Hanover	Illegal hunting
"	Ludwig Seigman	July 9	C. Holme	Moltke	Sunday fishing
"	"	" 9	A. Weikel	"	"
"	"	" 9	M. Bender	"	"
"	"	" 9	G. Zimmerman	Neustadt	"
Haldimand	J. A. Gill	Mar. 27	R. V. Hammond	Stromness	Destroying muskrat houses
"	"	Nov. 5	T. Scott	Byng	Sunday shooting
"	"	" 4	Edward Badger	Thorold	Shooting duck off steam yacht
"	"	July 27	Jno. Arderly	Dunnville	Sunday shooting
Hastings	Alex. Foster	August	Wm. Bruner	Heartsman	Putting saw-dust in stream
"	Henry Brinklow		Arthur Swayne	Ormsby	Killing deer
"	"		Howard Letts	"	"
Huron	W. J. Paisley	Sept. 23	George Stuart	Clinton	Shooting partridge
"	John Gill	" 1	George O'Brien	Hay	Illegal shooting
"	"	" 1	David McCarty	"	"
"	Robert Kinnsman	May 29	Elijah Jacklin	Wingham	Sunday fishing
"	"	" 29	James Stapleton	"	"
"	"	" 29	A. Castlick	"	"
"	"	June 4	Hugh McKinnon	"	"
"	"	" 26	Duff & Stewart	Bluevale	Putting saw-dust in river
Kent	George Kime	April 29	Napoleon Martin	Big Point	Illegal shooting
Lanark	David Mair	May	Robt. Buffam	Fallbrook	Sunday trapping
"	"	"	"	"	Illegal trapping
"	"	"	James Bowes	Balderson	Sunday trapping
"	Wm. Farnell	Oct. 31	Jno. Hartigan	Smith's Falls	Illegal shooting
"	"	Aug. 13	Wm. Sheppard	"	Sunday hunting
Leeds	Robert Murchie	April 10	Haley Watson	Marble Rock	Breaking muskrat houses
"	"	"	Ira Watson	"	"
"	"	"	R. Burch	"	"
"	"	"	Frank Goff	"	"
"	"	" 12	Will Williams	"	"
"	"	"	Steve Carpenter	"	"
"	"	"	George Perry	"	"
"	"	" 13	Charles Griffin	"	"
"	"	" 14	S. Griffin	"	"
"	"	Aug. 19	Chas. K. Wright	Gananoque	Illegal shooting
"	"	"	David Barr	"	"
"	"	Oct. 18	Valentine Shaw	Marble Rock	"
"	"	"	Haley Watson	"	"
"	"	"	Steve Carpenter	"	"
"	"	Nov. 5	Thomas Glover	Gananoque	Sunday shooting
"	"	"	Will Belfiers	"	"
"	"	"	Ben. Longal	"	"
"	"	"	Frank Latmer	"	"

Was offender arrested or summoned.	Where tried.	Name of Magistrate.	Result of Case.	Nets, traps or illegal appliances seized during season 1893.
				Seized 3 nets & burnt them. Seized 60 rods net. " 20 "
Summoned .	Paisley	J. C. Gibson	Fined \$5.	
Summoned .	Portsmouth	D. J. Walker	Fined \$10 and costs.	Seized 2 nets and 5 traps and lines and rods. One net.
"	"	"	" 10 "	
"	Kingston	"	" 5 "	
"	"	"	" 5 "	
"	Portsmouth	"	" 10 "	
"	"	"	" 10 "	
"	Withdrawn		Paid costs.	
"	Portsmouth	D. J. Walker	Fined \$10 and costs.	
"	Kingston	"	" 10 "	
"	"	"	" 5 "	
"	"	"	" 10 "	
"	Cataraqui	John Simpson	" 1 "	Seized 65 traps.
"	Verona	Howard Bonnell	" 5 "	
"	Hanover	John Proctor	" 5 "	
"	Neustadt	V. Lang	" 1 "	
"	"	"	" 1 "	
"	"	"	" 1 "	
Arrested . . .	Dunnville	Jno. Taylor	" 1 "	Seized number of steel traps.
Summoned . . .	"	"	" 5 "	
Arrested . . .	"	J. A. Gill	" 5 "	
"	"	"	" 10 "	
Summoned..	"	J. Taylor	" 2 "	
"	Bancroft	Mr. Cleck	" 10 "	
"	Ormsby	H. K. Smith	" 20 "	
"	"	"	" 20 "	
"	Clinton	J. McGarva	" 5 "	
"	Exeter	Chas. Snell	" 5 "	
"	"	"	" 5 "	
"	Culross	Jas. Welwood	" 1 and costs.	
"	"	"	" 1 "	
"	Wingham	W. F. Brockenshire	Let go on suspen'd sent'ce. Fined \$1 and costs.	
"	"	"	" 1 "	
"	Chatham	Mr. McNaughton	" 8 "	
"	Lanark	J. McLean	" 5 "	
"	"	"	" 5 "	
"	"	"	" 10 "	
"	Smith's Falls	S. M. Barnes	" 5 "	
"	"	H. K. Smith	" 5 "	
"	Gananoque	P. Haslett	" 5 "	
"	"	"	" 5 "	
"	"	"	" 5 "	
"	"	"	" 5 "	
"	"	"	" 5 "	
"	"	"	" 5 "	
"	"	"	" 5 "	
"	"	"	" 5 "	
"	"	"	" 5 "	
"	"	"	" 5 "	
"	"	"	" 5 "	
"	"	"	" 5 "	
"	"	"	" 5 "	
"	"	"	" 5 "	
"	"	"	" 5 "	
"	"	"	" 5 "	

District or County.	Name of Proseentor.	Date.	Name of Offender.	Address.	Offense charged.
		1893.			
Leeds	Robert Murchie	Nov. 12.	Charles Howes.	Ivy Lea	Sunday shooting.
"	"	"	Robert Cranker.	"	"
"	A. E. Sliter	Nov. 29.	J. Moulton	Seeley's Bay	Illegal netting.
"	"	" 29.	Jas Seabrook	"	"
"	"	" 29.	W. H. Ralph	"	"
"	Justus B. Smith	"	"	"	"
"	Lester Sly	June 15.	C. Randolph	Elgin	Illegal fishing
"	"	"	McAtchen	Morton	Illegal shooting
Lennox	H. W. Huff	Sept. 1.	John Dingman	Sillsville	"
"	"	" 2.	Jas. Walerbring	Deseronto	Sunday hunting
"	"	" 2.	"	"	Illegal shooting
"	"	" 2.	Duncan Reeve	"	"
"	"	" 2.	"	"	Sunday shooting
"	"	" 11.	George Sharpe	Sillsville	Illegal shooting
"	"	" 11.	Luther Sharpe	"	"
"	"	Nov. 22.	Thomas Lafman	Gretna	"
Muskoka	Peter M. Shannon	" 2.	John I. Barnes	Joseph's Lake	Sunday shooting
"	"	" 29.	Frank Marlett	Oshawa	"
"	"	" 29.	Campbell	Whithy	"
"	"	" 29.	Thos. Southwell	"	"
"	"	" 29.	William Gold	"	"
"	"	" 15.	David Shepard	Toronto	Illegal hunting
"	E. J. Gouldie	" 6.	"	"	"
Muskoka	C. N. Chapman	Jan. 18.	"	"	"
Nipissing	Donald McNab	March	Peter Bartron	Chisholm Tp.	Illegal shooting
Ontario	James Sutliff	Feb. 26.	Thos. Raines	Port Perry	Illegal hunting
"	"	" 18.	Rich. Raines	"	Break'g into muskrat hous's
Parry Sound	J. A. Johnson	"	"	"	"
"	T. B. Ward	May	"	"	"
Peel	Jno. Rayburn	June 27.	John Gibson	Caledon	Illegal fishing
"	"	" 27.	Henry Gibson	"	"
Simcoe	A. W. Beardsley	May 30.	George Barwis	Shanty Bay	"
"	"	June 2.	Wm. Sibbald	Painswick	"
"	David Somerville	Jan. 25.	Daniel Boyer	Stayner	"
Victoria	J. A. Ellis	Oct. 20.	Geo. Shelden	Coboconk	Illegal hunting
"	"	" 20.	Sam. Shelden	"	"
"	"	" 20.	Henry Ridner	Fenelon Falls	"
York	Jas. Kennedy	Dec. 30.	Thos. Cleghorn	Toronto	Expos'g ducks & prairie f'w
"	"	" 23.	Mrs. R. D. Galagher	"	"
"	"	Jan. 6.	Jno. Miller	"	"
"	"	" 6.	Alfred Jennings	"	Exposing hares
"	"	Dec. 30.	Walter Langdon	"	"
"	"	Jan. 6.	Jno. Hawley	"	"

Was offender arrested or summoned.	Where tried.	Name of Magistrate.	Result of Case.	Nets, traps or illegal appliances seized during season 1893.
Summoneed..	Gananoque...	P. Haslett.....	Fined \$5 and costs.	
"	"	"	" 5 "	
"	Morton	E. C. Sliter	" 10 "	
"	"	"	" 10 "	
"	"	"	" 10 "	
.....				Seized several traps.
Paid \$5 fine without trial.				
Paid \$5 fine without trial.				
Summoneed..	Napanee	James Daly	Fined \$5	
"	"	"	" 5	
"	"	"	" 5	
"	"	"	" 5	
"	"	"	" 5	
"	"	"	" 5	
"	"	"	" 5	
"	Port Carling..	Peter Shannon.....	" 5 and costs.	
"	"	"	" 5 "	
"	"	"	" 5 "	
"	"	"	" 5 "	
"	"	"	" 5 "	
"	"	"	" 5 "	
.....				Seized 2 nets.
.....				Seized 800 feet of net and destroyed 1 trap.
Summoneed..	Powassan	J. C. Scarlet	Fined \$20 and costs	
"	Port Perry ...	John Nott.....	" 5 "	
"	"	"	" 5 "	
.....				Seized 1 net & 32 rat skins.
.....				Seized 2 traps and 1 gill net.
Summoneed..	Alton	Mr. White	Paid costs	Seized 80 yards net and destroyed it.
"	"	"	Withdrawn.	
"	Barrie	C. H. Ross.....	Fined \$25 and costs.	
"	"	"	" 10 "	
Paid \$10 without being summoned.				
Summoneed..	Fenelon Falls.	Jas. Deacon	Fined \$5 and costs.	
"	"	"	" 5 "	
"	"	"	" 5 "	
"	Toronto	Geo. T. Dennison..	" 10 "	
"	"	"	" 10 "	
"	"	"	" 5 "	
"	"	"	" 5 "	
"	"	"	" 5 "	
"	"	"	" 5 "	



REPORT

OF THE

SECRETARY AND REGISTRAR

OF THE

PROVINCE OF ONTARIO

FOR THE YEAR ENDING THE 31st DAY OF DECEMBER,

1893.

PRINTED BY ORDER OF THE LEGISLATIVE ASSEMBLY.



TORONTO :

WARWICK BROS. & RUTTER, PRINTERS, &C., 68 AND 70 FRONT STREET WEST.
1894.



REPORT
OF THE
SECRETARY AND REGISTRAR OF THE PROVINCE OF ONTARIO
FOR THE YEAR ENDING 31st DECEMBER,
1893.

To the Honourable

GEORGE AIREY KIRKPATRICK,

Member of the Queen's Privy Council for Canada
and Lieutenant-Governor of the Province of Ontario.

May it please Your Honour,

The undersigned begs respectfully to present to Your Honor the report prepared with respect to the chief transactions of the Department of the Secretary and Registrar of the Province of Ontario during the year ending the 31st day of December, 1893.

J. M. GIBSON.

Secretary and Registrar
of the Province of Ontario.

PROVINCIAL SECRETARY'S OFFICE,
TORONTO, April 13th, 1894.

REPORT
OF THE
SECRETARY AND REGISTRAR
OF THE
PROVINCE OF ONTARIO
FOR THE YEAR ENDING 31st DECEMBER,
1893.

PROVINCIAL SECRETARY'S OFFICE,
TORONTO, 12th April, 1894.

*To the Honourable JOHN MORISON GIBSON, M.A., LL.B., Q.C., M.P.P., etc.,
Secretary and Registrar of the Province of Ontario.*

SIR,—As was mentioned in my report for the year 1892, the marked increase in the routine work of the Department during that year was, in a measure, due to the correspondence and consideration of matters in connection with The Act to amend the Act for the Protection of Game and Fur-Bearing Animals. As was to have been anticipated, there was during the year 1893 a considerable falling off in the correspondence arising out of the administration of this Act. Notwithstanding this fact, the general increase in the Departmental work was such that, on the whole, the volume of work was in advance of that of the year 1891. Owing to the fact that the scale of fees for Letters Patent was very largely increased (the highest fee charged to January 1st, 1893, being \$60, whereas the highest fee thereafter charged has been \$250), it was apprehended there would be a considerable decrease in the number of applications for charters under The Ontario Joint Stock Companies' Letters Patent Act, an apprehension which was not sustained. In the year 1892, under the lower tariff, 179 Letters Patent were issued, for which fees amounting to \$6,780 were received. In 1893, under the higher tariff, 159 Letters Patent were issued, for which fees amounting to \$8,465 were received. The Office

Register shows that, during the year 1893, 5,330 subjects arose and were dealt with, approaching within 134 of the number of the previous year, by far the largest on record. During the year 13,928 letters, despatches and telegrams were received, and 14,761 letters, despatches and telegrams sent out. During the same period, 2,621 fyles and references were received from other Departments and branches attached to this Department, to which were referred by this Department 2,636 fyles, etc.

The following is a Statement, by months, of the correspondence referred to :

TABLE OF CORRESPONDENCE, ETC., 1893.

Months.	Number of despatches, letters and telegrams received.	Number of fyles received from other departments.	Number of despatches, letters and telegrams written and sent out.	Number of fyles referred to other departments.	Fees received.
					s c.
January	1,982	261	2,032	287	749 95
February	1,469	293	1,654	265	1,698 40
March	1,513	280	1,474	237	1,123 55
April	1,667	334	1,458	360	811 20
May	1,130	276	1,072	274	1,461 22
June	840	183	888	181	1,401 15
July	658	129	770	156	1,075 45
August	709	168	726	171	631 60
September	879	137	893	145	852 45
October	917	151	1,073	151	808 75
November	1,146	204	1,107	220	1,518 75
December	1,018	205	1,614	189	1,072 15
Total	13,928	2,621	14,761	2,636	13,204 62

During the year, the usual supplies of blank forms were furnished to Issuers of Marriage Licenses, Sheriffs and Joint Stock Companies.

The Proclamations issued were as follow :

- (1). Proclamation re-dividing the City of Windsor into four Wards
- (2). Proclamation summoning the House for the Despatch of Business on the 4th of April, 1893.
- (3). Proclamation postponing for three months the holding of elections for Municipal Councillors and School Trustees for the Municipality of the Townships of Hagarty, Sherwood, Richards and Burns, in the County of Renfrew.

(4). Proclamation bringing into force on the 1st of June, 1893, "An Act respecting Ancillary Probates and Letters of Administration."

(5). Proclamation adding to the Town of Peterborough, a certain portion of the adjoining Towuship of Smith.

(6). Proclamation erecting the Village of Wiarton into a Town.

Attached to this report are the following Appendices :

I. A Comparative Statement of the work done in the Provincial Secretary's Office during certain years, including 1893.

II. A Detailed Statement of the Fees received and of the services rendered by the office during the year 1893.

III. An Alphabetical List of the Letters Patent and Supplementary Letters Patent granted during the year 1893, and of the Orders-in-Council by which were changed the names of certain Joint Stock Companies.

IV. A Synopsis of Returns to Addresses and Orders of the House presented to the Legislative Assembly during the Session of 1893.

V. The Annual Statement of the Deputy-Registrar.

All of which is respectfully submitted,

G. E. LUMSDEN,
Assistant Provincial Secretary.

APPENDIX I.—Comparative Statement showing the work done in Provincial Secretary's Office during the years 1868, 1871, 1875, 1877, 1881, 1883, 1886, 1887, 1888, 1889, 1890, 1891, 1892 and 1893.

Work Done.	1868.	1871.	1875.	1877.	1881.	1883.	1886.	1887.	1888.	1889.	1890.	1891.	1892.	1893.
Number of files, as shown by the office register.	1,172	1,264	1,862	1,983	2,408	3,336	3,575	3,967	4,275	4,434	4,684	4,379	5,464	5,330
Letters received	2,107	1,630	3,289	3,162	4,162	5,586	6,077	9,613	10,626	11,027	11,502	12,648	14,109	13,928
Letters sent	1,667	1,280	3,326	2,358	3,756	4,646	5,734	9,227	13,458	12,887	12,882	13,573	15,233	14,761
References to other departments	481	912	1,642	1,528	1,790	1,885	2,899	2,369	2,948	2,743	3,159	3,013	2,970	2,636
Reports from other departments	256	470	966	1,232	1,395	1,275	2,089	1,786	2,760	2,909	3,317	2,685	2,614	2,621
Letters Patent of Incorporation	19	24	57	38	119	114	90	88	117	123	144	152	158	138
Supplementary Letters Patent						10	14	10	19	8	13	16	21	21
Circulars	210	60	1,429	891	954	500	200	250	600	100	200	500	1,000	150
Declarations fyled	33	30												
Warrants <i>re</i> lunatics	34	195	160	256	359	310	394	360	430	360	382	544	410	396
Notarial certificates	48	72	37	131	76	115	93	122	110	107	127	105	86	108
Statutory returns	52	58	135	792	2,500	3,200	1,000	1,200	1,500	2,000	2,500	2,800	2,400	3,000
Marriage Act forms, etc., issued.			28,422	25,384	27,882	23,920	26,254	29,378	29,911	29,712	27,934	28,300	28,659	28,965
Printed forms distributed to sheriffs					1,800	1,700	2,000	3,000	3,500	4,000	4,200	5,000	5,000	5,000
Other printed forms for municipal & other returns					3,500	3,600	3,350	3,200	2,700	3,000	200	300	250	500
Commissions under Great and Privy Seals	135	190	139	170	275	318	227	214	534	359	400	297	328	305
Fees received	\$1,988	\$2,282	\$5,688	\$5,253	\$7,021	\$8,199	\$9,947	\$7,711	\$9,190	\$8,804	\$11,075	\$9,193	\$11,219	\$13,204
<i>Ontario Gazette:</i>														
Proclamations published		16	21	33	17	4	13	4	13	19	11	10	6	6
Appointments gazetted	110	149	94	460	525	461	555	613	541	518	489	468	519	482
Public notices	47	58	80	36	127	123	119	121	150	141	166	179	107	189

APPENDIX II.—A Detailed Statement of Fees

Services.	Authorized fee.		January.		February.		March.		April.	
	£	Number.	£	Number.	£	Number.	£	Number.	£	Number.
Commissions—Notaries Public	8 00	5	40 00	13	104 00	5	40 00	6	48 00	
“ Under the Great Seal	13 00	1	13 00	4	52 00	5	65 00	1	13 00	
Superior Court Certificates	4 00	1	4 00			1	4 00	1	4 00	
County “	2 50							1	2 50	
Surrogate “	2 00	3	6 00	1	2 00	3	6 00	4	8 00	
Judicial Notarial Certificates	1 00	6	6 00	9	9 00	11	11 00	6	6 00	
Subpœnas	1 00									
Passports	1 00			4	4 00					
Escheats	20 00					2	40 00			
Orders-in-Council	12 00					2	24 00			
Charters of Incorporation			355 00		1,265 00		680 00		520 00	
Searches, Copies, etc.			95		8 40		6 55		1 70	
Marriage License forms			325 00		254 00		247 00		208 00	
Total		16	749 95	31	1,698 40	29	1,123 55	19	811 20	

received and the Services rendered therefor, 1893.

Number.	May.	Number.	June.	Number.	July.	Number.	August.	Number.	September.	Number.	October.	Number.	November.	Number.	December.	Total Number.	Total Amount.
	£ c.		£ c.		£ c.		£ c.		£ c.		£ c.		£ c.		£ c.		£ c.
6	48 00	12	96 00	9	72 00	4	32 00	5	40 00	11	88 00	5	40 00	3	24 00	84	672 00
2½	32 50	6	78 00	2	26 00	.....	.....	3	39 00	2	26 00	2	26 00	4	52 00	32½	422 50
.....	.....	2	8 00	2	8 00	.....	.....	1	4 00	1	4 00	.....	.....	2	8 00	11	44 00
1	2 50	.....	.....	2	5 00	.....	.....	1	2 50	.....	.....	.....	.....	.....	.....	5	12 50
1	2 00	4	8 00	3	6 00	.....	.....	.....	.....	1	2 00	.....	.....	1	2 00	21	42 00
8	8 00	18	18 00	6	6 00	10	10 00	10	10 00	11	11 00	6	6 00	7	7 00	108	108 00
.....	.....	.....	.....	1	1 00	.....	.....	1	1 00	.....	.....	.....	.....	.....	.....	2	2 00
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	4 00
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	40 00
2	24 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	48 00
.....	1,140 00	.....	920 00	.....	800 00	.....	440 00	.....	430 00	.....	480 00	.....	1,200 00	.....	635 00	.....	8,865 00
.....	6 22	.....	3 65	.....	3 95	.....	2 60	.....	5 95	.....	2 75	.....	2 75	.....	2 65	.....	48 12
.....	198 00	.....	269 50	.....	147 50	.....	147 00	.....	320 00	.....	195 00	.....	244 00	.....	341 50	.....	2,896 50
20½	1,461 22	42	1,401 15	25	1,075 45	14	631 60	21	852 45	26	808 75	13	1,518 75	17	1,072 15	.....	13,204 62

APPENDIX III.

List of Joint Stock Companies, 1893.

Names of Companies.	Date.	Capital.
		\$ c.
The Athletic Club of Berlin (Limited)	3rd May, 1893..	5,000 00
The Beaver Athletic Club of Toronto (Limited).....	16th Feb., 1893..	1,500 00
The Bullion Mining Company of Ontario (Limited)	18th Feb., 1893..	300,000 00
The Brown Brothers (Limited)	4th March, 1893..	175,000 00
The Belleville Hotel Company (Limited)	15th March, 1893..	50,000 00
The Big East River Improvement Company (Limited).....	9th March, 1893..	10,000 00
The Brantford Spring Tooth Cultivator and Implement Company (Limited)	25th March, 1893..	50,000 00
The Bain Waggon Company (Limited)	8th June, 1893..	100,000 00
The Boehmer Company of Berlin (Limited)	22nd Sept., 1893..	45,000 00
The Brantford Soap Works Company (Limited).....	30th Sept., 1893..	50,000 00
The Brockville Amateur Athletic Association (Limited)	30th Nov., 1893..	5,000 00
The Bowman Hardware and Sporting Goods Company (Limited).....	30th Nov., 1893..	90,000 00
<i>The Catholic Register</i> Printing and Publishing Company of Toronto (Limited)	8th Feb., 1893..	50,000 00
The Clark Spring Ticket and Novelty Manufacturing Company of London (Limited)	16th Feb., 1893..	20,000 00
The Caledonia Natural Gas Company (Limited)	22nd March, 1893..	20,000 00
The City Railway Company of Windsor (Limited).....	18th April, 1893..	250,000 00
The Cataract Land Company of Niagara Falls (Limited).....	25th March, 1893..	50,000 00
The Chatham Wired Hoop Company (Limited)	8th June, 1893..	50,000 00
The Carter Motor Company of Stratford (Limited)	7th July, 1893..	300,000 00
The Cedar Beach Camping Company (Limited)	30th Sept., 1893..	1,350 00
The Coronado Beach Land and Improvement Company of Essex (Limited)	27th Oct., 1893..	10,000 00
The Demill Residential Academy Company of Toronto (Limited).....	29th Dec., 1892..	100,000 00
The Dadds Medicine Company (Limited).....	2nd May, 1893..	30,000 00
The Duncan Lithographing Company (Limited).....	7th Sept., 1893..	10,000 00
The Diamond Soap Company of Toronto (Limited)	31st Oct., 1893..	10,000 00
The Ellice and Logan Union Butter and Cheese Manufacturing Company (Limited)	4th April, 1893..	3,000 00
The Economical Gas Apparatus Construction Company of Toronto (Limited)	7th April, 1893..	80,000 00
The Elmwood Lumber and Manufacturing Company (Limited).....	31st May, 1893..	15,000 00
The Eclipse Office Furniture Company of Ottawa (Limited)	28th June, 1893..	100,000 00
The Fort William Curling Company (Limited)	21st Jan., 1893..	3,000 00
The Fort William Land Investment Company (Limited)	2nd March, 1893..	200,000 00
The Fleming Wood Company (Limited)	7th April, 1893..	90,000 00
The Fenelon Falls Curling Rink Association (Limited)	7th July, 1893..	1,500 00
The F. E. Dixon Belting Company (Limited)	30th Nov., 1893..	30,000 00
The Gould, Shapley & Muir Company of Brantford (Limited)	29th Dec., 1892..	100,000 00
The Gurney-Tilden Company (Limited)	25th Jan., 1893..	350,000 00
The Gall Lumber Manufacturing Company of Toronto (Limited) ..	16th Feb., 1893..	50,000 00
The Greenview Cheese Manufacturing Company (Limited)	16th Feb., 1893..	1,600 00
The Georgian Bay Box and Planing Mill Company of Midland (Limited)	16th Feb., 1893..	10,000 00
The Georgian Bay Sawlog Salvage Company (Limited)	22nd March, 1893..	20,000 00
The George H. Harper Farmers' Milling Company of Wentworth (Limited)	16th Aug., 1893..	45,000 00
The Guelph Workman's Opera House Company (Limited).....	11th Oct., 1893..	30,000 00
The Hamilton Jockey Club (Limited)	27th Jan., 1893..	10,000 00
The Household Machine Manufacturing Company of Hamilton (Limited)	27th Jan., 1893..	250,000 00
The Hamilton, Waterdown and Guelph Electric Railway Company (Limited)	3rd March, 1893..	500,000 00
The S. Hadley Lumber Company of Chatham (Limited).....	22nd March, 1893..	100,000 00

APPENDIX III.

List of Joint Stock Companies, 1893.—*Continued.*

Names of Companies.	Date.	Capital.
		\$ c.
The Hodd & Cullen Milling Company of Stratford (Limited)	25th April, 1893..	50,000 00
The Hill & Weir Printing and Publishing Company of Toronto (Limited)	7th July, 1893..	200,000 00
The Hamilton Iron and Steel Company (Limited)	8th Nov., 1893..	1,000,000 00
The Ingersoll Hedge Fence Company (Limited).....	11th Oct., 1893..	35,000 00
The Jackson's Point Ice Company of Lake Simcoe (Limited).....	18th Jan., 1892..	20,000 00
The James Hay Company (Limited)	16th June, 1893..	100,000 00
The Knowles, Ham & Knott Company of Brantford (Limited)	25th March, 1893..	20,000 00
The Keewatin Power Company (Limited).....	3rd June, 1893..	1,000,000 00
The Katrine Lumber Company (Limited).....	20th July, 1893..	45,000 00
The Keith & Fitzsimons Company (Limited)	15th Nov., 1893..	75,000 00
The Levy Brothers Company (Limited)	18th Feb., 1893..	250,000 00
The Locked-Wire Fence Company of Ingersoll (Limited)	30th March, 1893..	20,000 00
The Lancaster Athletic Grounds Company (Limited)	26th July, 1893..	2,000 00
The La Force Pneumatic Bicycle Tire Company of Toronto (Limited)	15th Sept., 1893..	15,500 00
The Might Directory Company of Toronto (Limited).....	3rd Feb., 1893..	100,000 00
The Merchants' Dock Company of Gore Bay (Limited)	25th Feb., 1893..	3,000 00
The Moffatt Stove Company of Weston (Limited)	3rd May, 1893..	50,000 00
The Membray Medicine Company of Peterborough (Limited).....	25th May, 1893..	40,000 00
The Markham Weighing Truck Company (Limited)	22nd Nov., 1893..	3,000 00
The McKimmon Dash and Hardware Company of St. Catharines (Limited)	25th Jan., 1893..	50,000 00
The McColl Oil Company of Toronto (Limited)	6th May, 1893..	3,000 00
The McLennan-French Paint Company (Limited).....	15th Sept., 1893..	90,000 00
The Niagara Falls Land Company (Limited)	30th Dec., 1892..	40,000 00
The Normandale Trout Fishing Company (Limited).....	24th April, 1893..	1,500 00
The Niagara Whirlpool Land Company (Limited).....	25th May, 1893..	90,000 00
The Niagara Manufacturing Company (Limited)	16th June, 1893..	90,000 00
The Niagara-on-the-Lake Park Company (Limited)	7th July, 1893..	80,000 00
The Norway Cabinet Company (Limited).....	8th Nov., 1893..	20,000 00
The Ontario Silver and Antimony Mining Company (Limited).....	29th Dec., 1892..	300,000 00
The Ontario Double Chloride of Gold Cure Company (Limited)	29th Dec., 1892..	250,000 00
The Ontario Excelsior Manufacturing Company (Limited).....	24th April, 1893..	25,000 00
The Ontario Publishing Company (Limited).....	3rd May, 1893..	20,000 00
The Ontario Liquor Company (Limited)	13th July, 1893..	75,000 00
The Ottawa Car Company (Limited)	7th Sept., 1893..	200,000 00
The Ontario Brewing and Malting Company (Limited)	8th Nov., 1893..	15,000 00
The Petrolia Skating and Curling Rink Company (Limited)	3rd Feb., 1893..	3,000 00
The People's Electric Company of Windsor (Limited)	4th March, 1893..	50,000 00
The Peterborough Examiner Printing Company (Limited).....	7th April, 1893..	60,000 00
The Peerless Manufacturing Company of Hamilton (Limited)	6th May, 1893..	30,000 00
The Penetanguishene and Midland Electric Street Railway, Light and Power Company (Limited)	3rd June, 1893..	75,000 00
The James E. Patmore Company of London (Limited)	3rd June, 1893..	3,000 00
The Poole Printing Company of Toronto (Limited)	28th June, 1893..	30,000 00
The Peterborough Hardware Company (Limited)	28th June, 1893..	75,000 00
The Port Dalhousie, St. Catharines and Thorold Electric Street Rail- way Company (Limited)	28th June, 1893..	100,000 00
The Paris Tool Manufacturing Company (Limited)	26th June, 1893..	20,000 00
The Pearce Company (Limited)	21st Sept., 1893..	175,000 00
The Plantagenet Springs Company (Limited)	12th Oct., 1893..	75,000 00
The Perfect Button Stick Company of Toronto (Limited)	22nd Nov., 1893..	3,000 00
The Provident Investment and Mortgage Guarantee Company of Ontario (Limited)	3rd Nov., 1893..	2,500,000 00

APPENDIX III.

List of Joint Stock Companies, 1893.—*Concluded.*

Names of Companies.	Date.	Capital.	
		£	c.
The Rotary Pump Company of London (Limited).....	25th April, 1893..	10,000	00
The Robinson Carriage Manufacturing Company of Coldwater (Limited)	11th Oct., 1893..	2,500	00
The St. Catharines Box and Basket Company (Limited).....	11th Jan., 1893..	10,000	00
The Southwick Oil Company (Limited)	22nd March, 1893..	25,000	00
The Summer Homes Branch Y. M. C. A. of London (Limited).....	18th Feb., 1893..	3,000	00
The Stratford Athletic Company (Limited)	20th May, 1893..	10,000	00
The Standard Ice Machine and Refrigerating Company of Toronto (Limited)	8th June, 1893..	50,000	00
The Sutherland-Innes Company (Limited)	7th July, 1893..	500,000	00
The S. H. Smith Company of Toronto (Limited)	26th July, 1893..	20,000	00
The Star Printing and Publishing Company of Toronto (Limited)...	8th Nov., 1893..	100,000	00
The Standard Milk Company (Limited).....	22nd Nov., 1893..	50,000	00
The Storey Washing Machine Company of Ottawa (Limited).....	6th Dec., 1893..	25,000	00
The Toronto and Orillia Stone Quarry Company (Limited).....	11th Jan., 1893..	10,000	00
The Toronto Coffee and Spice Milling Company (Limited).....	23rd Feb., 1893..	30,000	00
The Toronto Furniture Supply Company (Limited)	8th March, 1893..	30,000	00
The Tay Electric Light Company (Limited).....	22nd March, 1893..	30,000	00
The Toronto and York Land Investment Company (Limited)	24th March, 1893..	90,000	00
The Thamesford House Improvement Company (Limited).....	17th May, 1893..	3,000	00
The Toronto Vitrified Paving Brick and Stone Company (Limited)...	26th May, 1893..	500,000	00
The Toronto Furnace and Crenatory Company (Limited)	28th June, 1893..	40,000	00
The Toronto Lumber and Manufacturing Company (Limited)	26th July, 1893..	10,000	00
The Toronto Glass Company (Limited)	15th Sept., 1893..	50,000	00
The Toronto Lock Company (Limited)	19th Oct., 1893..	3,000	00
The T. W. Birks Company of London (Limited)	11th Oct., 1893..	1,500	00
The Toronto Rubber Company (Limited)	31st Oct., 1893..	3,000	00
The Tottenham Elevator Company (Limited)	15th Oct., 1893..	3,000	00
The Teller Envelope Company of Toronto (Limited)	30th Nov., 1893..	250,000	00
The Thamesville Gas and Oil Company (Limited)	30th Nov., 1893..	3,000	00
The Union Furniture Company of Wingham (Limited)	3rd June, 1893..	95,000	00
The Vale Barrel Machine Company of Hamilton (Limited).....	25th July, 1893..	250,000	00
The Woolley Electrical Appliance Manufacturing Company of Toronto (Limited)	18th Jan., 1893..	25,000	00
The Whitby Hedge Company (Limited)	30th March, 1893..	50,000	00
The West Huron Cheese and Butter Manufacturing Company (Limited)	15th April, 1893..	10,000	00
The Woodstock Wind Motor Company (Limited).....	15th April, 1893..	75,000	00
The Wychwood Park Public Hall Company (Limited).....	2nd May, 1893..	2,500	00
The Wallaceburg Glass Works Company (Limited)	8th May, 1893..	3,000	00
The Western Algoma Brick Company (Limited)	25th May, 1893..	2,500	00
The W. J. Gage Company (Limited)	26th July, 1893..	200,000	00
The Whaley-Royce Piano Company of Toronto (Limited)	11th Oct., 1893..	75,000	00
The W. M. Milligan Company of Toronto (Limited)	8th Nov., 1893..	75,000	00
The William A. Frazer Wood Manufacturing Company of Ontario (Limited)	22nd Nov., 1893..	80,000	00
The Wellington Manufacturing Company (Limited).....	14th Dec., 1893..	100,000	00
The York Milling Company (Limited)	15th Sept., 1893..	6,000	00
		\$14,259,950 00	

Supplementary Letters Patent (Increasing Capital).

Name of Company.	Date.	Capital increase.	
		From.	To.
The Sable and Spanish Boom and Slide Company of Algoma (Limited)	23rd June, 1892	10,000	40,000
The Gendron Manufacturing Company of Toronto (Limited)	3rd February, 1893	45,000	150,000
The North Shore Navigation Company of Ontario (Limited)	8th " 1893	150,000	350,000
The Pembroke Electric Light Company	16th " 1893	20,000	50,000
The Hamilton Electric Light Company (Limited)	16th " 1893	200,000	300,000
The J. R. Stouffer Company of Berlin (Limited)	18th " 1893	6,000	20,000
The Parkin Lumber Company of Lindsay (Limited)	25th " 1893	35,000	75,000
The Ontario Coal Company	8th March, 1893	150,000	250,000
The Elma Cheese and Butter Manufacturing Company (Limited)	25th May, 1893	3,000	5,000
The Windsor Fair Grounds and Driving Park Association..	25th " 1893	6,000	50,000
The London Gun Club (Limited)	3rd June, 1893	1,000	5,000
The Cowan Company (Limited)	28th " 1893	25,000	50,000
The Ontario Peat Fuel Company (Limited)	7th " 1893	300,000	1,000,000
The Barrow Bay Lumber Company (Limited)	15th December, 1893	50,000	100,000
The Aylesbury Dairy Produce Company of Toronto (Limited)	13th September, 1893	3,000	45,000
The Toronto Carpet Manufacturing Company (Limited)....	3rd November, 1893	50,000	150,000

Supplementary Letters Patent (Extending Powers).

Name of Company.	Date.
The Standard Electric Company of Ottawa (Limited)	7th April, 1893
The Berlin Waterloo Street Railway Company	15th March, 1893
The London Gun Club (Limited)	3rd June, 1893
The Cowan Company (Limited)	28th July, 1893
The Central Canada Loan and Savings Company of Ontario	8th June, 1893

Orders-in-Council changing the names of Companies under R.S.O., Cap. 178.

From.	To.
The Owen Sound Stone Quarrying and Construction Company	The Owen Sound Stone Company (Limited).
The C. J. Smith Company of Toronto (Limited).....	The Standard Fuel Company of Toronto (Limited).
The Cowan Cocoa and Chocolate Company of Toronto (Limited)	The Cowan Company (Limited).
The Guelph Gas Company	The Guelph Light and Power Company.
The Provident Investment Company of Ontario (Limited)	The Provident Investment and Mortgage Guarantee Company of Ontario (Limited).

APPENDIX IV.

Synopsis of Returns to Addresses and Orders of the House presented to the Legislative Assembly during the Session of 1893.

No.	Sessional Papers.	Subject.	Mover.
	No.		
1	41	Expenditure for fire ranging since the establishment of the system.....	Mr. Meredith.
2	491	Number of Liquor Licenses issued each year from 1876 to 1891. Gross fund raised from licenses and sums paid out therefrom to Province and Municipalities respectively during same years.	Mr. Clancy.
3	50	Correspondence between Inspector White and the Ottawa Board of Separate School Trustees.....	Mr. Whitney.
4	51	Correspondence between the Minister of Education and Sir Daniel Wilson with reference to Manley's dismissal from position of Janitor at School of Practical Science.....	Mr. Whitney.
5	52	Number of County Pupils attending High Schools and Collegiate Institutes in Towns separated from Counties, etc.....	Mr. Preston.
6	54	Resignations or dismissals from positions in Toronto Normal and Model Schools and School of Pedagogy within five years and correspondence relating thereto, also petitions, memorials, etc., from students during same period.....	Mr. Whitney.
7	55	Names of Authors and Publishers of Public and High School text books, and correspondence respecting price or publication of same.....	Mr. Kerns.
8	58	Office of Registrar, East Middlesex, how often vacant in ten years, etc.....	Mr. Meredith.
9	62	Timber Berths offered for sale October 13th, 1892, area of each, names of purchasers, price per square mile, etc.....	Mr. Whitney.
10	63	Correspondence with George Paget and John Regan with reference to an action in the High Court of Justice.....	Mr. Whitney.
11	64	Proton Township Commission of inquiry into claim to Land Improvement Fund.....	Mr. Meredith.
12	68	Amounts remaining unpaid on lands sold of (1) Crown Lands, (2) Common School Lands, (3) Grammar School Lands, (4) Railway Lands.	Mr. Meredith.
13	71	Number of bodies received by Inspectors of Anatomy during last five years, from charitable and criminal institutions and from other sources.....	Mr. Meacham.
14	72	Estimated quantity of pine timber now standing on Crown domain, etc.....	Mr. Wood (Hastings.)
15	74	Names of purchasers of timber berths at sale of October, 1890, and sales not carried out.....	Mr. Campbell (Algoma.)
16	77	Correspondence respecting license to Wm. T. Jenkinson, polling sub-division No. 10, Brantford Township.....	Mr. McCleary.
17	78	Expenditure on Colonization, Government or County Roads and Bridges by Crown Lands Department in Victoria, Peterborough, Hastings, Addington and Frontenac.....	Mr. Wood (Hastings.)
18	79	Defalcations by Municipal Treasurers from 1871 to 1891.....	Mr. Balfour.

APPENDIX IV.—*Continued.*

No.	Sessional Papers.	Subject.	Mover.
19	No. 80	New bridge over York Branch River, Township Carlow, County of Hastings.	Mr. Wood (Hastings.)
20	86	Payments to Members of Medical Council while attending Council and Committee Meetings	Mr. Waters.
21	87	Votes for and against the Scott Act By-laws in different Counties and Cities.	Mr. Gibson (Huron.)
22	88	Convictions under Liquor License Act in North Ontario in 1891 and 1892; moneys paid to License Inspector, etc	Mr. Glendinning.
23	91	Concerning the resignation of Mr. Anderson and the appointment of Mr. Dodds to the License Inspectorship of Dufferin	Mr. Barr (Dufferin.)
24	92	Dates of all Crown Lands timber sales since 1871	Mr. Preston.
25	93	Number of Plebiscite petitions presented to the House during the session of 1893	Mr. Field.

PROVINCIAL REGISTRAR'S OFFICE, ONTARIO,
TORONTO, 20th February, 1894.

SIR,—I have the honor to submit for your information a statement of the work done in the Registrar's Branch of the Provincial Secretary's Department from 1st January, 1893 to 31st December, 1893.

I have the honour to be,

Sir,

Your obedient servant,

JOHN F. C. USSHER,
Deputy-Registrar.

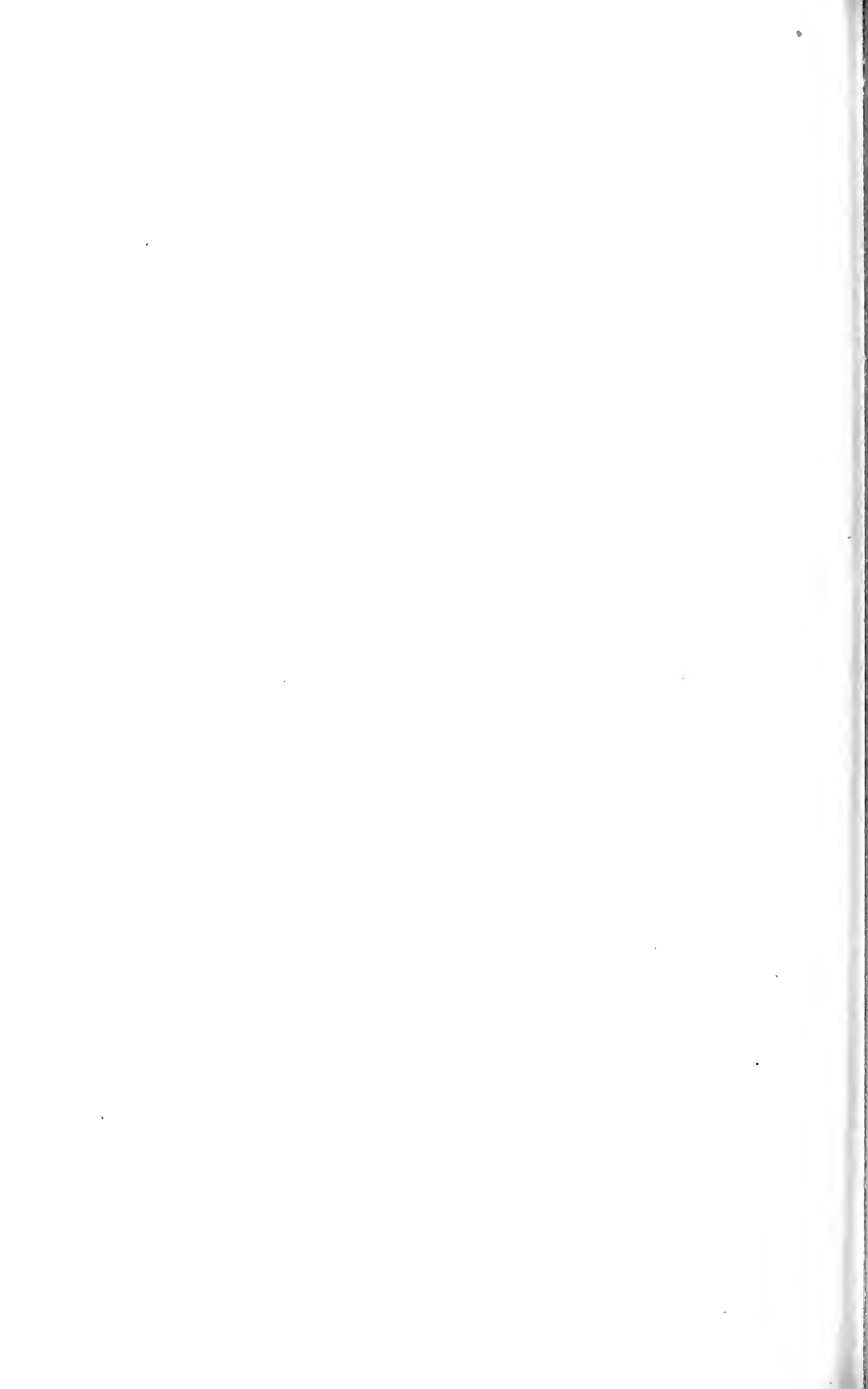
Hon. J. M. GIBSON,
Provincial Registrar.

CONDENSED STATEMENT showing the work done in the Provincial Registrar's Office of the Department of the Provincial Secretary for the year 1893.

Documents.	Record- ed.	Indexed
Commissions under Great Seal	206	206
Commissions under Privy Seal	97	97
Special Commissions	2	2
Letters Patent—Incorporations	139	139
Special Letters Patent—Incorporations	3	3
Supplementary Letters Patent—Incorporations	17	17
Bonds and Covenants	104	104
Warrants removing Lunatics	251	251
Warrants transferring Lunatics	43	43
Warrants discharging Lunatics	124	124
Certificates, Provincial Land Surveyors	9	9
Crown Land Patents	894	894
Special Deeds	8	8
Mining Leases	126	126
Certified Copies and Exemplifications of Patents	50	50
Certificates of Incorporation—Friendly Societies	119	119

In addition to the foregoing, an annual Return of all Bonds and Securities recorded in this Branch is prepared for the Legislative Assembly, and a quarterly Return of all the lands is also sent to the Registrars of each County and District in which Patents have issued, giving description of land patented, name of patentee, date, etc., also notices of cancellations and surrenders of patents—considerable work is also done in searching records of land patents, commissions and other documents, etc.

JOHN F. C. USSHER,
Deputy-Registrar.



REPORT

OF

THE HON. THE PROVINCIAL TREASURER

ON THE WORKING OF THE

TAVERN AND SHOP LICENSES ACTS

FOR THE YEAR

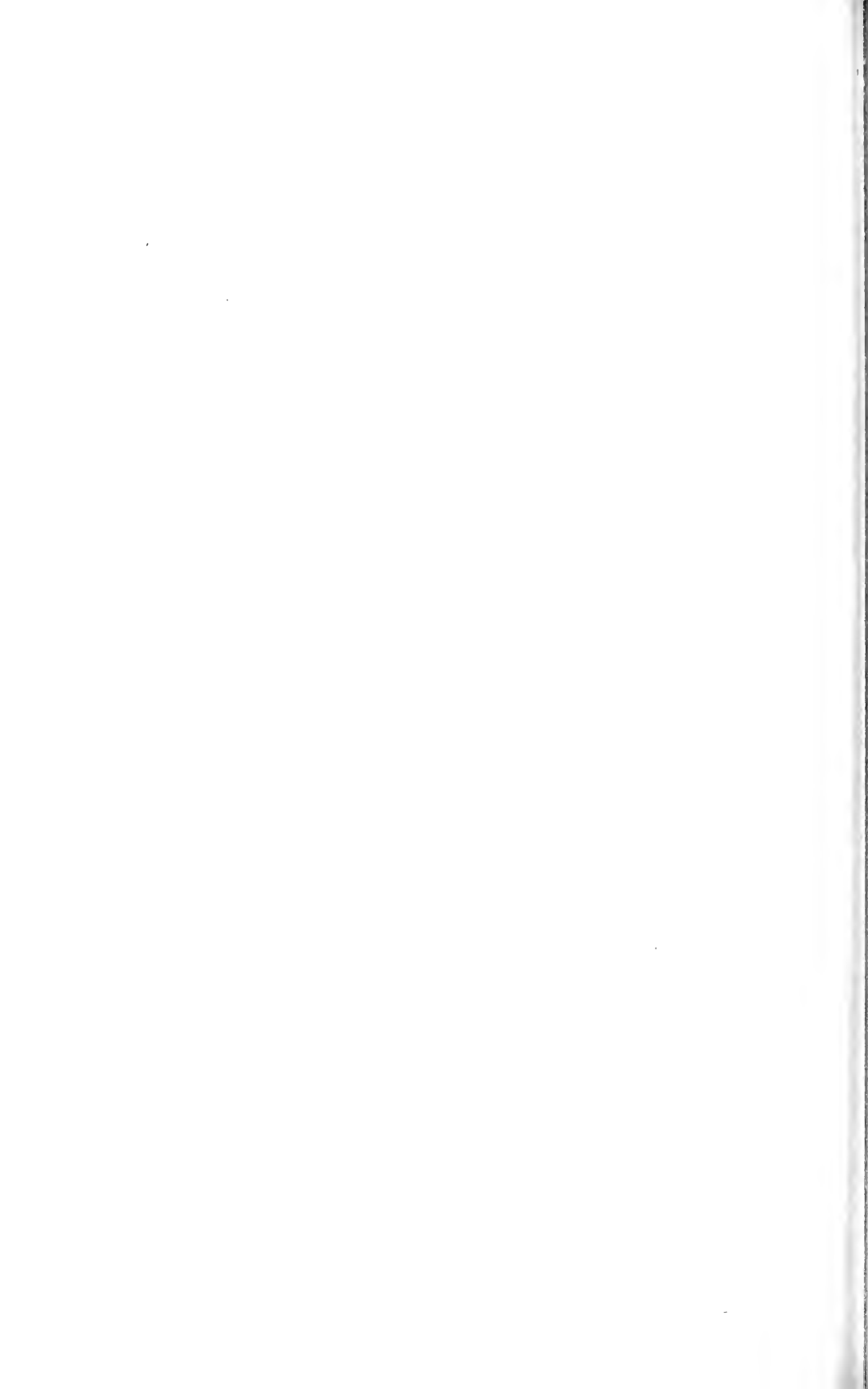
1893.

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TORONTO:

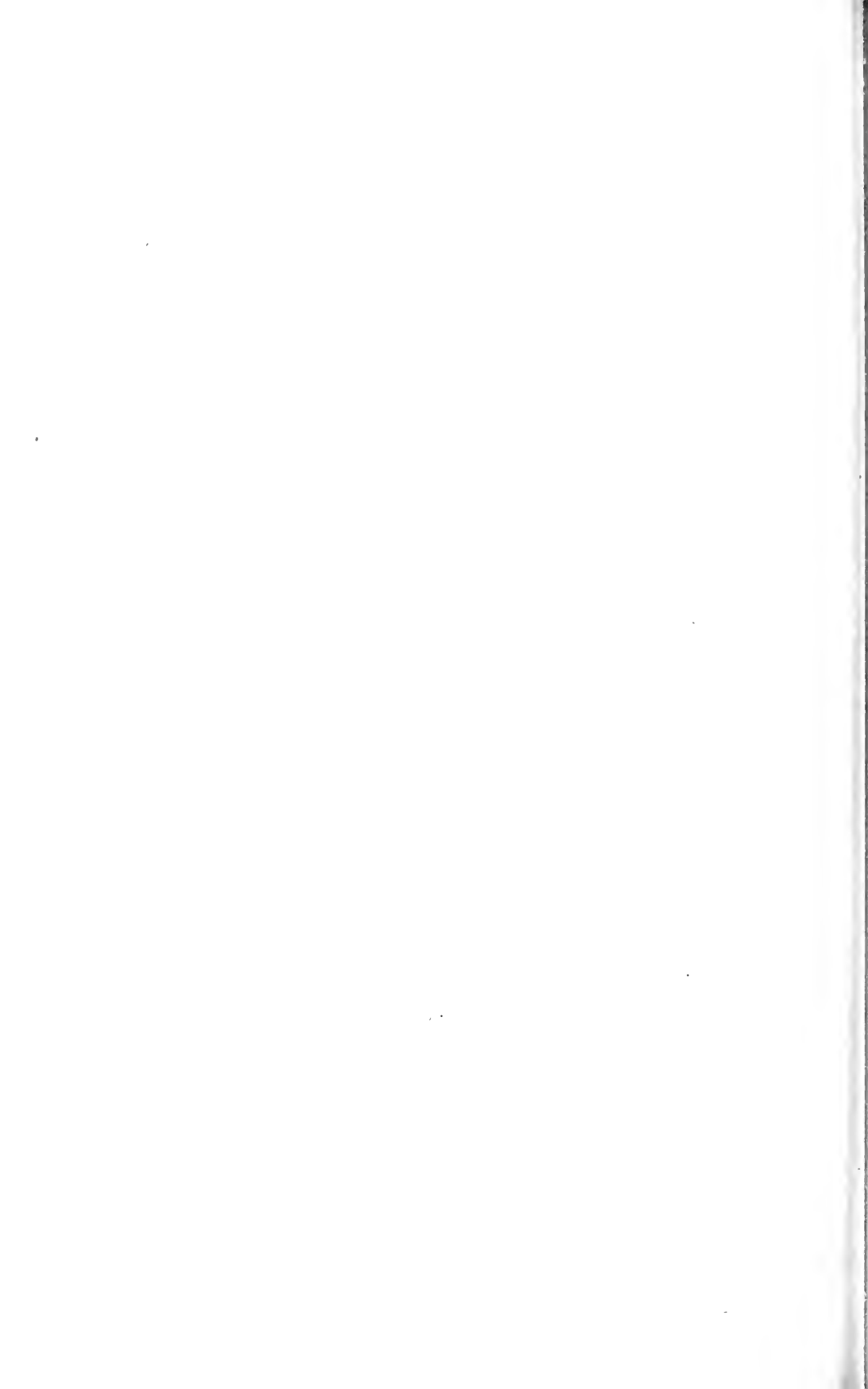
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1894.



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LICENSE REPORT.

PROVINCIAL TREASURER'S OFFICE,

LICENSE BRANCH,

TORONTO, January, 1894

To the Honorable GEORGE AIREY KIRKPATRICK,

Lieutenant-Governor of the Province of Ontario.

MAY IT PLEASE YOUR HONOR :

I have the honor to submit the Eighteenth Annual Report, and accompanying Schedules, respecting the operation of the Liquor License Laws.

. NUMBER OF LICENSES.

Schedule A is a comparative statement of the number of Licenses of the various denominations issued, and of the number extended, transferred or removed in each of the License Districts of the Province, during the past three license years, and may be thus summarized :

Years.	Licenses.							Extensions, Transfers and Removals of Licenses.			
	Tavern				Shop.	Wholesale.	Total.				
	Yearly.		Six Months.								
	Ordinary.	Beer and Wine.	Ordinary.	Beer and Wine.				Extensions.	Transfers.	Removals.	Total.
1890-1	3005	66	45	10	428	24	3548	51	674	53	678
1891-2	2923	67	45	5	403	21	3464	79	609	37	725
1892-3	2907	59	40	4	378	25	3413	87	566	59	712

PROVINCIAL REVENUE.

The same Schedule shews the revenue derived by the Provinces from Licenses and fines to have been for :

1890-1	\$308,200 17
1891-2	300,604 38
1892-3	297,644 47

LICENSES IN COUNTIES AND CITIES.

Schedule B is a statement of the number of Licenses issued in the several Counties and Cities during the past nineteen years.

LICENSES IN MINOR MUNICIPALITIES.

Schedule C gives in detail, as regards each City, Town, Incorporated Village, and Township, and the Unorganized Territory of the Province, the number of Licenses, and of extensions, transfers and removals granted during the past three years.

TOTAL COLLECTIONS.

This Schedule also gives the amounts collected on account of Licenses and Fines including the sums imposed by municipal by-laws, the totals of which were as follows :—

1890 1	\$680,298 68
1891-2	665,609 10
1892-3	664,169 83

MUNICIPAL REVENUE.

The payments to the Municipalities are shewn by the same Schedule to have been in—

1890-1	\$294,968 26
1891-2	289,487 41
1892-3	289,996 74

The amounts imposed in each Municipality by by-laws, in excess of statutory duties, are also given in this Schedule.

FINES.

The fines collected during the past year, as shewn by Schedule D, amounted to \$26,058.05 as compared with \$23,316.30 in 1891-2

SALARIES OF INSPECTORS—EXPENSES OF COMMISSIONERS.

The payments under these heads are also shewn in the same Schedule D.

MISCELLANEOUS EXPENDITURE.

Schedule E shews the expenditures of enforcing the Act in the several districts other than those included in Schedule D, consisting of postage, stationery, printing, advertising, magistrates, constables, witness, counsel and detective fees, etc.

COMMITMENTS FOR DRUNKENNESS.

Schedule F shews the number of prisoners committed for drunkenness during the years from 1876 to 1893 inclusive. The number committed during the year 1893 as compared with 1892 shows a decrease of 84.

THE INSPECTORS OF LICENSES.

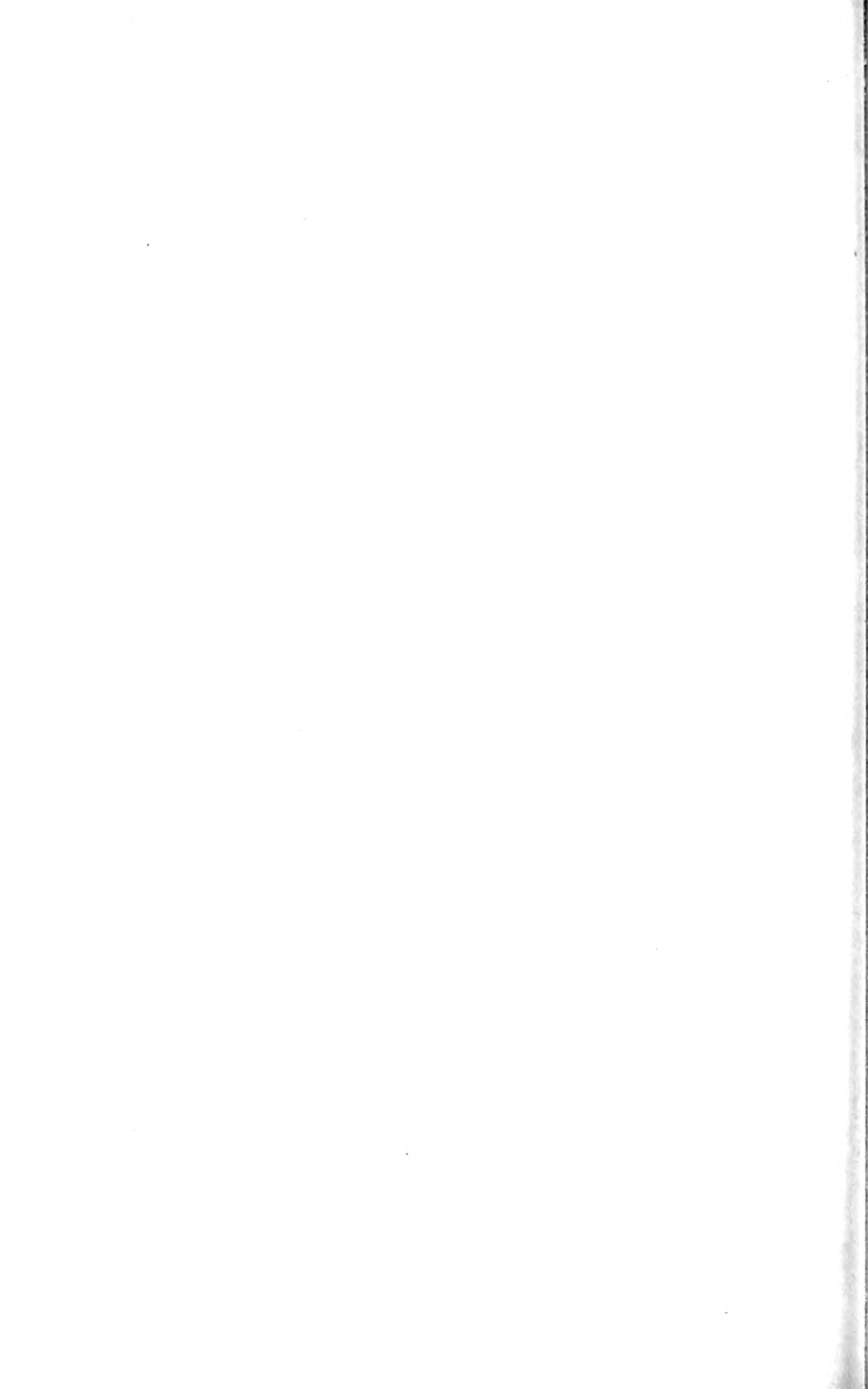
The names and post office addresses of the Inspectors of Licenses are set out in Schedule G.

SPECIAL INSPECTION OF LICENSE DISTRICTS.

The special inspection of the License Districts, and the examination of the work of the license officials therein, from time to time, have been continued during the past year.

Respectfully submitted,

R. HARCOURT,
Provincial Treasurer.



SCHEDULES.

SCHEDULE A.

COMPARATIVE STATEMENT, BY LICENSE DISTRICTS, shewing the number of (Provincia^l) licenses extended, transferred or removed, and the amount of revenue license years 1890-1, 1891-2

License District.	Tavern Licenses Issued.												Tavern Licenses Extended.			
	Yearly Licenses.						Six Months' Licenses.									
	Ordinary.			Beer and Wine.			Ordinary.			Beer and Wine.			1890-1.	1891-2.	1892-3.	
	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.				
Addington	33	30	31													
Algoma	31	30	27													
Brant, North	17	15	16												1	
Brant, South	9	7	7												4	
Brantford	18	18	18													
Brockville and Leeds	38	36	36	1	2		3	4	4	1	1	1				1
Bruce, Centre	26	25	25													
Bruce, North	30	32	33													
Bruce, South	42	40	37			1			1							
Cardwell	38	37	36				1		1					2	3	1
Carlton	26	27	27			1			1							1
Cornwall	26	25	25	1												
Dufferin	26	24	24													
Dundas	19	18	18													
Durham, East	21	21	21			1										1
Durham, West	11	13	13	1	2	2	1	1	1				1			
Elgin, East	25	25	25	1		1	2	2	1				1			
Elgin, West	36	36	35			1							2			
Essex, North	61	60	64	1	1	2	2	2	4				1			
Essex, South	31	28	29	1	1	1	2	1	1				2	1		
Frontenac	23	24	22	2	4	2				1			2			
Glengarry	31	32	31			1	1	1	1						2	
Greenville	31	31	30										2	1	1	
Grey, Centre	25	25	25	2	1											1
Grey, North	23	23	23	1												
Grey, South	30	26	27			1										
Haldimand	36	33	34	2	3	3									1	
Haliburton	7	8	8													
Halton	27	27	26												1	
Hamilton	92	91	94				1					1	1	4	4	4
Hastings, East	28	28	27													
Hastings, North	29	28	31	1	2											
Hastings, West	41	41	39										1			1
Huron, East	24	24	24		1	1										
Huron, South	39	40	40				1	1	1							
Huron, West	40	39	37												1	1
Kent, East	32	31	31													1
Kent, West	43	32	30										1	5	3	
Kingston	38	39	41					1		2				1	1	
Lambton, East	23	22	22							1						2
Lambton, West	45	42	40	2			1	2	3					3	1	
Lanark, North	26	24	24													
Lanark, South	19	20	20													
Lennox	16	16	16													
Lincoln	30	29	30	1	1		2	2	2							1
London	54	41	34	2												6
Manitowlin	17	19	15													1

SCHEDULE A.

Tavern, Shop, Wholesale, and Six Months Licenses issued, and the number of such received by the Province therefrom, including the proportion of fines, in the and 1892 3 respectively.

Shop Licenses issued.			Shop Licenses extended.			Wholesale Licenses issued.			Licenses Transferred and Removed.					Totals.			Proportion of Duties for Provincial Licenses, Fees for Transfers and Removals, and Fines received by the Province.										
									Transfers		Removals.						1890-1.		1891-2.		1892-3.						
1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	£	s	c	£	s	c	£	s	c	
5	2	1			1				6	9	1	40	40	32	1570	84	1421	50	1455	21	1907	98					
2	2	2							4	4	5	21	24	23	2724	02	2181	12									
5	5	5							2	6	5	32	31	26	1230	03	1108	35	1167	33							
7	7	7							3	3	3	14	10	10	286	73	240	00	210	00							
3	3	3							6	7	2	32	34	34	3144	67	2971	67	2973	85							
3	3	2							2	4	4	4	4	1	5151	08	5083	31	4928	59							
2	2	2							4	2	5	52	54	53	1906	67	1835	25	1918	28							
1	1	1							13	21	6	43	55	39	1850	17	2029	99	2061	60							
3	3	2							6	11	9	52	54	51	2796	49	2711	97	2540	36							
2	2	2							6	7	8	50	49	47	2299	87	2090	13	2170	56							
1	1	1							2	7	4	1	34	34	1269	44	1344	25	1330	32							
3	4	4							2	7	5	32	36	34	2030	55	2107	18	2102	97							
2	2	2							8	2	5	36	28	32	1798	75	1707	49	1713	06							
1	1	1							1	1	1	22	20	21	1305	22	1215	35	1206	59							
1	4	4							1	2	2	23	27	29	2145	36	2411	84	2457	06							
3	2	2							2	5	1	19	23	21	964	12	933	05	969	73							
1	1	1							7	7	9	1	37	35	38	1582	64	1563	51	1610	56						
4	4	4							7	9	8	2	52	49	50	3764	81	3763	56	3755	50						
2	2	2							11	6	10	84	76	90	5945	45	5101	27	6611	24							
2	2	2							3	4	7	40	37	40	2361	34	2177	67	2288	38							
4	5	5							5	5	3	31	33	30	1072	95	1181	03	1074	53							
3	3	3							2	5	3	38	45	41	1847	78	2037	16	2034	57							
1	1	1							2	6	6	38	41	41	2337	95	2328	74	2292	48							
3	3	3							3	8	4	31	35	31	1363	85	1384	25	1361	38							
2	1	1							1	5	3	31	51	29	2222	76	2060	33	2027	35							
2	2	2							6	6	4	32	33	33	1808	67	1483	24	1558	66							
2	2	2							5	6	5	15	45	45	2264	46	2151	21	2167	04							
38	37	34							2	6	7	9	8	9	286	86	339	84	341	20							
3	3	2							2	9	9	29	34	33	1837	72	1867	64	1802	03							
3	3	3							6	5	8	36	38	50	1684	21	1809	41	1652	30							
5	5	5							6	5	8	39	38	44	1674	75	1640	95	1793	10							
4	3	3							9	6	4	59	56	51	5196	99	5222	72	5141	15							
2	2	2							6	16	8	32	36	33	1162	12	1224	08	1250	59							
1	1	1							9	10	5	53	54	50	2734	25	2708	96	2842	77							
15	15	15							8	9	11	50	51	51	3202	63	3112	84	2945	54							
4	6	5							6	14	10	41	46	43	2261	29	2230	36	2230	88							
3	2	3							13	9	7	62	51	45	5578	38	4626	40	4198	24							
6	6	5							7	7	8	63	64	67	7358	20	7644	59	7895	31							
3	2	3							3	6	6	31	32	30	1975	94	1618	86	1556	45							
4	4	4							12	10	18	66	65	70	3731	81	3379	79	3605	70							
2	2	2							5	3	4	29	28	10	2107	07	1941	22	2057	04							
3	3	1							5	3	4	28	27	28	1802	47	1934	29	1959	41							
12	10	6							3	2	3	22	20	21	1299	21	1324	34	1329	21							
1									4	7	5	40	42	39	2476	72	2323	89	2291	91							
									9	15	3	84	87	56	12504	28	10095	34	8238	22							
									2	1	3	20	21	19	1256	68	1311	76	984	57							

SCHEDULE A.—Comparative Statement shewing the number of (Provincial)

License District.	Tavern Licenses Issued.									Tavern Licenses Extended.					
	Yearly Licenses.						Six Months' Licenses.								
	Ordinary.			Beer and Wine.			Ordinary.			Beer and Wine.					
	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.			
Middlesex, East	33	34	35	5	6	5									
Middlesex, North	25	25	26	3	2	2									
Middlesex, West	26	25	20	1	1	2								3	
Monck	12	10	15	7	8		1	1						1	
Muskoka	15	17	17	6	4	3	3	3	3	1				1	
Nipissing	27	26	30					1							
Norfolk, North	20	19	20	2	3	2									
Norfolk, South	15	16	15	2	1	4			1	1					
Northumberland, East	20	19	19				1	1				1		1	
Northumberland, West	21	22	20				4	4	3			2		3	
Ontario, North	25	28	25	3	2	1	1	2							
Ontario, South	34	31	31									2			
Ottawa	88	87	78											7	
Oxford, North	31	31	30												
Oxford, South	27	26	20									1	1	5	
Parry Sound	26	26	33				1	1	1				2	1	
Peel	43	41	37	1	1	2								2	
Perth, North	57	57	56	1									2	3	
Perth, South	35	33	33									1			
Peterborough, East	13	13	13	1											
Peterborough, West	27	30	32		2	1	1	1							
Prescott	43	40	44				2	1	2						
Prince Edward	16	16	16	2	2	1	1	1	1						
Rainy River	11	11	13										4	2	
Renfrew, North	24	23	27												
Renfrew, South	32	27	29			2			1			1		1	
Russell	53	53	51												
St. Catharines	23	22	24	3	4	2	1	1	1						
Simcoe, Centre	22	21	22				1	1							
Simcoe, East	32	30	32				1	1	1					1	
Simcoe, West	39	34	35											1	
Stormont	26	21	19												
Thunder Bay	34	34	37	1			2	3	1		1	4	1		
Toronto	150	150	150				1					2	2		
Victoria, East	19	19	15		1	2	1	1	1			1			
Victoria, West	25	27	23									3			
Waterloo, North	47	46	46		1										
Waterloo, South	45	44	44											1	
Welland	68	65	67	2	3	3	6	4	5	1	1		3	1	
Wellington, East	30	30	30												
Wellington, South	31	34	32											1	
Wellington, West	32	32	33									1	1		
Wentworth, North	25	25	25	2	2	2									
Wentworth, South	22	21	18		1	1			1					1	
York, East	29	27	28		1	1				1				1	
York, North	40	39	39	5	4	5			1			1	1		
York, West	34	34	35									4	3	1	
Totals	3005	2923	2907	66	67	59	45	45	40	10	5	4	45	68	63

Tavern, Shop, Wholesale, and Six Months' Licenses, etc.—Continued.

Shop Licenses Issued.			Shop Licenses Extended.	Wholesale Licenses Issued.	Licenses Transferred and Removed.			Totals.			Proportion of Duties for Provincial Licenses, Fees for Transfers and Removals, and Fines received by the Province.												
1890-1.	1891-2.	1892-3.			Transfers.	Removals.		1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.							
5	4	4			4	1	1			42	41	41	1553	83	1627	43	1672	50					
1	1	1			2	5	9		1	35	37	41	1937	08	1929	66	1963	25					
1	1	1			3	3	7		1	32	30	53	1835	99	1727	28	1524	54					
1	1	1			4	3	2			25	23	19	830	67	774	74	854	34					
1	1	1			5	2	4			31	27	29	1391	84	1354	17	1378	17					
4	5	6	1		3	3	3		1	35	36	39	1510	00	1774	45	2397	18					
2	2	2			2	7	6			52	31	30	1562	49	1507	70	1521	29					
5	5	5			3	2	2			21	20	21	791	88	842	50	815	10					
4	4	3			1	6	2		1	28	32	27	1653	63	1554	49	1580	26					
5	2	4			7	7	1			31	37	30	1924	76	2014	30	1767	73					
59	59	16			8	10	3			42	44	33	1851	94	1834	44	1667	17					
3	2	3			4	6	6		1	42	40	39	2454	75	2223	81	2191	72					
4	3	3			24	22	23	10	6	6	183	175	172	27092	07	26830	67	28506	17				
3	2	2			8	8	7		1	3	44	42	43	2645	89	2541	24	2452	97				
4	3	3			5	7	10			37	37	38	2266	09	2163	64	1870	54					
3	3	3			6	10	4		1	34	39	39	1599	49	1617	90	1798	47					
5	4	5	1		8	7	9			55	52	53	2565	68	2521	88	2346	78					
4	4	4			13	5	20		1	77	69	84	5582	61	5449	11	5498	86					
2	2	2			9	5	6			49	42	43	2647	00	2479	49	2474	39					
9	9	8			3	4	3			19	17	16	815	25	591	66	562	35					
2	2	2			9	1	7		1	46	41	49	4280	10	3473	57	3431	68					
2	3	2			8	3	3			55	47	51	2306	03	2220	79	2463	41					
3	3	3			7	5	3		1	28	27	23	1216	78	1203	06	1185	79					
5	5	5			1	1	3			1	15	19	972	45	1401	36	1162	84					
11	8	9			1					30	28	32	1922	78	1905	53	2133	86					
					6	7	5		2	52	42	47	2679	96	2315	32	2646	29					
					16	6	9		1	70	59	60	2744	21	2677	35	2555	37					
5	4	3			6	4	3		1	39	35	33	3725	57	3498	16	3614	45					
3	3	3			2	10	7		1	28	36	32	1616	78	1565	57	1700	29					
6	5	4			11	9	9		1	51	46	51	2743	18	2530	49	26496	65					
6	7	5			8	5	7			1	53	47	48	3242	47	3064	15	3047	63				
					5		1		1	32	21	20	1073	77	884	15	752	89					
6	6	7			4	4	6		1	2	52	50	53	3151	60	3091	84	3247	67				
50	50	56	1		39	30	26		6	4	1	260	247	239	37509	77	37872	63	38494	90			
					6	1	7				27	22	25	1215	07	1194	70	931	11				
2	2	3			3	7	9		1	1	1	31	37	36	1911	28	2116	10	2051	63			
5	5	5			5	10	7		1	4	58	64	63	3741	05	3691	42	3547	36				
9	5	6			1	2	6			3	51	52	59	3361	59	3342	79	3393	05				
5	9	9			17	15	10		1	1	2	104	101	97	5553	23	5765	86	5855	86			
2	2	2			2	7	5			2		34	41	37	2145	78	2189	87	2221	04			
2	2	2			8	12	8				41	48	43	2949	11	3106	80	3034	20				
2	1	1			8	9	5				43	43	39	2438	23	2370	96	2443	77				
2	2	2			7	5	10				36	34	39	1670	22	1677	80	1695	50				
2	1	1			2	2	3		1	1	28	26	25	1055	70	962	13	841	96				
					2	6	3			1	33	35	33	1552	47	1390	03	1471	20				
2	2	2			7	8	10				55	55	56	2724	87	2728	95	2735	18				
	1	2			7	3	4			1	45	41	43	2106	21	2194	08	2367	39				
428	403	378	6	11	23	24	21	25	574	609	566	53	37	59	4256	4189	4125	308200	17	300604	38	297644	47

* 1 Extended.

SCHEDULE B.

COMPARATIVE STATEMENT BY COUNTIES AND CITIES, showing the number of (Provincial) Tavern, Shop, Wholesale and Vessel Licenses issued in the several Counties of the Province, and the Cities separated from Counties, for the license years 1874-5-6 7 8-9-80-1-2 3-4-5-6 7-8 9 90-1-2.

County.	Year.	Tavern Licenses.	Shop Licenses.	Wholesale Licenses.	Vessel Licenses.	Remarks.
Algoma (including Thunder Bay)	1874	30	14	.....	3	
	1875	36	15	.....	3	
	1876	18	6			
	1877	19	5			
	1878	19	5			
	1879	21	8	1		
	1880	22	6	1		
	1881	29	9	1		
	1882	35	9	1		
	1883	56	6	1		
	1884	74	12	2		
	1885	58	12	1		
	1886	62	16	1		
	1887	78	11	2		
	1888	83	16	1		
	1889	90	17			
	1890	94	15			
1891	94	11				
1892	92	11				
Brant (not including City of Brantford)	1874	95	29			
	1875	73	22	2		
	1876	56	14	4		
	1877	.....	.....	7		Dunkin Act in force.
	1878	53	11	5		
	1879	55	14	1		
	1880	57	14	1		
	1881	55	14	1		
	1882	59	13	1		
	1883	58	11	1		
	1884	49	7			
	1885	44	7	1		
	1886	.....	.....	.....		Can. Temp. Act in force.
	1887	.....	.....	.....		do
	1888	.....	.....	.....		do
	1889	26	2			
	1890	26	2			
1891	22	2				
1892	23	2				
Bruce	1874	180	25			
	1875	119	22			
	1876	88	13	3		
	1877	83	12	2		
	1878	83	9	2		Dunkin Act in force for 10 months.
	1879	93	12			
	1880	98	14			
	1881	105	15			
	1882	109	18			
	1883	108	16			
	1884	99	15			
	1885	.....	.....	.....		Can. Temp. Act in force.
	1886	.....	.....	.....		do
	1887	.....	.....	.....		do
	1888	97	6			
1889	102	6				
1890	98	6				
1891	97	6				
1892	96	5				

SCHEDULE B.—Comparative Statement, etc.—*Continued.*

County.	Year.	Tavern Licenses.	Shop Licenses.	Wholesale Licenses.	Vessel Licenses.	Remarks.
Carleton (not including Ottawa.....)	1874	89	5			
	1875	79	8			
	1876	44	1	2		
	1877	55	3			
	1878	43	3			
	1879	43	1			
	1880	42	3			
	1881	50	3			
	1882	54	1			
	1883	58				
	1884	58	1			
	1885	55				
	1886					Can. Temp. Act in force.
	1887					do
	1888					do
	Dufferin.....	1889	44	1		
1890		44	1			
1891		45				
1892		46				
1881		33	7			New County erected 24th January, 1881.
1882		33	5			
1883		34	5			
1884		34	4			
1885						Can. Temp. Act in force.
1886						do
1887						do
1888	24	2				
1889	27	2				
1890	26	2				
1891	24	2				
1892	24	2				
Elgin	1874	113	25			
	1875	110	24			
	1876	66	16			
	1877	66	10			
	1878	69	12			
	1879	72	16			
	1880	74	12			
	1881	74	13			
	1882	74	13			
	1883	74	16			
	1884	74	12			
	1885	71	10			
	1886					Can. Temp. Act in force.
	1887					do
1888					do	
Not including St. Thomas.	1889	48	2			
	1890	44	1			
	1891	43	1			
	1892	44	1			

SCHEDULE B—Comparative Statement, etc.—Continued.

County.	Year.	Tavern Licenses.	Shop Licenses.	Wholesale Licenses.	Vessel Licenses.	Remarks.	
Essex	1874	120	28	6			
	1875	101	25	6			
	1876	62	14	5	1		
	1877	69	18	1	1		
	1878	69	18	2	1		
	1879	71	18	3	1		
	1880	70	19	2	1		
	1881	74	21	2			
	1882	71	20	2			
	1883	74	19	2			
	1884	70	15	1			
	1885	77	13				
	1886	74	16				
	1887	84	15				
	1888	82	10				
	1889	95	12				
	1890	94	8				
	Not including Windsor....	1891	68	5			
		1892	71	5			
Frontenac (not including Kingston)	1874	71	2				
	1875	57	29				
	1876	29		1			
	1877	17					
	1878	34				Dunkin Act assumed to be in force until quashed, December, 28th.	
	1879	36					
	1880	33	1				
	1881	33	1				
	1882	33	2				
	1883	36	2				
	1884	34	2				
	1885	34	1				
	1886					Can. Temp. Act in force.	
	1887					do	
	1888					do	
	1889	23					
	1890	25					
1891	28						
1892	24						
Grey.....	1874	115	20		3		
	1875	114	16		2		
	1876	77	11		2		
	1877				2		
	1878	72	7		1	Dunkin Act in force.	
	1879	91	12		1	Dunkin Act in force until September.	
	1880	88	17		2		
	1881	84	16		1		
	1882	88	18		1	Melancthon and Shelburne attached to new County of Dufferin.	
	1883	95	20		3		
	1884	91	19		1		
	1885	92	18				
	1886	92	16		3		
	1887	86	14		3		
	1888	84	7		4		
	1889	84	6		1		
	1890	81	6				
1891	75	5					
1892	76	5					

SCHEDULE B.—Comparative Statement, etc.—Continued.

County.	Year.	Tavern Licenses.	Shop Licenses.	Wholesale Licenses.	Vessel Licenses.	Remarks.
Haldimand.....	1874	96	16			
	1875	83	13			
	1876	45	5			
	1877	49	4			
	1878	49	4			
	1879	50	5			
	1880	47	5			
	1881	51	5			
	1882	52	5			
	1883	51	5			
	1884	47	5			
	1885	47	3			
	1886	48	4			
	1887	49	4			
	1888	43	4			
	1889	45	3			
1890	49	3				
1891	47	3				
1892	47	3				
Haliburton	1886	7				See Victoria, <i>post</i> .
	1887	6				
	1888	6				
	1889	7				
	1890	7				
	1891	8				
	1892	8				
Halton	1874	61	4			
	1875	58	5			
	1876	39	2	1		
	1877	38	1			
	1878	38	1			
	1879	42	1			
	1880	41	1			
	1881	41	1			
	1882					Can Temp. Act in force.
	1883					do
	1884					do
	1885					do
	1886					do
	1887					do
	1888	28				
	1889	28				
	1890	27				
1891	27					
1892	26					
Hastings.....	1874	117	23	1		
	1875	100	21	2		
	1876	76	11	3	1	
	1877	82	14	3	1	
	1878	89	15	3	2	
	1879	94	15	3	1	
	1880	91	16	3		
	1881	90	15	3		
	1882	95	13	3		
	1883	97	15	3		
	1884	99	15	3		
	1885	98	17	3		
	1886	104	16	2		
	1887	102	13	2		
1888	96	13	3			
Not including Belleville...	1889	73	9			
" "	1890	74	8			
" "	1891	74	8			
" "	1892	72	7			

SCHEDULE B.—Comparative Statement, etc.—Continued.

County.	Year.	Tavern Licenses.	Shop Licenses.	Wholesale Licenses.	Vessel Licenses.	Remarks.
Huron.....	1874	150	38			
	1875	164	37	2		
	1876	113	16	3		
	1877	124	16			
	1878	127	20			
	1879	134	21			
	1880	131	16			
	1881	128	15			
	1882	124	15			
	1883	124	15			
	1884	111	14			
	1885					Can. Temp. Act in force.
	1886					do
	1887					do
	1888	109	11			
	1889	109	8			
	1890	103	6			
1891	104	5				
1892	102	5	1			
Kent.....	1874	128	41		1	
	1875	118	34		1	
	1876	66	13	4	1	
	1877	67	15		1	
	1878	65	13			
	1879	67	14			
	1880	67	13			
	1881	69	13		1	
	1882	69	14		1	
	1883	70	14			
	1884	75	11			
	1885	71	8			
	1886					Can. Temp. Act in force.
	1887					do
	1888					do
	1889	72	6			
	1890	75	6			
1891	63	5				
1892	61	4				
Lambton..	1874	89	44	1		
	1875	85	33			
	1876	65	28	1		
	1877	65	25			
	1878	70	27			
	1879	72	26			
	1880	71	25			
	1881	72	22			
	1882	75	22			
	1883	73	19			
	1884	74	16	1		
	1885	70	10	1		
	1886					Can. Temp. Act in force.
	1887					do
	1888					do
	1889	65	9			
	1890	70	10			
1891	64	6				
1892	62	5				

SCHEDULE B.—Comparative Statement, etc.—Continued.

County.	Year.	Tavern Licenses.	Shop Licenses.	Wholesale Licenses.	Vessel Licenses.	Remarks.
Lanark.....	1874	62	20	2		
	1875	62	14	1		
	1876	32	9	2		
	1877	32	9			
	1878	7	4			
	1879	33	6			Dunkin Act in force, except in Perth.
	1880	34	8			
	1881	36	6			
	1882	36	7			
	1883	35	7			
	1884	36	7			
	1885	37	6			
	1886					Can. Temp. Act in force.
	1887					do
	1888					do
	1889	39	6			
	1890	45	7			
1891	44	6				
1892	44	7				
Leeds and Grenville.....	1874	145	32	1		
	1875	136	23	1		
	1876	79	23	3		
	1877	101	25			
	1878	97	19			
	1879	97	18			
	1880	97	20	1		
	1881	89	18			
	1882	92	21			
	1883	94	21			
	1884	88	17			
	1885	87	17			
	1886					Can. Temp. Act in force.
	1887					do
	1888					do
	1889	73	13			
	1890	70	10			
1891	69	10				
1892	66	8	1			
Lennox and Addington...	1874	52	7		1	
	1875	46	8			
	1876	28	6	1		
	1877			1		
	1878	36	6			Dunkin Act in force.
	1879	37	5			
	1880	37	5			
	1881	41	5			
	1882	43	6			
	1883	45	6			
	1884	44	5			
	1885	42	5			
	1886					Can. Temp. Act in force.
	1887					do
	1888					do
	1889	52	3			
	1890	49	2			
1891	46	2				
1892	47	2				

SCHEDULE B.—Comparative Statement, etc.—*Continued.*

County.	Year.	Tavern Licenses.	Shop Licenses.	Wholesale Licenses.	Vessel Licenses.	Remarks.	
Lincoln (not including St. Catharines)	1874	94	23				
	1875	103	37				
	1876	70	31				
	1877	70	25				
	1878	69	21				
	1879	72	16				
	1880	73	12				
	1881	69	14				
	1882	73	15				
	1883	72	13				
	1884	71	11				
	1885	64	10				
	1886						Can. Temp. Act in force.
	1887						do
	1888						do
	1889	36	3				
	1890	36	3				
1891	35	3					
1892	34	1					
Middlesex (not including London)	1874	188	17	1			
	1875	174	33				
	1876	122	26	3			
	1877	139	23				
	1878	143	21				
	1879	141	19				
	1880	134	18				
	1881	138	18				
	1882	133	16				
	1883	130	18				
	1884	126	17				
	1885	128	16		1		
	1886						Can. Temp. Act in force.
	1887						do
	1888						do
	1889	82	8				
	1890	93	6				
1891	93	5					
1892	90	5					
Muskoka and Parry Sound	1874	9					
	1875	23					
	1876	19					
	1877	22					
	1878	29					
	1879	38	1				
	1880	44	4				
	1881	45	4				
	1882	48	5				
	1883	49	6				
	1884	48	4				
	1885	37	1				
	1886	23					
	1887	21					
	1888	32	1				
	1889	45	2				
	1890	47	1				
1891	47	1					
1892	53	1					

SCHEDULE B.—Comparative Statement, etc.—Continued.

County.	Year.	Tavern Licenses.	Shop Licenses.	Wholesale Licenses.	Vessel Licenses.	Remarks.	
Nipissing	1878	2	1				
	1879	3	1				
	1880	3	1				
	1881	11	8				
	1882	8	5				
	1883	9	5				
	1884	5	5				
	1885	23	6				
	1886	22	4				
	1887	24	5				
	1888	23	4				
	1889	23	4				
	1890	27	4				
1891	26	5					
1892	30	6					
Norfolk	1874	73	6				
	1875	74	6				
	1876	51	4	2			
	1877	51	5	1			
	1878	55	5				
	1879	51	7				
	1880	51	6				
	1881	55	6				
	1882	56	6				
	1883	54	6				
	1884	51	4				
	1885	Can. Temp. Act in force.
	1886	do
	1887	do
	1888	37	4				
	1889	41	3				
1890	39	2					
1891	39	2					
1892	41	2					
Northumberland and Durham.....	1874	135	35	2	1		
	1875	121	32	2	1		
	1876	102	27	4	1		
	1877	103	25	2	1		
	1878	89	21	2	2		
	1879	98	21	.....	1	Dunkin Act in force for 10 months, except in Port Hope and Cobourg.
	1880	100	22	.....	1	
	1881	100	23	.....	1	
	1882	102	23	.....	1	
	1883	104	23	.....	1	
	1884	101	19	.....		
	1885	97	16	.....		
	1886	Can. Temp. Act in force.
	1887	do
	1888	do
	1889	81	14				
	1890	74	13				
1891	77	15					
1892	76	14					

SCHEDULE B.—Comparative Statement, etc.—Continued.

County.	Year.	Tavern Licenses.	Shop Licenses.	Wholesale Licenses.	Vessel Licenses.	Remarks.
Ontario	1874	86	35			
	1875	87	23			
	1876	60	10			
	1877	58	9			
	1878	55	8	2		Dunkin Act in force for 10 months.
	1879	61	9			
	1880	65	11			
	1881	66	12			
	1882	71	13			
	1883	72	12			
	1884	68	11			
	1885	67	12			
	1886					Can. Temp. Act in force.
	1887					do
	1888					do
	1889	64	7			
	1890	62	7			
1891	60	4				
1892	57	6				
Oxford	1874	104	29			
	1875	102	25			
	1876	73	9	4		
	1877	70	10	1		
	1878	71	10			
	1879	74	12			
	1880	74	14			
	1881	73	13			
	1882	74	11			
	1883	72	9			
	1884	62	8			
	1885					Can. Temp. Act in force.
	1886					do
	1887					do
	1888					do
	1889	52	6	1		
	1890	58	7	1		
1891	57	5	1			
1892	50	5	1			
Peel	1874	91	15			
	1875	86	15			
	1876	49	10			
	1877	57	9			
	1878	60	8			
	1879	57	7			
	1880	62	7			
	1881	56	7			
	1882	57	6			
	1883	57	5			
	1884	55	4			
	1885	58	4			
	1886	55	5			
	1887	56	4			
	1888	57	3			
	1889	52	3			
	1890	52	3			
1891	51	3				
1892	47	3				

SCHEDULE B.—Comparative Statement, etc.—*Continued.*

County.	Year.	Tavern Licenses.	Shop Licenses.	Wholesale Licenses.	Vessel Licenses.	Remarks.
Prince Edward.....	1874	22	3		3	Dunkin Act in force. do do
	1875	23	3		1	
	1876			1	1	
	1877					
	1878					
	1879	23	2		1	
	1880	24	2		3	
	1881	24	3		1	
	1882	22	3		2	
	1883	23	4		2	
	1884	21	1		2	
	1885	23	2		2	
	1886	24	2			
	1887	21	2		2	
	1888	18	2		2	
	1889	16	2		2	
	1890	18	2			
1891	18	2				
1892	17	2				
Renfrew.....	1874	100	35		1	Can. Temp. Act in force. do do
	1875	102	30	1	1	
	1876	51	20		1	
	1877	42	17			
	1878	31	15			
	1879	36	16			
	1880	42	21			
	1881	47	17			
	1882	48	23			
	1883	63	30			
	1884	44	20			
	1885					
	1886					
	1887					
	1888	55	12			
	1889	55	16			
	1890	56	16			
1891	50	13				
1892	58	14				
Simcoe.....	1874	223	42			Mono and Mulmur attached to new County of Dufferin. Can. Temp. Act in force. do do
	1875	196	35	2	2	
	1876	135	24	2	2	
	1877	137	24	1	2	
	1878	149	21	1	1	
	1879	142	20	1	1	
	1880	155	23	1	1	
	1881	144	23	1	1	
	1882	146	23	1		
	1883	147	26			
	1884	138	24			
	1885					
	1886					
	1887					
	1888	121	17			
	1889	124	18			
	1890	123	17			
1891	113	15				
1892	117	12				

SCHEDULE B.—Comparative Statement, etc.—*Continued.*

County.	Year.	Tavern Licenses.	Shop Licenses.	Wholesale Licenses.	Vessel Licenses.	Remarks.	
Stormont, Dundas and Glengarry	1874	122	31				
	1875	80	28				
	1876	82	22				
	1877	87	17				
	1878	94	17				
	1879	91	16				
	1880	91	18				
	1881	96	18				
	1882	95	18				
	1883	89	17				
	1884	92	15				
	1885	Can. Temp. Act in force.
	1886	do
	1887	do
	1888	105	8				
	1889	111	10				
1890	103	8					
1891	96	10					
1892	94	10					
Victoria	1874	78	13	1			
	1875	70	9	.....	1	
	1876	55	5	1	.....	
	1877	56	5	.....	.....
	1878	56	6	.....	.....
	1879	60	6	.....	.....
	1880	59	5	.....	.....
	1881	62	4	.....	.....
	1882	62	3	.....	1	
	1883	62	3	.....	2	
	1884	58	3	.....	.....
	1885	54	3	.....	.....
	1886	Can. Temp. Act in force.
	1887	do
	1888	do
	1889	46	2				
1890	44	2					
1891	47	2					
1892	40	3					
Waterloo	1874	135	21				
	1875	136	20	3			
	1876	86	19	13			
	1877	84	17	10			
	1878	87	17	.....		
	1879	89	15	.....		
	1880	87	15	.....		
	1881	88	16	.....		
	1882	90	17	.....		
	1883	91	15	.....	1	
	1884	92	14	.....	.....
	1885	90	13	.....	.....
	1886	87	12	.....	.....
	1887	87	12	.....	.....
	1888	90	9	1			
	1889	91	10	1			
1890	92	10	1				
1891	91	10	1				
1892	90	11	1				

SCHEDULE B.—Comparative Statement, etc.—Continued.

County.	Year.	Tavern Licenses.	Shop Licenses.	Wholesale Licenses.	Vessel Licenses.	Remarks.
Welland	1874	145	28	3		
	1875	151	23			
	1876	73	19			
	1877	80	19			
	1878	89	21			
	1879	92	25			
	1880	87	29			
	1881	81	19			
	1882	78	20			
	1883	79	18			
	1884	82	14			
	1885	78	15			
	1886	82	12			
	1887	78	10			
	1888	70	8			
	1889	73	9			
	1890	73	9			
1891	70	9				
1892	71	9				
Wellington	1874	183	52			
	1875	182	41	3		
	1876	138	29	3		
	1877	130	28	3		
	1878	134	29			
	1879	138	29			
	1880	145	30			
	1881	134	24			
	1882	128	26			
	1883	126	22			
	1884	116	19			
	1885	104	13			
	1886					
	1887					
1888						
Not including Guelph.	1889	78	5			
	do	1890	77	4		
	do	1891	80	3		
	do	1892	79	3		
Wentworth (not including Hamilton)	1874	110	32	4		
	1875	107	19	2		
	1876	61	11	2		
	1877	56	10			
	1878	47	6			
	1879	63	6			
	1880	56	6			
	1881	55	6			
	1882	51	6			
	1883	52	6			
	1884	54	6			
	1885	54	6			
	1886	49	6			
	1887	51	5			
	1888	47	4			
	1889	49	3			
	1890	49	4			
1891	49	3				
1892	46	3				

Orangeville, Amaranth
and East Garafraxa, at-
tached to new County
of Dufferin.

Can. Temp. Act in force,
do
do

SCHEDULE B.—Comparative Statement, etc.—Continued.

County.	Year.	Tavern Licenses.	Shop Licenses.	Wholesale Licenses.	Vessel Licenses.	Remarks.
York (not including Toronto)	1874	148	39			
	1875	164	35			
	1876	108	16	1		
	1877	97	15			
	1878					
	1879	114	15			Dunkin Act in force.
	1880	117	16			do
	1881	128	21			one
	1882	131	24			month (May.)
	1883	132	23			
	1884	121	13			
	1885	114	12			
	1886	116	10			
	1887	109	7			
	1888	107	2			
	1889	112	1			
1890	108	2				
1891	105	3				
1892	108	4				

SCHEDULE B.—Comparative Statement, etc.—Continued.

City.	Year.	Tavern Licenses.	Shop Licenses.	Wholesale Licenses.	Vessel Licenses.	Remarks.
Toronto	1874	309	184	21	16	
	1875	299	128	28	9	
	1876	216	100	39	9	
	1877	182	100	26	6	
	1878	181	92	20	10	
	1879	195	98	19	6	
	1880	204	94	18	4	
	1881	210	95	15	6	
	1882	216	100	14	7	
	1883	197	98	14	5	
	1884	217	88	13	3	
	1885	227	71	14*	2*	
	1886	224	66	13	3	
	1887	150	50	13	1	
	1888	150	50	12	3	
	1889	152	50	14	3	
	1890	150	50	11		
1891	150	50	11			
1892	150	50	10			
Hamilton	1874	127	93	.....	3	
	1875	110	72			
	1876	68	61	11	1	
	1877	68	55	7	2	
	1878	68	64	7	2	
	1879	68	61	8		
	1880	74	57	7		
	1881	89	55	7		
	1882	98	58	8		
	1883	105	54	8		
	1884	97	47	4		
	1885	110	48	3		
	1886	112	45	5		
	1887	107	40	4		
	1888	111	37	2		
	1889	91	38	3		
	1890	92	38	3		
1891	91	37	3			
1892	94	34	3			
Ottawa.....	1874	120	77	6		
	1875	114	148	7		
	1876	75	77	7		
	1877	75	80	2		1
	1878	73	77	.....		1
	1879	73	71	.....		1
	1880	75	72	.....		1
	1881	75	77	.....		1
	1882	75	76	.....		1
	1883	75	84	.....		1
	1884	75	78	.....		1
	1885	75	77			
	1886	75	69	1		
	1887	75	68	1		1 B. & W.
	1888	76	54	2		1
	1889	80	56	1		1 B. & W.
	1890	88	59	2		
1891	87	59	1			
1892	78	46	1			

*Dominion Issues.

SCHEDULE B.—Comparative Statement, etc.—*Continued.*

City.	Year.	Tavern Licenses.	Shop Licenses.	Wholesale Licenses.	Vessel Licenses.	Remarks.
London	1874	75	40	3		
	1875	75	74	2		
	1876	57	34	5		
	1877	58	35	1		
	1878	58	37	1		
	1879	57	36	2		
	1880	45	27	9		
	1881	45	24	2		
	1882	47	26	3		
	1883	47	24	2		
	1884	48	22	2		
	1885	49	22	1		
	1886	61	21	2		
	1887	54	19	2		
	1888	57	14	1		
	1889	58	13	1		
1890	56	12	1			
1891	41	10	1			
1892	34	6	3			
Kingston.....	1874	97	25		1	
	1875	75	20	3	1	
	1876	53	23	6	5	
	1877	61	21	3	8	
	1878	61	21	3	8	
	1879	62	20	3	8	
	1880	62	20	3	8	
	1881	64	20	2	11	
	1882	53	22	2	9	
	1883	53	23	3	6	
	1884	39	20	2	6	
	1885	38	22	1	4	
	1886	41	22	1	6	
	1887	43	20	1	6	
	1888	44	15	1	7	
	1889	40	15	1	7	
1890	38	15	1			
1891	39	15	1			
1892	41	15	1			
St. Catharines.....	1886	29	7			
	1887	23	7			
	1888	26	7			
	1889	26	6			
	1890	26	5			
	1891	26	4			
	1892	26	3			
Brantford.....	1886	19	5	3		
	1887	18	5	3		
	1888	18	5	3		
	1889	18	5	3		
	1890	18	5	2		
	1891	18	5	1		
	1892	18	5	1		

SCHEDULE B.—Comparative Statement, etc.—*Continued.*

City.	Year.	Tavern Licences.	Shop Licenses.	Wholesale Licenses.	Vessel Licenses.	Remarks.
St. Thomas.....	1889	20	6			
	1890	18	4			
	1891	18	4			
	1892	18	4			
Stratford.....	1889	21	4			
	1890	21	4			
	1891	21	4			
	1892	21	4			
Guelph.....	1889	16	2			
	1890	16	2			
	1891	16	2			
	1892	16	2			
Belleville.....	1889	25	3	2		
	1890	25	3	2		
	1891	25	3	2		
	1892	25	3	2		
Windsor.....	1891	22	4			
	1892	25	5			

SCHEDULE B.—*Concluded.*

RECAPITULATION, showing the total number of Provincial licenses issued in the several Counties in the Province, including the cities, during the license years 1874-5-6-7-8-9-80-1-2 3-4-5-6-7-8-9-90-1-2.

Years.	Tavern.	Shop.	Wholesale.	Vessel.	Total.
1874.....	4793	1307	52	33	6185
1875.....	4459	1257	78	24	5818
1876.....	2977	787	147	27	3938
1877.....	2845	739	65	27	3676
1878.....	2910	724	52	29	3715
1879.....	3199	757	42	22	4020
1880.....	3227	760	40	22	4049
1881.....	3311	764	34	24	4133
1882.....	3317	787	35	24	4163
1883.....	3363	781	36	21	4201
1884.....	3253	675	28	14	3970
1885.....	2574	525	24	9	3132
1886.....	1567	367	28	12	1974
1887.....	1496	325	28	13	1862
1888.....	2066	336	26	17	2445
1889.....	3073	445	27	15	3560
1890.....	3071	428	24	....	3523
1891.....	2930	403	21	....	3414
1892.....	2966	378	25	....	3369

The Six Months' Licenses and the Licenses *extended* do not appear in the above Schedule or recapitulation, and as a consequence the total number of Licenses issued, according to the Statement, does not correspond with the number as shown in Schedule A and C. Beer and Wine Licenses are included with the ordinary licenses, under the heads of Tavern Licenses and Vessel Licenses respectively. An *extended* License is good for a period not exceeding three months. It is not in the nature of a new license, but simply a permission, granted by the Board of Commissioners, to the holder of a license expiring in April, to continue his business under the old license for the specified period, that he may be enabled to dispose of his stock on hand and quit the business without loss. Six Months' Licenses run from the first day of May to the thirty-first day of October, and are not valid after the latter date. They are granted in localities which are largely resorted to in summer by visitors, where the Board of Commissioners are of opinion that increased tavern accommodation for the summer months is necessary.

SCHEDULE C.—Continued.

License District.	Municipality.	Licenses Transferred and Removed.				Total.	Amounts received for Provincial Licenses Transfers, Renewals and Fines in each Municipality.			Proportion thereof paid to Municipalities.			Excess over Statutory duties imposed by Municipal by-law.		Remarks.				
		1890-1.	1891-2.	1892-3.	1890-1.		1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1891-2.	1892-3.						
Addington.	Newburg Camden Sheffield Kaladar and Anglesa Barre Kennebec Olden Osceola Hinchinbrooke Palmerston and N. & S. Gananoque Clarendon and Miller Denbigh	1890-1.	2	4	2	1890-1.	\$ 300 00	\$ 265 00	\$ 240 00	84 64	65 78	61 16	1891-2.	\$ 300 00	\$ 265 00	1892-3.	\$ 300 00	\$ 265 00	250 00
		1891-2.	15	13	11	1891-2.	1,085 00	1,015 00	1,030 00	355 08	324 28	305 80	1891-2.	1,085 00	1,015 00	1892-3.	1,085 00	1,015 00	86 21
		1892-3.	9	10	9	1892-3.	725 00	740 00	870 00	228 09	226 78	275 13	1892-3.	725 00	740 00	1892-3.	725 00	740 00	23 53
		1890-1.	2	1	2	1890-1.	195 00	90 00	180 00	63 48	27 20	52 42	1890-1.	195 00	90 00	1890-1.	195 00	90 00	210 00
		1891-2.	1	1	1	1891-2.	90 00	130 00	130 00	28 22	45 36	43 69	1891-2.	90 00	130 00	1891-2.	90 00	130 00	210 00
		1892-3.	1	1	1	1892-3.	90 00	100 00	90 00	28 22	31 76	26 21	1892-3.	90 00	100 00	1892-3.	90 00	100 00	210 00
		1890-1.	1	1	1	1890-1.	90 00	90 00	110 00	28 20	34 95	34 95	1890-1.	90 00	90 00	1890-1.	90 00	90 00	180 00
		1891-2.	1	1	2	1891-2.	155 00	175 00	250 00	93 20	84 90	122 42	1891-2.	155 00	175 00	1891-2.	155 00	175 00	40 00
		1892-3.	4	6	2	1892-3.	360 00	390 00	180 00	112 88	122 46	52 42	1892-3.	360 00	390 00	1892-3.	360 00	390 00	70 00
		1890-1.	4	2	1	1890-1.	190 00	95 00	90 00	61 13	29 48	26 21	1890-1.	190 00	95 00	1890-1.	190 00	95 00	26 21
		1891-2.	1	1	1	1891-2.	50 00	50 00	50 00	23 52	23 52	23 52	1891-2.	50 00	50 00	1891-2.	50 00	50 00	23 52
		1892-3.	1	1	6	1892-3.	2,055 00	1,400 00	1,010 00	915 05	618 29	410 78	1892-3.	2,055 00	1,400 00	1892-3.	2,055 00	1,400 00	410 78
Algoma.	Sault Ste. Marie St. Joseph Hilton Thessalon Rafour Punmer Additional Unorganized Territory	1890-1.	1	3	2	1890-1.	365 00	270 00	180 00	127 52	86 21	47 05	1890-1.	365 00	270 00	1890-1.	365 00	270 00	250 00
		1891-2.	1	1	1	1891-2.	90 00	90 00	90 00	31 22	28 74	23 53	1891-2.	90 00	90 00	1891-2.	90 00	90 00	23 53
		1892-3.	1	5	5	1892-3.	620 00	605 00	540 00	375 34	357 38	285 87	1892-3.	620 00	605 00	1892-3.	620 00	605 00	285 87
		1890-1.	4	4	1	1890-1.	90 00	90 00	150 00	28 76	28 76	28 76	1890-1.	90 00	90 00	1890-1.	90 00	90 00	210 00
		1891-2.	1	1	1	1891-2.	330 00	330 00	297 50	114 98	114 98	56 85	1891-2.	330 00	330 00	1891-2.	330 00	330 00	40 00
		1892-3.	3	5	5	1892-3.	1,630 60	1,245 00	1,529 60	529 60	529 60	529 60	1892-3.	1,630 60	1,245 00	1892-3.	1,630 60	1,245 00	529 60
		1890-1.	2	3	1	1890-1.	219	16	17	16	17	17	1890-1.	219	16	1890-1.	219	16	17
		1891-2.	1	1	1	1891-2.	1	1	1	1	1	1	1891-2.	1	1	1891-2.	1	1	1
		1892-3.	1	1	1	1892-3.	1	1	1	1	1	1	1892-3.	1	1	1892-3.	1	1	1
		1893-4.	1	1	1	1893-4.	1	1	1	1	1	1	1893-4.	1	1	1893-4.	1	1	1

SCHEDULE O.—Continued.

License District.	Municipality.	Licenses Transferred and Removed.			Total.			Amount received for Provincial Licenses, Transfers, Removals and Fines in each Municipality.			Proportion thereof paid to Municipalities.			Excess over Statutory duties imposed by Municipal by-laws.			Remarks.
		Transfers.		Re-movals.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	
		1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	
North Brant	South Dumfries	1	1	2	5	5	5	425 00	330 00	350 00	132 51	87 14	100 35	32 50	30 00		
	Brantford, Township				3	3	3	270 00	200 00	310 00	62 83	38 24	67 29				
	Chandaga				2	2	2	180 00	270 00	260 00	41 88	57 38	61 17				
	Paris	1	5	3	11	15	13	2125 00	2047 00	2060 00	822 86	731 41	766 67	500 00	500 00		
South Brant	Brantford, Township	1	1		4	5	3	360 00	365 00	270 00	11 16						
	Brantford	1	1	3	4	4	6	275 00	275 00	300 00	14 46						
	Oakland	2	1		4	5	1	190 00	95 00	140 00	7 84					*12 28	
		6	7	2	32	31	26	7135 00	6889 00	6864 00	3229 35	3083 33	3087 69	1940 00	1940 00		
Brockville and Leeds.	Brockville	1	2		14	13	17	7255 00	7235 00	6375 00	3968 07	3964 62	3765 75	5260 00	4920 00		
	Gananoque		1		8	9	8	2160 00	2165 00	2180 00	1289 18	1295 90	1296 77	960 00	960 00		
	Newboro				2	2	2	390 00	320 00	320 00	177 72	142 50	141 23	80 00	80 00		
	Rastard and Burgess				6	5	4	640 00	520 00	420 00	314 74	255 60	212 14	115 00	105 00		
	North Crosby			2	3	5	3	300 00	310 00	300 00	122 58	128 95	121 83	30 00	30 00		
	Front of Leeds and Lausdowne				2	1	1	180 00	140 00	140 00	61 72	57 28	56 12				
	Front of Yonge and Escott			1	2	3	3	137 50	167 50	210 00	51 44	67 70	76 53				
	Rear of Yonge and Escott				2	2	2	150 00	154 00	100 00	61 30	69 36	40 61	10 00	10 00		
	Rear of Leeds and Lausdowne				6	6	5	540 00	560 00	490 00	185 16	197 88	173 47				
	Elizabethtown			1	3	4	3	173 75	266 25	308 75	76 86	115 94	134 79			20 00	
South Crosby			1	2	2	3	285 00	135 00	265 00	123 44	46 86	112 23					
Athens				2	2	2	290 00	315 00	240 00	87 44	101 54	61 23					

* Transferred to 1893-4.

SCHEDULE C.—Comparative Statement by Municipalities, shewing the number of Provincial Licenses, etc.—Continued.

License District.	Municipality.	Tavern.						Beer and Wine.			Shop.			Wholesale.			Extended Tavern.			Extended Shop.			Six Months.							
		Ordinary.																												
		1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.		
Centre Bruce	Paisley	5	5	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
	Kincardine, Town	6	6	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
	Chesley	3	3	3																										
	Greenock	7	7	7																										
	Huron	4	3	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	Kincardine, Township	1	1	1																										
Elderslie	1	1	1																											
North Bruce	Tiverton	2	2	2																										
	Port Elgin	6	6	5																										
	Southampton	2	3	3																										
	Tara	3	3	3																										
	Warton	5	5	5																										
	Bruce	2	2	2																										
	Sauguen	1	1	1																										
	Arran	4	4	4																										
	Amabel	2	3	3																										
	Eastnor	3	3	3																										
	Albemarle	2	2	2																										
Lindsay & St. Edmunds	1	1	1																											
South Bruce	Lacknow	4	4	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
	Teeswater	4	4	4																										
	Walkerton	8	8	8																										
	Culross	2	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	Carrick	11	11	11																										
	Brant	9	8	6																										
Kinloss	4	2	3																											

SCHEDULE C.—Comparative Statement by Municipalities, shewing the number of Provincial Licenses, etc.—Continued.

License District.	Municipality.	Tavern.			Shop.			Wholesale.			Extended Tavern.			Extended Shop.			Six Months.				
		Ordinary.			Beer and Wine.			1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.		
		1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.														
Cardwell	Adjala	7	6	7		1															
	Bradford	3	3	2		1															
	Tecumseth	3	3	3		1															
	Bolton	3	3	3																	
	Albion	5	6	5																	
	Imaniff	9	9	6																	
	West Gwillimbury	2	1	1																	
	Beeton	3	3	3																	
	Tottenham	3	3	3																	
	Allandale	...	...	3																	
Carleton	Richmond	1	1	1																	
	March	1	2	2																	
	Huntley	3	3	2																	
	North Gower	5	5	4			1														
	Goulburn	2	2	2																	
	Marlborough	1	1	1																	
	Fitzroy	2	2	2																	
	Napan	9	10	11			1														
	East Ottawa	2	2	2																	
	Cornwall	13	13	13			2														
Cornwall, Town	13	12	12			1															
Cornwall, Township																					
Dufferin	Orangeville	9	9	9			2														
	Mulmur	4	3	3																	
	Mono	3	2	2																	
	Melancthon	2	2	2																	
	Garafaxa, East	1	1	1																	
	Shelburne	4	4	4																	
Amaranth	1	1	1																		
East Luthier	2	2	2																		

License District.	Municipality.	Licenses Transferred and Removed.				Total.				Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality.				Proportion thereof paid to Municipalities.				Excess over Statutory Duties imposed by Municipal By-Laws.		Remarks.
		1890-1.	1891-2.	1892-3.	1893.	1890-1.	1891-2.	1892-3.	1893.	1890-1.	1891-2.	1892-3.	1893.	1890-1.	1891-2.	1892-3.	1893.	1890-1.	1891-2.	
Cardwell	Adiala	1	1	1	1	4	9	8	8	\$ 857 50	\$ 607 50	\$ 710 00	\$ 298 04	\$ 196 54	\$ 248 27	\$ 248 27	\$ 0	\$ 0		
	Bradford	1	1	1	1	4	4	4	4	\$ 394 00	\$ 375 00	\$ 300 00	\$ 229 22	\$ 192 07	\$ 119 39	\$ 95 00	\$ 60 00	\$ 0		
	Townseath	1	1	1	1	4	4	4	4	\$ 335 00	\$ 380 00	\$ 380 00	\$ 214 59	\$ 181 62	\$ 189 32	\$ 90 00	\$ 90 00	\$ 0		
	Bolton	1	1	1	1	4	4	4	4	\$ 510 00	\$ 560 00	\$ 560 00	\$ 240 40	\$ 237 34	\$ 259 25	\$ 150 00	\$ 150 00	\$ 0		
	Albion	2	1	3	1	7	8	8	8	\$ 184 50	\$ 545 00	\$ 560 00	\$ 159 78	\$ 177 14	\$ 203 60					
	Innisfil	1	3	1	1	6	11	13	1	\$ 870 00	\$ 807 50	\$ 585 00	\$ 285 80	\$ 286 36	\$ 193 67					
	West Gwillimbury	1	1	1	1	4	2	1	1	\$ 242 00	\$ 90 00	\$ 90 00	\$ 88 92	\$ 29 12	\$ 29 80					
	Beeton	1	1	1	1	4	4	4	4	\$ 460 00	\$ 460 00	\$ 517 50	\$ 182 84	\$ 182 18	\$ 209 23	\$ 90 00	\$ 97 50	\$ 0		
	Tottenham	1	1	1	1	4	4	4	4	\$ 505 00	\$ 480 00	\$ 565 00	\$ 220 16	\$ 207 33	\$ 251 60	\$ 130 00	\$ 130 00	\$ 0		
	Allandale	1	1	1	1	4	1	1	1	\$ 5 00	\$ 5 00	\$ 460 00		\$ 2 60	\$ 184 35		\$ 90 00	\$ 0		
Carleton	Richmond	1	1	1	1	4	1	2	2	\$ 120 00	\$ 125 00	\$ 130 00	\$ 26 20	\$ 30 64	\$ 31 14					
	March	1	1	1	1	4	2	2	2	\$ 90 00	\$ 180 00	\$ 180 00	\$ 26 16	\$ 56 56	\$ 53 35					
	Hurdley	1	1	1	1	4	3	3	3	\$ 275 00	\$ 205 00	\$ 180 00	\$ 80 64	\$ 68 34	\$ 53 35					
	North Gower	1	1	1	1	4	6	6	6	\$ 490 00	\$ 555 00	\$ 407 50	\$ 148 20	\$ 190 90	\$ 124 69					
	Gouillon	1	1	1	1	4	2	2	2	\$ 180 00	\$ 230 09	\$ 255 00	\$ 52 32	\$ 80 12	\$ 84 01					
	Marchborough	1	1	1	1	4	3	3	3	\$ 95 00	\$ 90 00	\$ 90 00	\$ 28 32	\$ 28 28	\$ 26 70					
	Fitzroy	1	1	1	1	4	3	3	3	\$ 185 00	\$ 185 00	\$ 180 00	\$ 54 48	\$ 52 94	\$ 53 35					
	Nepean	1	3	2	1	7	14	13	13	\$ 920 00	\$ 955 00	\$ 1090 00	\$ 270 18	\$ 308 74	\$ 337 94					
	East Ottawa	1	1	1	1	4	2	2	2	\$ 240 00	\$ 260 00	\$ 280 00	\$ 52 38	\$ 65 98	\$ 71 13					
	Cornwall	1	4	1	1	7	16	17	17	\$ 4155 00	\$ 4500 00	\$ 4460 00	\$ 2456 12	\$ 2676 51	\$ 2652 21	\$ 1920 00	\$ 1920 00	\$ 0		
Cornwall, Town	1	3	4	1	9	16	16	16	\$ 1462 50	\$ 1335 00	\$ 1370 00	\$ 589 98	\$ 537 86	\$ 533 72	\$ 100 00	\$ 100 00	\$ 0			
Cornwall, Township	1	1	1	1	4	17	12	14	\$ 2300 00	\$ 2225 00	\$ 2270 00	\$ 939 96	\$ 908 34	\$ 889 08	\$ 550 00	\$ 550 00	\$ 0			
Dufferin	Orangeville	6	2	1	1	10	14	14	\$ 2300 00	\$ 2225 00	\$ 2270 00	\$ 939 96	\$ 908 34	\$ 889 08	\$ 550 00	\$ 550 00	\$ 0			
	Mulmur	1	2	1	1	5	4	3	5	\$ 380 00	\$ 270 00	\$ 327 00	\$ 101 88	\$ 72 00	\$ 82 23					
	Monro	1	1	1	1	4	3	3	3	\$ 270 00	\$ 185 00	\$ 180 00	\$ 64 27	\$ 49 50	\$ 42 83					
	Melancthon	1	1	1	1	4	2	2	2	\$ 180 00	\$ 180 00	\$ 230 00	\$ 47 00	\$ 48 00	\$ 60 67					
	Gartraxa, East	1	1	1	1	4	1	1	1	\$ 95 10	\$ 110 00	\$ 90 00	\$ 24 86	\$ 28 07	\$ 21 41					
	Shelburne	1	1	1	1	4	4	4	4	\$ 685 00	\$ 689 00	\$ 770 00	\$ 296 01	\$ 296 00	\$ 317 79	\$ 200 00	\$ 200 00	\$ 0		
	Anarouth	1	1	1	1	4	1	1	1	\$ 90 00	\$ 90 00	\$ 90 00	\$ 23 52	\$ 24 00	\$ 21 41					
	East Luthier	1	1	1	1	4	3	3	3	\$ 305 00	\$ 320 00	\$ 350 00	\$ 168 98	\$ 175 44	\$ 180 67	\$ 130 00	\$ 130 00	\$ 0		

SCHEDULE C.—Comparative Statement by Municipalities shewing the number of Provincial Licenses, etc. — *Continued.*

License District.	Municipality.	Tavern.						Shop.	Wholesale.			Extended Tavern.			Extended Shop.			Six Months.				
		Ordinary.							1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.		
		1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.															
Dundas	Iroquois	4	4	4	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.			
	Chesterville	8	3	3																		
	Morrisburg	4	5	5	1	1																
	Winchester, Township	1	1	1																		
	Williamsburg	2	2	2																		
W. Durham	Winchester, Village	5	2	3																		
	Mountain	2	3	3																		
E. Durham	Port Hope	11	11	11	1	3	3															
	Millbrook	4	4	3																		
	Hope	1	1	1																		
	Caven	3	3	3																		
	Manvers		2	2	3																	
			2	2	2																	
W. Durham	Bowmanville	2	3	3	2	2	2															
	Newcastle	2	2	2	1	1	1															
	Clarke	4	4	4																		
	Darlington	1	2	2	1	1	1															
	Cartwright		2	2	2																	
			2	2	2																	

SCHEDULE C.—Continued.

License District.	Municipality.	Licenses Transferred and Removed.		Total.		Amounts received for Provincial Licenses, Transfers, Renewals, and Fines in each Municipality.						Proportion thereof paid to Municipalities.		Excess over Statutory Duties imposed by Municipal By-laws.		Remarks.	
		1890-1	1891-2	1891-2	1892-3	1890-1	1891-2	1892-3	1890-1	1891-2	1892-3	1891-2	1892-3	1891-2	1892-3		
Dundas	Tropois	1	1	5	4	851 00	860 00	870 00	415 09	403 42	399 09	320 00	320 00	1892-3	1892-3		
	Chesterville			4	3	775 00	600 00	565 00	315 58	246 75	232 32	180 00	180 00	1891-2	1892-3		
	Morrisburg		1	5	7	1370 00	1325 00	1360 00	820 88	703 48	627 59	600 00	500 00	1891-2	1892-3		
	Winchester, Township			1	1	165 00	205 50	175 00	31 60	59 50	48 17	15 00	15 00	1891-2	1892-3		Local Option.
	Winchester, Village			2	2	570 00	560 00	580 00	335 54	324 50	311 31	283 00	280 00	1891-2	1892-3		
Mountam				5	3	890 00	450 00	615 00	443 74	230 05	379 75	180 00	330 00	1891-2	1892-3		
E. Durham	Port Hope	1	1	13	15	4315 00	4885 00	4915 00	2388 72	2618 00	2651 00	2690 00	2690 00	1891-2	1892-3		
	Millbrook			4	5	1004 00	1140 00	1115 00	512 85	642 31	620 71	500 00	425 00	1891-2	1892-3		
	Hope			1	1	190 00	190 00	190 00	123 51	125 12	123 25	109 00	109 00	1891-2	1892-3		
	Cavan		1	3	4	395 00	380 00	435 00	183 50	182 44	215 89	165 00	137 50	1891-2	1892-3		
	Manvers			2	2	350 00	350 00	525 00	247 10	229 23	330 76	170 00	255 00	1891-2	1892-3		
W. Durham	Rowanville	2	4	6	9	1190 00	1420 00	1550 00	639 35	742 38	803 58	600 00	600 00	1891-2	1892-3		
	Newcastle			4	3	665 00	465 00	145 00	312 64	197 55	197 67	140 00	140 00	1891-2	1892-3		
	Charke			1	4	740 00	720 00	720 00	156 31	432 70	441 42	360 00	360 00	1891-2	1892-3		
	Darlington		1	2	4	407 50	422 50	397 50	184 32	233 02	230 90	180 00	180 00	1891-2	1892-3		
	Cartwright			3	3	312 50	312 50	312 50	143 08	132 94	138 40	87 50	87 50	1891-2	1892-3		

SCHEDULE C.—Comparative Statement by Municipalities, showing the number of Provincial Licenses, etc.—Continued.

License District.	Municipality.	Tavern.				Shop.			Who esale.			Extended Tavern.			Extended Shop.			Six Months.			
		Ordinary.	Beer and Wine.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.
East Flgin.	Aylmer	4	4	1892-3.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.
	Port Stanley	2	2	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.
	Springfield	1	1	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.
	Vienna	1	1	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.
	Yarmouth	6	6	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.
	Malahide	3	4	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.
Bayham	8	7	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	
West Flgin.	St. Thomas	18	18	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.
	Southwold	7	6	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.
	Dunwich	5	2	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.
	Aldborough	6	6	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.
	Dutton	3	3	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.
	North Essex	Maldstone	2	2	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.
Windsor	22	25	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	
Rochester	6	6	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	
East Sandwich	11	11	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	
West Sandwich	9	9	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	
Sandwich, Town	5	4	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	
Belle River	3	3	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	
Anderdon	3	2	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	
Walkerville	1	1	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	1891-2.	1890-1.	1892-3.	

SCHEDULE C.—Continued.

License District.	Municipality.		Licenses Transferred and Removed.		Total.		Amount received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality.				Proportion thereof paid to Municipalities.		Excess over Statutory Duties imposed by Municipal By-Laws.		Remarks.	
	Transfers.	Removals.	1894.	1893.	1894.	1893.	1894.	1893.	1894.	1893.	1894.	1893.	1894.			
East Elgin.	1	1	1896-1	1897-3	1894-2	1895-3	1890-1	1891-2	1891-2	1892-3	1890-1	1891-2	1891-2	1892-3	1893-4	
	1	1	1896-1	1897-3	1894-2	1895-3	1890-1	1891-2	1891-2	1892-3	1890-1	1891-2	1891-2	1892-3	1893-4	
	1	1	1896-1	1897-3	1894-2	1895-3	1890-1	1891-2	1891-2	1892-3	1890-1	1891-2	1891-2	1892-3	1893-4	
	1	1	1896-1	1897-3	1894-2	1895-3	1890-1	1891-2	1891-2	1892-3	1890-1	1891-2	1891-2	1892-3	1893-4	
	1	1	1896-1	1897-3	1894-2	1895-3	1890-1	1891-2	1891-2	1892-3	1890-1	1891-2	1891-2	1892-3	1893-4	
	1	1	1896-1	1897-3	1894-2	1895-3	1890-1	1891-2	1891-2	1892-3	1890-1	1891-2	1891-2	1892-3	1893-4	
West Elgin.	1	1	1896-1	1897-3	1894-2	1895-3	1890-1	1891-2	1891-2	1892-3	1890-1	1891-2	1891-2	1892-3	1893-4	
	1	1	1896-1	1897-3	1894-2	1895-3	1890-1	1891-2	1891-2	1892-3	1890-1	1891-2	1891-2	1892-3	1893-4	
	1	1	1896-1	1897-3	1894-2	1895-3	1890-1	1891-2	1891-2	1892-3	1890-1	1891-2	1891-2	1892-3	1893-4	
	1	1	1896-1	1897-3	1894-2	1895-3	1890-1	1891-2	1891-2	1892-3	1890-1	1891-2	1891-2	1892-3	1893-4	
	1	1	1896-1	1897-3	1894-2	1895-3	1890-1	1891-2	1891-2	1892-3	1890-1	1891-2	1891-2	1892-3	1893-4	
	1	1	1896-1	1897-3	1894-2	1895-3	1890-1	1891-2	1891-2	1892-3	1890-1	1891-2	1891-2	1892-3	1893-4	
North Essex.	1	1	1896-1	1897-3	1894-2	1895-3	1890-1	1891-2	1891-2	1892-3	1890-1	1891-2	1891-2	1892-3	1893-4	
	1	1	1896-1	1897-3	1894-2	1895-3	1890-1	1891-2	1891-2	1892-3	1890-1	1891-2	1891-2	1892-3	1893-4	
	1	1	1896-1	1897-3	1894-2	1895-3	1890-1	1891-2	1891-2	1892-3	1890-1	1891-2	1891-2	1892-3	1893-4	
	1	1	1896-1	1897-3	1894-2	1895-3	1890-1	1891-2	1891-2	1892-3	1890-1	1891-2	1891-2	1892-3	1893-4	
	1	1	1896-1	1897-3	1894-2	1895-3	1890-1	1891-2	1891-2	1892-3	1890-1	1891-2	1891-2	1892-3	1893-4	
	1	1	1896-1	1897-3	1894-2	1895-3	1890-1	1891-2	1891-2	1892-3	1890-1	1891-2	1891-2	1892-3	1893-4	

SCHEDULE C.—Continued.

License District.	Municipality.	Licenses Transferred and Removed.		Total.		Amount received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality.		Proportion thereof paid to Municipalities.		Excess over statutory duties imposed by Municipal by-laws.		Remarks.
		Transfers.	Removals.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1891-2.	1892-3.	1891-2.		1892-3.
Essex	Mersax	1	1	220 00	230 00	48 62	96 65	105 50	40 00	40 00		
	Leamington	4	4	880 00	987 00	436 32	471 30	441 14	280 00	280 00		
	Amherstburg	1	1	1477 50	1312 50	331 73	518 22	549 78	180 00	180 00		
	Malden	3	3	185 00	185 00	61 06	56 00	78 09	70 00	70 00		
	Gosfield, South	1	1	160 00	160 00	99 31	96 88	100 27	70 00	70 00		
	Kingsville	4	4	420 00	490 00	147 94	161 08	175 77	70 00	70 00		
	Essex, Town	3	3	660 00	495 00	327 31	238 14	320 60	157 50	240 00		Dunkin Act in force.
	Colchester, North	1	1	155 00	120 00	75 73	53 76	133 45				
	Colchester, South	1	1	90 00	90 00	29 30	26 88	35 30				
	Pelee Island	11	7	820 00	660 00	268 70	261 59	270 93			140 00	
	Tilbury, West	2	2									
	Tilbury, North	1	1	165 00		101 76		130 98				
Gosfield, North	2	2										
Frontenac	Portsmouth	4	4	365 00	365 00	64 62	77 65	76 10				
	Kingston	5	6	365 00	410 00	85 58	121 72	98 93				
	Portland	6	5	475 00	450 00	113 62	125 92	129 40				
	Pittsburg	1	6	307 50	345 00	73 36	100 74	96 00				
	Storrington	2	3	177 50	217 50	48 90	62 96	18 16				
	Wolfe Island	4	5	284 75	307 50	68 11	88 14	88 00				
	Loughboro	1	3	185 00	185 00	43 66	52 46	48 00				
	Bedford	1	3	205 00	185 00	50 64	52 48	49 47				

SCHEDULE C.—Continued.

License District.	Municipality.	Licenses Transferred and Removed.		Total.	Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality.						Proportion thereof paid to Municipalities.						Excess over Statutory duties imposed by municipal by-laws.		Remarks.		
		Transfers.	Removals.		1890-1.		1891-2.		1892-3.		1890-1.		1891-2.		1892-3.		1891-2.			1892-3.	
					§	c.	§	c.	§	c.	§	c.	§	c.	§	c.	§	c.		§	c.	§	c.
Gbangary	Alexandria	1	—	9	890 00	880 00	1074 00	213 28	1700 81	1605 17	1200 00	—	—	—	—	—	—	—	—		
	Charles Tenburg	2	1	9	1065 00	911 50	962 50	517 51	467 41	218 30	221 97	1200 00	160 00	—	—	—	—	—	—		
	Leicester, Township	—	—	7	750 00	1239 00	900 00	436 14	792 70	500 00	566 81	160 00	313 75	—	—	—	—	—	—		
	Kenyon	—	—	7	1100 00	1019 00	672 50	433 30	525 92	292 46	219 40	300 00	135 00	—	—	—	—	—	—		
	Lochiel	—	—	6	720 00	885 00	300 00	313 36	449 10	131 00	293 75	210 00	—	—	—	—	—	—	—		
	Langaster, Village	—	—	2	100 00	130 00	400 00	211 45	215 82	66 00	180 00	160 00	—	—	—	—	—	—	—		
	Maxville	—	—	2	—	—	250 00	—	—	—	—	—	—	—	—	—	—	—	—		
Greenville	Prescott	1	2	11	2352 50	2753 00	2750 00	1700 81	1617 81	1605 17	1200 00	—	—	—	—	—	—	—			
	Cardinal	—	—	3	100 00	100 00	110 00	216 22	218 30	221 97	1200 00	160 00	—	—	—	—	—	—			
	Kempville	—	—	8	919 00	985 00	1033 75	459 28	487 01	566 81	160 00	313 75	—	—	—	—	—	—			
	Merrickville	—	—	1	502 00	495 00	555 00	292 64	292 46	219 40	300 00	135 00	—	—	—	—	—	—			
	Augusta	—	—	3	270 00	270 00	270 00	81 32	87 46	85 80	135 00	—	—	—	—	—	—	—			
	Wolford	—	—	1	220 00	200 00	300 00	117 48	139 16	28 60	110 00	—	—	—	—	—	—	—			
	Wolfeboro	—	—	5	170 00	512 50	500 00	119 92	187 06	166 83	160 00	—	—	—	—	—	—	—			
	Kitley	—	—	2	180 00	180 00	180 00	36 22	58 30	57 20	—	—	—	—	—	—	—	—			
	South Elmsley	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	Oxford	—	—	1	295 00	275 00	290 00	96 02	89 91	131 97	—	—	—	—	—	—	—	—			
Centre Grey	Thorburn	2	—	4	310 00	320 00	300 00	73 98	80 21	72 29	—	—	—	—	—	—	—	—			
	Artemesia	—	—	3	420 00	465 00	470 00	130 56	110 42	114 60	—	—	—	—	—	—	—	—			
	Holland	—	—	6	540 00	545 00	500 00	136 68	162 72	171 70	—	—	—	—	—	—	—	—			
	Collingwood, Township	—	—	2	145 00	187 50	180 00	52 22	65 85	51 23	—	—	—	—	—	—	—	—			
	Elphinstia	—	—	1	30 00	30 00	30 00	26 12	26 76	27 11	—	—	—	—	—	—	—	—			
	Caprey	—	—	6	435 00	460 00	382 50	132 71	138 20	115 23	—	—	—	—	—	—	—	—			
	Sullivan	—	—	2	180 00	185 00	180 00	52 24	55 72	51 23	—	—	—	—	—	—	—	—			
Markdale	—	—	1	500 00	635 00	600 00	113 15	212 58	228 38	120 00	120 00	—	—	—	—	—	—				

SCHEDULE C.—Continued.

License District.	Municipality.	Licenses Transferred and Removed.		Total.		Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality.				Proportion thereof paid to Municipalities.				Excess over Statutory Duties imposed by Municipal By-Laws.		Remarks.
		1890-1	1891-2	1891-2	1892-3	1890-1	1891-2	1892-3	1893-4	1890-1	1891-2	1892-3	1893-4	1891-2	1892-3	
North Grey.	Owen Sound	3	2	3	18	2881 00	2500 00	2685 00	1114 38	906 22	975 76	330 00	375 00	1892-3		
	Meaford		6	5	4	963 50	928 00	690 00	359 21	332 18	242 63	110 00	300 00	1891-2		
	Derby		2	3	2	100 00	245 00	200 00	107 21	87 96	66 75					
	Keppel		1	1	2	30 00	110 00	180 00	29 50	38 04	57 21					
	Sydenham		2	3	5	310 00	315 00	180 00	108 20	107 41	37 21					
	St. Vincent		1	2	1	95 00	90 00	114 00	31 98	28 52	10 06					
	Sarawak															
South Grey.	Port au		1	3	1	270 00	270 00	300 00	91 01	79 33	99 67					
	Durham		3	5	7	1960 00	755 00	722 00	392 17	251 51	271 97	80 00	80 00	1891-2		
	Pentick		1	1	7	580 00	631 00	550 00	292 21	199 26	175 61					
	Clondeg		1	3	1	270 00	110 00	187 50	91 00	35 34	71 21					
	Normanby		1	10	3	300 00	745 00	810 00	393 36	223 12	256 11					
	Egmont		1	2	3	180 00	185 00	180 00	60 67	53 22	56 96					
	Dundalk		1	3	3	620 00	510 00	520 00	296 62	229 52	240 49	150 00	150 00	1891-2		
	Refunds						36 35		31 51							
Haldimand.	Cayuga, Village		3	5	6	965 00	810 00	840 00	335 31	301 16	302 20	120 00	120 00	1891-2		
	Caledonia		1	5	7	900 00	950 00	920 00	451 98	176 10	161 95	300 00	300 00	1892-3		
	Oncida			5	6	170 00	330 00	380 00	162 15	115 71	131 59					
	Cayuga, North, Tp		2	3	3	270 00	247 50	217 50	91 20	75 18	75 93					
	Dunn		1	1	5	390 00	300 00	370 00	136 79	120 76	126 53					
	Rambour		2	11	10	735 00	749 00	705 00	258 36	159 12	212 93					
	Walpole		1	3	6	330 00	345 00	340 00	151 18	158 12	156 15	60 00	60 00	1891-2		
	Seneca		3	3	4	330 00	345 00	340 00	151 18	158 12	156 15					
	Hagersville		5	5	5	600 00	600 00	600 00	151 98	150 95	151 82					

SCHEDULE C.—Continued.

License District.	Municipality.	Licenses Transferred and Removed.		Total.		Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality.				Proportion thereof paid to Municipalities.				Excess over Statutory duties imposed by municipal by-laws.		Remarks.		
		Transfers.	Removed.	1890-1.	1891-2.	1890-1.	1891-2.	1892-3.	1893.	1890-1.	1891-2.	1892-3.	1893.	1891-2.	1892-3.			
																	£	¢
North Hastings.	Marmora and Lake.....	2	1	5	6	480 66	455 00	150 00	151 18	111 18	111 60	111 60	55 51	57 92	1891-2.	1892-3.	1893.	
	Huntingdon.....	1	1	5	6	180 00	300 00	300 00	56 06	27 78	33 81	33 81	55 06	27 78	1891-2.	1892-3.	1893.	
	Stirling.....	1	3	6	6	525 00	530 00	580 00	151 48	155 72	184 60	184 60	56 06	55 51	1891-2.	1892-3.	1893.	40 00
	Madoc, Township.....	2	2	2	2	180 00	180 00	180 00	56 06	55 51	57 92	57 92	55 51	57 92	1891-2.	1892-3.	1893.	
	Elzevirand Grimsdhorpe.....	1	1	5	5	365 00	385 00	320 00	114 50	122 67	111 03	111 03	55 51	57 92	1891-2.	1892-3.	1893.	
	Tudor and Cashell.....	2	2	2	2	180 00	180 00	180 00	56 06	55 51	57 92	57 92	55 51	57 92	1891-2.	1892-3.	1893.	
	Wollaston.....	4	1	6	6	350 00	360 00	380 00	112 11	111 10	125 46	125 46	275 72	290 20	1891-2.	1892-3.	1893.	160 00
	Monteagle and Herschel.....	2	2	1	1	650 00	650 00	670 00	276 82	275 72	290 20	290 20	275 72	290 20	1891-2.	1892-3.	1893.	160 00
	Rawdon.....	2	1	6	5	90 00	90 00	90 00	28 01	27 77	28 96	28 96	27 77	28 96	1891-2.	1892-3.	1893.	
	Madoc, Village.....	1	1	1	1	37 50	75 00	180 00	14 02	27 78	57 92	57 92	27 78	57 92	1891-2.	1892-3.	1893.	
	Wicklow and Bangor.....	2	2	2	2	180 00	100 00	400 00	56 06	275 51	277 92	277 92	56 06	275 51	1891-2.	1892-3.	1893.	220 00
	Dungannon.....	2	2	2	2	180 00	100 00	400 00	56 06	275 51	277 92	277 92	56 06	275 51	1891-2.	1892-3.	1893.	220 00
	Carlow and Mayo.....	5	2	35	32	7335 00	7920 00	7871 00	3179 20	3905 37	3963 71	3963 71	3179 20	3905 37	1891-2.	1892-3.	1893.	1550 00
Limerick.....	2	1	16	18	2924 17	2927 00	2699 00	1501 71	1513 50	1120 83	1120 83	1501 71	1513 50	1891-2.	1892-3.	1893.	960 00	
Faraday.....	2	2	8	6	550 00	580 00	492 50	178 08	196 18	172 72	172 72	178 08	196 18	1891-2.	1892-3.	1893.	880 00	
West Hastings.	Belleville.....	4	3	12	10	685 00	662 50	617 50	150 77	177 43	177 73	177 73	150 77	177 43	1891-2.	1892-3.	1893.	
	Trenton.....	1	1	3	1	270 00	275 00	280 00	60 00	69 10	78 51	78 51	60 00	69 10	1891-2.	1892-3.	1893.	
	Sidney.....	2	2	8	6	550 00	580 00	492 50	178 08	196 18	172 72	172 72	178 08	196 18	1891-2.	1892-3.	1893.	880 00
East Huron.	Grey.....	4	3	12	10	685 00	662 50	617 50	150 77	177 43	177 73	177 73	150 77	177 43	1891-2.	1892-3.	1893.	
	McKillop.....	1	1	3	1	270 00	275 00	280 00	60 00	69 10	78 51	78 51	60 00	69 10	1891-2.	1892-3.	1893.	
	Hullett, East part.....	3	2	8	2	185 00	180 00	200 00	40 55	11 82	57 88	57 88	40 55	11 82	1891-2.	1892-3.	1893.	
	Morris.....	1	2	3	2	510 00	550 00	600 00	116 71	138 22	173 61	173 61	116 71	138 22	1891-2.	1892-3.	1893.	
	Be Wick.....	1	1	2	1	90 00	90 00	100 00	22 50	22 12	28 94	28 94	22 50	22 12	1891-2.	1892-3.	1893.	
	Turnberry.....	3	1	5	3	635 00	790 00	670 00	212 70	270 55	271 60	271 60	212 70	270 55	1891-2.	1892-3.	1893.	160 00
	Bettses.....	1	1	3	3	355 00	355 00	349 00	130 27	111 61	137 87	137 87	130 27	111 61	1891-2.	1892-3.	1893.	80 00

SCHEDULE C.—Continued.

License District.	Municipality.	Licenses Transferred and Removed.		Total.	Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality.				Proportion thereof paid to Municipalities.		Excess over Statutory duties imposed by Municipal by laws.		Remarks.
		1891-2.	1892-3.		1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1891-2.	1892-3.	
South Huron.	Exeter	1	7	8	1180 00	1175 00	560 04	557 82	554 00	380 00	380 00		
	Seaton	1	10	11	1865 00	1685 00	878 57	793 21	781 05	410 00	410 00		
	Godenrich, T. Ship, S. pt.	3	1	4	95 00	95 00	30 00	34 85	32 00				
	Bayfield	1	3	4	325 00	305 00	89 55	83 08	83 00				
	Stephen	1	12	13	840 00	910 00	429 00	291 70	326 98	330 99			
	Usborne	2	5	7	270 00	180 00	190 00	92 12	61 32	69 60			
	Hay	6	6	12	780 00	621 00	545 00	294 68	296 40	241 55			
	Tuckersmith	1	3	4	270 00	270 00	540 00	92 12	96 48	186 93			
	Stanley	1	4	5	455 00	350 00	100 00	201 44	144 71	149 50			
			9	46	46								
West Huron.	Godenrich, Town	1	10	11	1700 00	1803 75	1500 00	775 06	793 26	701 27	360 00		
	Wawanosh, East	1	1	2	90 00	95 00	90 00	30 62	33 12	30 59			
	Hullett	1	2	3	180 00	180 00	180 00	61 26	61 14	61 23			
	Wawanosh, West	1	1	2	95 00	90 00	100 00	33 18	30 56	35 66			
	Wingham	1	7	8	985 00	970 00	1150 00	317 78	309 64	489 60	60 00	240 00	
	Clinton	2	1	3	1855 00	1725 00	1650 00	823 55	770 14	731 81	360 00	360 00	
	Ashefeld	2	7	9	60 00	455 00	490 00	158 21	155 38	172 58			
	Colborne	1	5	6	550 00	535 00	500 00	193 96	196 15	178 33			
	Blythe	1	5	6	755 00	630 00	567 50	321 62	257 56	237 51	120 00	97 50	
			10	46	46								
East Kent.	Howard	2	3	5	210 00	180 00	200 00	65 18	53 36	67 61			
	Blenheim	3	3	6	840 00	810 00	810 00	466 72	475 89	360 00	360 00		
	Dresden	1	6	7	120 00	1110 00	1150 00	671 14	635 06	608 28	480 00	480 00	
	Thamesville	3	3	6	450 00	430 00	430 00	168 20	170 02	176 92	90 00	90 00	
	Camden	2	2	4	180 00	230 00	180 00	52 12	75 60	57 94			
	Beulah	1	5	6	670 00	660 00	660 00	318 60	316 74	325 89	210 00	210 00	
	Harwich	2	5	7	1630 00	970 00	865 75	456 34	435 18	405 77	175 90	181 25	
	Orford	3	3	6	340 00	280 00	270 00	108 60	81 50	86 92			
	Ridgetown	2	2	4	1330 00	1425 00	1310 00	731 14	777 94	742 82	540 00	540 00	
			9	10	10								

SCHEDULE C. — Continued.

License District.	Municipality.	Licenses Transferred and Removed.		Total.		Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality.				Proportion thereof paid to Municipalities.		Excess over Statutory duties imposed by Municipal by-law.		Remarks.
		Transfers.	Remov-als.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1891-2.	1892-3.	1891-2.	1892-3.	
West Kent.	Chatham, Town.	5	2	22	32	10065 00	9089 95	7775 25	5924 44	50094 01	4205 97	45 71	47 00	
	Chatham, Township.	1		1	1	275 00	180 00	130 00	94 80	57 93	147 82	30 00	45 00	
	Dover.	2		3	2	651 00	260 00	360 00	291 16	112 07	811 97	517 50	487 50	
	Wallacabung.	3	1	13	10	1846 96	1747 75	1617 50	962 25	877 27	105 71	60 00	60 00	
	Raleigh.	3	1	1	4	470 00	220 00	190 00	282 49	122 75	105 71	60 00	60 00	
	Tilbury, Centre.	2	1	5	4	670 00	610 00	630 00	278 86	255 16	270 82	120 00	120 00	
Tilbury, East.						100 00			51 24					
Kingston.	Kingston, City.	7	8	67	61	16950 00	17570 00	18190 00	8666 39	9014 18	9365 62	5475 00	5625 00	
	Bosancquet Forest.	1	1	5	5	73 75	745 00	621 00	61 95	316 60	269 72	162 50	152 75	
East Lambton.	Warwick.	1	1	2	2	1005 00	120 00	103 00	437 81	56 05	37 20	30 00	5 00	
	Brooke.	1	1	2	2	200 00	200 00	260 00	137 81	72 08	102 79	20 00	20 00	
	Wyand.	1	1	4	3	695 00	610 00	680 00	325 78	335 48	336 55	240 00	240 00	
	Watford.	1	2	6	5	1050 00	777 50	780 00	491 74	329 21	356 33	192 50	200 00	
	Ephremia.	1	1	3	2	300 00	300 00	320 00	113 50	115 56	121 97	20 00	30 00	
	Plympton.	2	1	3	3	100 00	195 00	160 00	97 84	111 24	97 60	70 00	70 00	
	Alkona.	1	1	2	2	330 00	353 00	238 75	165 66	161 26	112 13	110 00	68 75	
	Theedford.	1	1	2	2	295 00	162 50	175 00	99 92	45 06	55 59	12 50	5 00	
	Alvinston.	1	1	4	4	910 00	795 00	810 00	482 32	504 64	516 55	420 00	420 00	
	Petrolia.	3	1	11	9	2135 00	2225 00	2260 00	1452 03	1347 16	1367 47	960 00	960 00	
	Moore.	2	2	10	9	910 00	1015 00	720 00	434 24	584 08	351 27	315 00	120 00	
	Sarnia, Township.	1	1	3	2	135 00	130 00	210 00	65 10	64 42	97 59	15 00	15 00	
Sombra.	4	2	12	10	820 00	795 00	720 00	318 87	349 82	318 29	72 50	65 00		
Oil Springs.	1	1	4	4	800 00	869 00	960 00	419 06	484 74	540 26	320 00	320 00		
Enniskillen.	1	1	3	4	270 00	275 00	420 00	96 80	101 59	181 71				
Sarnia, Town.	1	4	13	13	3065 00	3265 00	3910 00	2023 44	1980 93	2384 83	1440 00	1680 00		
Point Forward.	1	3	8	12	9 1625 00	1335 00	780 00	1106 04	878 46	531 97	700 00	385 00		
Dawn.	1	1	2	2	300 00	300 00	130 00	184 52	185 83	33 03	120 00	60 00		

SCHEDULE C.—Continued.

License District.	Municipality.	Licenses Transferred and Removed.		Total.	Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality.				Proportion thereof paid to Municipalities.				Excess over Statutory duties imposed by municipal by-laws.		Remarks.		
		Transfers.	Removals.		1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.		1891-2.	1892-3.
North Leamark	Leamark, Village	1890-1.	1891-2.	1892-3.	2	350 00	350 00	380 00	169 06	168 54	183 58	110 00	110 00				
	Pakenham	1890-1.	1891-2.	1892-3.	4	300 00	320 00	410 00	118 12	112 20	142 26						
	Dalhousie	1890-1.	1891-2.	1892-3.	2	180 00	180 00	180 00	59 06	58 54	58 46						
	Almonte	1890-1.	1891-2.	1892-3.	5	1390 00	1385 00	1480 00	816 54	812 21	839 36	600 00	600 00				
	Carleton Place	1890-1.	1891-2.	1892-3.	10	2900 00	2765 00	2965 00	1692 18	1621 94	1722 31	1200 00	1200 00				
	Kanaway	1890-1.	1891-2.	1892-3.	3	320 00	345 00	300 00	128 41	139 76	118 31	30 00	30 00				
	Leamark, Township	1890-1.	1891-2.	1892-3.	2	225 00			81 20								
	Levant	1890-1.	1891-2.	1892-3.	1	90 00	90 00	90 00	29 54	29 26	29 23						
	South Leamark	Perth	1890-1.	1891-2.	1892-3.	9	2510 00	2490 00	2550 00	1455 05	1455 82	1482 70	1080 00	1080 00			
		Smith's Falls	1890-1.	1891-2.	1892-3.	13	2205 00	2750 00	2720 00	1281 14	1585 81	1593 12	1200 00	1200 00			
Beekwith		1890-1.	1891-2.	1892-3.	2	180 00	180 00	180 00	56 26	57 82	57 51						
Bathurst		1890-1.	1891-2.	1892-3.	1	90 00			28 12								
Drummond		1890-1.	1891-2.	1892-3.	2	100 00	190 00	220 00	66 26	67 82	81 91	10 00	10 00				
South Sherbrooke		1890-1.	1891-2.	1892-3.	1	95 00	100 00	105 00	33 12	36 32	38 56	5 00	5 00				

SCHEDULE C.—Continued.

License District.	Municipality.	Licenses Transferred and Removed.					Total.	Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality.						Proportion thereof paid to Municipalities.						Excess over Statute duties imposed by Municipal By-laws.						Remarks.												
		Transfers.		Removals.				1890-1	1891-2	1892-3	1893-4	1894-5	1895-6	1896-7	1897-8	1898-9	1899-0	1900-1	1901-2	1902-3	1903-4	1904-5	1905-6	1906-7	1907-8		1908-9	1909-0										
		1890-1	1891-2	1892-3	1893-4	1894-5																							1895-6	1896-7	1897-8	1898-9	1899-0	1900-1	1901-2	1902-3	1903-4	1904-5
Lennox	Napanee	2	1	2	13	11	12	2337 50	3,225 00	2935 00	1595 74	1611 98	1619 39	1200 00	1200 00	1892-3	1893-4	1894-5	1895-6	1896-7	1897-8	1898-9	1899-0	1900-1	1901-2	1902-3	1903-4	1904-5	1905-6	1906-7	1907-8	1908-9	1909-0					
	Bath					2	2	240 00	260 00	290 00	41 33	55 36	68 88																									
	Adolphustown					2	2	50 00			18 47																											
	Amherst Island					2	2	180 00	180 00	180 00	44 33	47 48	48 61																									
	Ernstown					4	4	275 00	285 00	330 00	68 40	77 14	97 24																									
	North Fredericksburg					1	1	90 00	90 00	90 00	22 17	23 72	24 31																									
	Richmond					1	1																															
	Lincoln	Niagara, Township	1	2	1	5	6	5	312 50	317 50	390 00	108 64	104 39	135 37																								
		Grimsby, North					2	3	240 00	245 00	290 00	120 64	119 30	100 32																								
		Grantham					3	5	270 00	300 00	855 00	90 96	99 64	100 32																								
Merriton						4	4	1023 00	800 00	855 00	553 96	433 87	467 93																									
South Grimsby						2	2	180 00	180 00	240 00	60 64	56 94	120 23																									
Port Dalhousie						7	7	380 00	930 00	1190 00	511 60	502 35	613 32																									
Clinton						1	1	160 00			75 59																											
Grimsby, Village						3	3	440 00	430 00	430 00	161 07	145 40	150 24																									
Niagara, Town						8	8	1285 00	1257 90	1025 00	384 08	347 05	285 83																									
Peasbville						4	4	560 00	560 00	500 00	201 28	193 86	220 32																									
Leath					2	2			180 00																													
London					87	87	5619297 76	15532 63	13107 50	5133 54	4004 45	3338 92																										

SCHEDULE C.—Comparative Statement by Municipalities showing the number of Provincial Licenses, etc.—Continued.

License District.	Municipality.	Tavern.				Shop.	Wholesale.			Extended Tavern.			Extended Shop.			Six Months.			
		Ordinary.		Beer and Wine.			1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	
		1890-1.	1891-2.	1892-3.	1890-1.														1891-2.	1892-3.
Manitoulin.	Little Current.....	8	3	3															
	Gore Bay.....	4	4	2															
	Assinac.....	2	2	2															
	Howland.....	1	1	1															
	Gordon.....																		
	Tehlummah.....	1	1	1															
	Billings.....	1	1	1															
Carnarvon.....	1	1	1																
Unorganized Territory.	4	7	6																
East Middlesex.	London Township.....	18	20	20	2	1	1												
	Dorchester.....	4	4	4															
	Westminster.....	8	7	7	2	2	2												
	Nissouri.....	1	1	2	1	3	2												
	London West, Village..	2	2	2															
	East Williams.....	2	1	2															
	McGillivray.....	1	1	1	1	1	1												
North Middlesex.	Adelaide.....	1	1	2	1	1													
	Biddulph.....	4	4	4	1	1													
	Ailsa Craig.....	3	3	3															
	Lobo.....	5	5	5															
	Parkhill.....	5	5	5															
	Lucan.....	4	4	4															
	West Williams.....	4	4	4	1	1	1												

SCHEDULE C.—Continued.

License District.	Municipality.	Licenses Transferred and Removed.					Total.			Amount received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality.			Proportion thereof paid to Municipalities.			Excess over Statutory Duties imposed by Municipal By-laws.		Remarks.
		Transfers.		Removals.			1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1891-2.	1892-3.	1891-2.	1892-3.		
		1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	\$	c.	\$	c.	\$	c.	\$	c.	\$	c.	
Manitoulin.	Little Current	1	3	3	3	3	450 00	450 00	450 00	96 74	94 80	80 74	128 97	126 42	138 67	56 25	60 00	Payable wholly to the Province, less expenses.
	Gore Bay	1	4	4	4	4	600 00	600 00	588 75	128 97	126 42	138 67	108 36	107 40	103 73	60 00	60 00	
	Assinac	1	2	2	2	2	240 00	240 00	250 00	95 00	95 00	90 00	28 20	28 70	20 19	5 00	5 00	
	Howland	1	2	1	1	1	95 00	95 00	90 00	24 19	5 92	23 70	24 18	23 70	23 55			
	Gordon	1	1	1	1	1	90 00	90 00	90 00	90 00	90 00	100 00	24 19	23 70				
	Billings	1	1	1	1	1	90 00	90 00	90 00	564 00	683 00	560 00						
East Middlesex.	Carnarvon	1	1	1	1	1	30 00	30 00	30 00									Payable wholly to the Province, less expenses.
	Unorganized Territory	1	1	1	1	1	564 00	683 00	560 00									
	London Township	2	21	21	21	21	1735 00	1837 50	1937 50	505 02	538 56	574 00	97 74	113 84	112 00			
	Dorchester	4	4	4	4	4	360 00	380 00	380 00	240 30	210 16	224 00	36 66	87 57	84 00			
	Westminster	1	10	10	10	10	845 00	705 00	715 00	162 95	164 74	216 00	110 00	110 00	160 00	160 00		
	Nissouri	2	4	4	4	4	127 50	252 50	275 00									
North Middlesex.	London West, Village	2	4	4	4	4	360 00	355 00	400 00									Payable wholly to the Province, less expenses.
	East Williams	1	2	2	2	2	180 00	180 00	190 00	51 86	55 96	56 68	48 31	48 96	47 96			
	McGillivray	1	3	3	3	3	127 50	142 50	147 50	38 90	48 96	47 96	38 88	44 36	52 32			
	Adelaide	1	2	2	2	2	127 50	132 50	180 00	248 42	257 23	294 34	80 00	80 00	102 50	102 50		
	Biddulph	1	7	7	7	7	607 50	610 00	722 50	370 80	370 80	288 58	256 56	165 00	165 00	165 00		
	Ailsa Craig	1	4	4	4	4	775 00	610 00	555 00	131 80	158 56	135 16	484 31	507 16	521 45	225 00	225 00	
North Middlesex.	Lobo	1	6	6	6	6	455 00	490 00	460 00	484 31	507 16	521 45	225 00	225 00	160 00	160 00		Payable wholly to the Province, less expenses.
	Parkhill	1	4	4	4	4	1315 00	1320 00	1395 00	289 66	318 58	299 52						
	Lucan	1	7	7	7	7	760 00	800 00	780 00									
	West Williams	1	5	5	5	5	760 00	800 00	780 00									

SCHEDULE C.—Comparative Statement by Municipalities, shewing the number of Provincial Licenses, etc.—Continued.

License District.	Municipality.	Tavern.						Shop.	Wholesale.			Extended Tavern.			Extended Shop.			Six months.		
		Ordinary.			Beer and Wine.				1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.
		1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.													
West Middlesex	Ekfrid	4	3	1	1	1	1	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	
	Strathroy	7	7	1	1	1	1	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	
	Wardsville	2	1	1	1	1	1	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	
	Metcalfe	2	1	1	1	1	1	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	
	Delaware	2	2	2	2	2	2	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	
	Caradoc	3	3	3	3	3	3	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	
	Glencoe	4	4	4	4	4	4	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	
	Moss	2	2	2	2	2	2	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	
	Newbury	2	2	2	2	2	2	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	
	Monck	Wainfleet	1	1	1	1	1	1	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.
Canborough		2	2	2	2	2	2	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	
Caister		1	1	1	1	1	1	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	
Sherbrooke		6	6	6	6	6	6	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	
Dunnville		2	2	2	2	2	2	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	
Gainsborough		2	2	2	2	2	2	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	
Pelham		1	1	1	1	1	1	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	
Monkton		1	1	1	1	1	1	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	

SCHEDULE O.—Continued.

License Districts.	Municipality.	Licenses Transferred and Removed.		Total.		Amount received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality.			Proportion thereof paid to Municipalities.			Excess over statutory duties imposed by Municipal by-laws.		Remarks.	
		Transfers.	Removals.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1891-2.	1892-3.		
West Middlesex	Ekfrid	1	1	1	4	360 00	365 00	292 50	99 20	92 92	74 93	92 50	492 50		
	Strathroy	13	1	13	14	1895 00	1855 00	1975 00	833 53	790 21	840 16	492 50	492 50		
	Wardsville	2	2	2	2	300 00	300 00	197 50	109 60	105 50	70 17	60 00	37 50		
	Mercaide	2	1	2	1	180 00	140 00	62 50	49 60	41 72	21 13	45 50	46 11		
	Delaware	2	2	2	2	180 00	180 00	180 00	19 60	45 50	46 11	45 50	46 11		
	Carleton	3	4	3	4	270 00	275 00	305 00	74 42	70 18	82 50	660 50	560 00	443 34	
	Glencoe	1	1	1	4	1095 00	1065 00	898 31	681 91	660 50	545 15	660 00	660 00	80 00	
	Moss	1	1	2	2	150 00	300 00	210 00	62 00	105 52	106 88	60 00	60 00	80 00	
	Newbury	2	2	2	2	300 00	300 00	210 00	109 60	105 52	106 88	60 00	60 00	80 00	
Monck	Wainfleet	3	2	3	1	165 00	127 50	90 00	34 20	27 00	19 57	19 57	19 57		
	Cambridge	4	4	4	2	222 50	117 50	180 00	41 18	28 50	39 17	28 50	39 17		
	Castor	3	3	3	2	80 00	80 00	100 00	18 52	19 50	22 84	19 50	22 84		
	Sherrbrooke	1	1	1	1	90 00	90 00	90 00	17 10	18 00	19 57	18 00	19 57		
	Dunnville	9	9	9	8	1377 50	1377 50	1434 16	602 16	608 97	640 13	472 50	454 16		
	Gainsborough	1	1	1	3	222 50	217 50	280 00	41 18	45 00	61 99	45 00	61 99		
	Pelham	1	1	1	1	37 50	57 50	99 00	8 54	15 00	19 57	15 00	19 57		
	Monkton	1	1	1	1	37 50	57 50	99 00	8 54	15 00	19 57	15 00	19 57		
															Dunkin Act in force.

SCHEDULE C.—Comparative Statement by Municipalities, showing the number of Provincial Licenses, etc.—Continued.

License District.	Municipality.	Tavern.				Shop.			Wholesale.			Extended Tavern.			Extended Shop.			Six Months.			
		Ordinary.		Beer and Wine.		1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	
		1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.		
Muskoka	McLean and Bidout.....	3	2	2																	
	Draper.....	1	1	1																	
	Gravenhurst.....	3	3	3	1	1															
	Medora and Wood.....	1	1	1																	
	Bracebridge.....	3	4	4	1	1	1														
	Huntsville.....	3	3	3																	
	Monck.....																				
	Morrison.....	1	1	1																	
	Stisted.....																				
	Stephenson.....	2	2	2	2	2	1														
McAuley.....																					
Nipissing	North Bay.....	6	8	8	1	1	2														
	McKim.....	6	6	7	2	2	2														
	Matkawa.....	7	8	7	1	1	2														
	Wildfield.....	8																			
	Springer.....	3	4	5																	
	Ferris.....																				
	Bonfield.....	3	2	2																	
	Unorganized Territory.....																				
	Sudbury.....																				
	North Norfolk	Middleton.....	5	4	5	2	3	2													
Simcoe.....		8	8	8																	
Windham.....		4	4	4	4	4															
Waterford.....		3	3	3																	
Walsingham, South.....		1	1	1																	
Wocthouse.....																					
South Norfolk	Charlotteville.....	5	5	4	1	1	2														
	Houghton.....	1	2	1																	
	Port Dover.....	4	4	4																	
	Walsingham, North.....	2	2	2	2	2	1														
	Port Rowan.....	2	2	2																	

SCHEDULE C.—Continued.

License District.	Municipality.	Licenses Transferred and Removed.		Total.		Amounts received for Provincial Licenses, Transfers, Renewals, and Fines in each Municipality.		Proportion thereof paid to Municipalities.		Excess over Statutory duties imposed by Municipal by-laws.		Remarks.
		Transfers.	Removals.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1891-2.	1892-3.	1891-2.		1892-3.
Muskoka	McLean and Ridout	2	5	2	2	\$ c. 360 00 180 00	\$ c. 180 00 180 00	\$ c. 122 95 50 40	\$ c. 49 57 44 79	\$ c. 20 60 20 60	\$ c. 20 60 20 60	
	Draper	1	5	1	4	\$ c. 57 50 110 00	\$ c. 33 66 110 00	\$ c. 45 20 410 08	\$ c. 45 20 208 17	\$ c. 20 00 292 50	\$ c. 20 00 92 50	
	Gravenhurst	1	5	1	4	\$ c. 805 00 260 00	\$ c. 800 00 290 00	\$ c. 422 28 108 91	\$ c. 208 17 69 57	\$ c. 292 50 80 00	\$ c. 92 50 20 00	
	McLora and Wood	3	3	3	3	\$ c. 183 50 910 00	\$ c. 260 00 910 00	\$ c. 108 91 376 40	\$ c. 69 57 298 98	\$ c. 80 00 279 38	\$ c. 20 00 110 00	
	Bracebridge	1	6	3	4	\$ c. 992 50 485 00	\$ c. 570 00 485 00	\$ c. 376 40 132 50	\$ c. 298 98 381 88	\$ c. 110 00 120 00	\$ c. 110 00 260 00	
	Huntsville	1	3	4	3	\$ c. 45 00 90 00	\$ c. 82 50 90 00	\$ c. 13 67 27 34	\$ c. 25 20 28 91	\$ c. 45 44 28 91	\$ c. 110 00 260 00	
	Monck	1	1	1	2	\$ c. 87 50 180 00	\$ c. 90 00 180 00	\$ c. 36 44 54 66	\$ c. 28 91 53 71	\$ c. 28 91 53 71	\$ c. 110 00 260 00	
	Morrison	1	1	2	3	\$ c. 180 00 180 00	\$ c. 80 00 80 00	\$ c. 54 66 75 14	\$ c. 12 40 12 40	\$ c. 12 40 12 40	\$ c. 110 00 260 00	
	Stisted	1	2	2	3	\$ c. 180 00 180 00	\$ c. 80 00 80 00	\$ c. 54 66 75 14	\$ c. 12 40 12 40	\$ c. 12 40 12 40	\$ c. 110 00 260 00	
	Stephenson	1	3	3	1	\$ c. 180 00 180 00	\$ c. 80 00 80 00	\$ c. 54 66 75 14	\$ c. 12 40 12 40	\$ c. 12 40 12 40	\$ c. 110 00 260 00	
McAuley	1	3	3	1	\$ c. 180 00 180 00	\$ c. 80 00 80 00	\$ c. 54 66 75 14	\$ c. 12 40 12 40	\$ c. 12 40 12 40	\$ c. 110 00 260 00		
Nipissing	North Bay	1	1	8	10	\$ c. 125 00 1550 83	\$ c. 2645 00 1935 00	\$ c. 99 64 1128 47	\$ c. 1497 38 1253 97	\$ c. 750 00 1409 27	\$ c. 1000 00 1125 00	
	McKim	2	10	11	9	\$ c. 1370 00 1565 00	\$ c. 1350 00 1350 00	\$ c. 836 08 792 00	\$ c. 824 27 824 27	\$ c. 600 00 600 00	\$ c. 540 00 540 00	
	Mattawa	1	9	11	9	\$ c. 1370 00 1565 00	\$ c. 1350 00 1350 00	\$ c. 836 08 792 00	\$ c. 824 27 824 27	\$ c. 600 00 600 00	\$ c. 540 00 540 00	
	Widdfield	2	9	3	4	\$ c. 540 00 660 00	\$ c. 845 00 845 00	\$ c. 365 18 365 18	\$ c. 543 43 543 43	\$ c. 300 00 300 00	\$ c. 375 00 375 00	
	Springer	2	3	4	7	\$ c. 540 00 660 00	\$ c. 845 00 845 00	\$ c. 365 18 365 18	\$ c. 543 43 543 43	\$ c. 300 00 300 00	\$ c. 375 00 375 00	
	Ferris	3	3	2	2	\$ c. 375 00 500 00	\$ c. 270 00 360 00	\$ c. 200 16 360 00	\$ c. 143 69 143 69	\$ c. 70 00 70 00	\$ c. 70 00 70 00	
	Bonfield	1	1	1	1	\$ c. 50 00 50 00	\$ c. 10 00 10 00	\$ c. 10 00 10 00	\$ c. 5 27 00 5 27 00	\$ c. 70 00 70 00	\$ c. 70 00 70 00	
	*Unorganized Territory.	1	1	1	1	\$ c. 50 00 50 00	\$ c. 10 00 10 00	\$ c. 10 00 10 00	\$ c. 5 27 00 5 27 00	\$ c. 70 00 70 00	\$ c. 70 00 70 00	
	Sudbury	1	1	1	1	\$ c. 50 00 50 00	\$ c. 10 00 10 00	\$ c. 10 00 10 00	\$ c. 5 27 00 5 27 00	\$ c. 70 00 70 00	\$ c. 70 00 70 00	
	North Norfolk	Middleton	3	10	10	9	\$ c. 540 00 2015 00	\$ c. 565 00 2040 00	\$ c. 138 24 839 34	\$ c. 168 67 866 26	\$ c. 500 00 500 00	\$ c. 500 00 500 00
Simcoe		2	13	12	12	\$ c. 370 00 500 00	\$ c. 370 00 500 00	\$ c. 104 08 203 30	\$ c. 105 41 195 78	\$ c. 130 00 130 00	\$ c. 130 00 130 00	
Windham		2	6	6	5	\$ c. 370 00 500 00	\$ c. 370 00 500 00	\$ c. 104 08 203 30	\$ c. 105 41 195 78	\$ c. 130 00 130 00	\$ c. 130 00 130 00	
Waterford		2	3	3	4	\$ c. 95 00 37 50	\$ c. 90 00 37 50	\$ c. 17 76 8 20	\$ c. 20 00 10 00	\$ c. 20 00 10 00	\$ c. 20 00 10 00	
Walsingham, South		1	2	1	2	\$ c. 37 50 470 00	\$ c. 37 50 470 00	\$ c. 8 20 87 42	\$ c. 10 00 100 00	\$ c. 10 00 86 10	\$ c. 10 00 86 10	
South Norfolk	Woodhouse	1	5	1	6	\$ c. 470 00 180 00	\$ c. 465 00 180 00	\$ c. 87 42 25 97	\$ c. 100 00 40 00	\$ c. 86 10 35 61	\$ c. 86 10 35 61	
	Charlotteville	1	5	1	6	\$ c. 180 00 635 00	\$ c. 180 00 635 00	\$ c. 25 97 194 95	\$ c. 40 00 207 50	\$ c. 35 61 201 16	\$ c. 35 61 122 50	
	Houghton	1	5	6	6	\$ c. 635 00 180 00	\$ c. 635 00 180 00	\$ c. 194 95 32 80	\$ c. 207 50 40 00	\$ c. 201 16 35 61	\$ c. 122 50 40 00	
	Port Dover	1	2	2	2	\$ c. 180 00 245 00	\$ c. 180 00 240 00	\$ c. 32 80 34 17	\$ c. 40 00 40 00	\$ c. 35 61 35 61	\$ c. 40 00 40 00	
	Walsingham, North	1	3	2	2	\$ c. 245 00 240 00	\$ c. 240 00 240 00	\$ c. 34 17 34 17	\$ c. 40 00 40 00	\$ c. 35 61 35 61	\$ c. 40 00 40 00	

* Payable wholly to the Province, less expenses.

SCHEDULE C.—Continued.

License District.	Municipality.	Licenses Transferred and Removed.				Total.				Amounts received for Provincial Licenses, Transfers, Renewals, and Fines in each Municipality.				Proportion thereof paid to Municipalities.				Excess over Statutory duties imposed by Municipal by-laws.		Remarks.
		1890-1.	1891-2.	1892-3.	1893.	1890-1.	1891-2.	1892-3.	1893.	1890-1.	1891-2.	1892-3.	1893.	1890-1.	1891-2.	1892-3.	1893.	1891-2.	1892-3.	
East Northumberland.	Seymour	1	2	2	3	\$ 180 00	\$ 180 00	\$ 290 00	\$ 44 46	\$ 43 38	\$ 74 72	\$ 0 00	\$ 0 00	\$ 0 00	\$ 0 00	\$ 0 00	\$ 0 00	\$ 0 00	\$ 0 00	
	Murray	1	1	1	1	90 00	90 00	90 00	22 24	21 70	22 41	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	
	Cramahé	1	2	2	1	135 00	135 00	130 00	61 08	63 36	62 41	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	
	Percy	1	3	4	2	430 00	425 00	330 00	207 80	201 09	172 30	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	
	Colborne	1	4	5	5	550 00	555 00	560 00	158 92	158 55	163 40	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	
	Campbellford	2	7	10	7	1140 00	1135 00	1343 75	413 02	437 20	557 22	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	
	Ha-things	1	6	6	4	1125 00	730 00	630 00	610 22	302 88	253 40	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	
	Brighton, Village	1	3	3	4	490 00	340 00	480 00	171 52	117 81	168 45	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	
	West Northumberland.	Alnwick	2	3	5	3	352 50	285 00	285 00	141 64	124 92	117 67	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
		South Monaghan	1	2	2	2	135 00	135 00	135 00	39 06	42 14	38 06	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
Haltonaid		1	2	2	1	112 50	115 00	90 00	32 54	39 80	25 37	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	
Hamilton		1	7	8	7	630 00	635 00	560 00	251 60	249 93	198 80	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	
Cobourg, Town		3	17	20	17	4322 50	4662 00	4130 50	2467 18	2666 80	2335 57	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	

SCHEDULE C — Continued.

License District.	Municipality.	Licenses Transferred and Removed.		Total.			Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality.			Proportion thereof paid to Municipalities.			Excess over Statutory duties imposed by municipal by-aws.		Remarks.		
		Transfers.	Removals.	1890-1.	1891-2.	1892-3.	1890-1.			1891-2.			1891-2.			1892-3.	
							£	c.	e.	£	c.	e.	£	c.		e.	£	c.	£	c.
North Ontario	Uxbridge, Town.....	3	1	8	5	6	1045 00	1165 00	1100 01	447 78	500 52	454 09	250 00	250 00			
	Brook.....	1	1	5	5	6	512 50	462 50	477 50	205 03	184 70	181 26	65 00	65 00			
	Marx.....	3	1	10	8	7	690 00	650 00	600 00	237 27	235 14	189 61	60 00	30 00			
	Thorah.....	1	1	1	1	1	100 00	120 00	165 00	36 26	45 46	61 00	10 00	10 00			
	Uxbridge, Township.....	1	1	5	6	4	345 60	402 50	390 00	105 04	121 92	110 20	15 00	10 00			
	Scott.....	1	3	4	6	2	365 00	351 00	190 00	128 80	124 06	58 97					
	Rama.....	1	1	1	4	2	90 00	203 75	180 00	26 29	60 40	48 37					
	Cunnington.....	3	3	3	5	2	690 00	575 00	430 00	358 18	290 80	221 13	160 00	160 00			
	Beaverton.....	1	1	5	4	3	645 00	505 00	494 00	297 23	210 88	199 13	120 00	120 00			
	South Ontario	Reach.....	1	1	7	4	4	505 00	400 00	400 00	205 28	154 61	152 35	40 00	40 00		
		Oshawa.....	1	1	6	6	6	1640 00	1700 00	1670 00	966 58	987 42	968 13	720 00	720 00		
		Whitby, Town.....	1	1	9	7	7	1730 00	1512 00	1490 00	815 22	707 48	691 47	420 00	420 00		
		Whitby, Township.....	2	1	3	5	4	390 00	400 00	420 00	208 76	210 74	218 30	120 00	120 00		
Whitby, East, Township.....		2	2	4	2	4	360 00	300 00	299 00	90 00	156 40	145 53	80 00	80 00			
Pickering.....		3	2	8	11	9	1040 00	980 00	940 00	556 72	513 38	490 62	280 00	280 00			
Port Perry.....		2	1	7	5	5	1010 00	805 00	810 00	552 90	437 00	437 01	320 00	320 00			

SCHEDULE C.—Comparative Statement by Municipalities, shewing the number of Provincial Licenses, etc.—Continued.

License District.	Municipality.	Tavern.				Shop.			Wholesale.			Extended Tavern.			Extended Shop.			Six months.						
		Ordinary.		Beer and Wine.		1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.				
Ottawa.....	Ottawa City	88	87	78	.....	59	59	46	2	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
				
North Oxford ..	East Nissouri	2	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
		1	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
		4	3	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
		2	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
		1	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
		13	14	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
South Oxford ..	Ingersoll	9	10	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
		4	4	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
		4	4	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
		3	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
		4	4	4
		2	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
South Oxford ..	Tilsonburg	1	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
		
	
	
	
	

SCHEDULE C.—Continued.

License District.	Municipality.	Licenses Transferred and Removed.					Total.			Amount received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality.			Proportion thereof paid to Municipalities.			Excess over Statutory duties imposed by Municipal by-laws.		Remarks.	
		1890-1	1891-2	1892-3	1890-1	1891-2	1892-3	1890-1	1891-2	1892-3	1890-1	1891-2	1892-3	1890-1	1891-2	1892-3	1890-1		1891-2	1892-3
Ottawa	Ottawa City	24	22	23	10	6	6	183	175	172	47081.50	46550.00	41712.39	17984.15	17661.32	15949.85	8700.00	7958.34	
North Oxford	East Nissouri	1						3	2	2	185.00	180.00	180.00	65.44	59.90	57.27			
	Blandford	2						3	1	1	150.00	145.00	130.00	72.36	67.42	68.64	20.00	40.00	
	East Zorra	1						4	4	3	360.00	365.00	350.00	125.64	137.28	124.08			
	Embro	1						2	3	1	515.00	325.00	320.00	244.92	112.40	137.27	80.00	80.00	
	West Zorra	1						1	1	1	90.00	90.00	90.00	31.42	29.95	28.63			
	Woodstock	3	2	5	1	1	1	21	19	23	4845.00	4945.00	4825.00	2812.64	2821.01	2724.26	1920.00	1920.00	
	Blenheim	2	4	2			2	10	12	11	1010.00	850.00	795.00	479.36	344.54	315.80	80.00	70.00	
South Oxford	Ingersoll	3	2	4				14	14	16	3035.00	3250.00	3063.50	1747.07	1861.04	1632.67	1440.00	1330.00	
	Tilsenburg	1	4	3				8	9	8	1692.50	1440.00	1420.00	978.23	812.70	761.00	600.00	600.00	
	Norwich, Village							4	4	4	720.00	720.00	330.00	348.46	344.16	382.83	240.00	240.00	
	North Oxford							3	3	5	390.00	305.00	335.00	201.35	151.62	141.90	80.00	80.00	
	North Norwich											50.00	50.00			15.92			
	South Norwich	1						5	4	4	365.00	360.00	130.00	110.72	104.16	38.11			
	Dereham							2	2		460.00	287.50		334.24	207.56			175.00	
West Oxford											90.00	90.00	97.12	26.04	21.00				
East Oxford							1	1	1	90.00	90.00	90.00	97.12	26.04	21.00				

SCHEDULE C.—Comparative Statement by Municipalities, shewing the number of Provincial Licenses, etc.—Continued.

License District.	Municipality.	Tavern.						Shop.	Wholesale.			Extended Tavern.		Extended Shop.		Six Months.				
		Ordinary.		Beer and Wine.					1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1891-2.	1892-3.	
North Perth.	Merrington.....	12	12	11																
	Ellice.....	4	5	5																
	Wallace.....	2	2	2																
	Elma.....	4	3	4																
	Listowel.....	8	7	7																
	Strafford.....	20	21	21																
	North Easthope.....	4	4	4																
	Milverton.....	3	3	2																
South Perth.	South Easthope.....	6	6	6																
	Pullarton.....	33	33	33																
	Mitchell.....	6	6	6																
	Hibberd.....	3	2	3																
	Downie.....	6	4	5																
	St. Mary's.....	8	8	7																
	Blanshard.....	2	1	1																
	Logan.....	12	12	12																

SCHEDULE C.—Continued.

License District.	Municipality.	Licenses Transferred and Removed.		Total.			Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality.			Proportion thereof paid to Municipalities.			Excess over Statutory Duties imposed by Municipal By-laws.			Remarks.	
		Transfers.	Removals.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.		
North Perth	Mornington.	1	4	13	14	16	1085 00	1090 00	1085 00	409 66	421 18	428 77	1891-2.	1892-3.	1893.		
	Ellice	1	1	3	5	5	360 00	460 00	450 00	135 61	177 34	171 52					
	Wallace.	1	1	3	2	2	185 00	180 00	180 00	70 62	68 64	68 60					
	Elma.	1	4	4	4	4	360 00	292 50	360 00	135 62	111 56	137 20					
	Listowel.	1	3	16	10	11	2215 00	1770 00	1911 00	1178 33	933 98	1050 77					
	Straford.	3	2	29	27	36	6720 00	6350 00	6735 00	3065 22	2955 24	3063 59					
	North Easthope.	1	1	4	4	5	360 00	360 00	370 00	135 62	137 30	142 93					
	Milverton.	1	1	4	3	5	365 00	360 00	340 00	104 52	102 98	114 33					
South Perth	South Easthope.	1	2	5	7	8	575 00	545 00	630 00	202 84	181 96	228 74					
	Fullarton.	2	1	5	3	3	345 00	270 00	280 00	130 94	90 00	96 59					
	Mitchell.	1	1	8	8	9	1650 00	1590 00	1645 00	851 10	811 56	815 25					
	Hibbert.	1	2	4	3	4	360 00	270 00	360 00	133 50	90 00	122 00					
	Downie.	2	1	5	7	7	460 00	515 00	490 00	159 18	195 41	172 81					
	St. Mary's.	3	2	13	12	9	2215 00	2130 00	2000 00	1069 84	1013 66	966 81					
	Blanshard.	1	1	3	2	1	202 50	180 00	90 00	69 32	60 00	30 50					
	Logan.	1	1	2	2	2	230 00	180 00	180 00	87 28	60 00	61 00					

SCHEDULE C.—Continued.

License District.	Municipality.	Licenses Transferred and Removed.		Total.	Amounts received for Provincial Licenses, Transfers, Removals and Fines in each Municipality.			Proportion thereof paid to Municipalities.			Excess over Statutory duties imposed by Municipal by-laws.			Remarks.
		Transfers.	Removals.		1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	
East Peterborough.	Aspodel	1	1	2	90 00	90 00	90 00	16 83	14 56	11 91	1892-3.	1891-2.	1892-3.	
	Dummer	1	1	2	90 00	90 00	90 00	16 82	14 56	11 91				
	Otonabee	2	2	4	180 00	180 00	180 00	33 65	29 12	23 81				
	Barleigh, Anstruther and Chandos	1	1	2	185 00	315 00	300 00	35 06	54 63	41 70				
	Norwood	3	6	9	780 00	835 00	790 00	470 50	481 90	437 71				
	Belmont and Methuen	1	1	2	420 00	590 00	580 00	273 65	348 56	337 71				
	Douro	1	1	2	.....	.....	.....	.....	.....	.....
				
				
				
West Peterborough.	Smith	1	1	2	315 00	330 00	381 40	112 80	115 10	136 09				
	Lakefield	1	1	2	605 00	800 00	870 00	339 36	448 48	481 40				
	Peterborough	8	6	14	8336 00	8087 50	7770 00	4978 01	4906 43	4635 31				
	North Monaghan .....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Panimore .....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Ashburnham	2	1	3	990 00	456 50	925 00	493 98	561 12	510 56				
				

SCHEDULE C.—Continued.

License District.	Municipality.	Licenses Transferred and Removed.		Total.			Amount received for Provincial Licenses, Transfers, Removals and Fines in each Municipality.						Proportion thereof paid to Municipalities.						Excess over Statutory duties imposed by Municipal by-laws.		Remarks.
		Transfers.	Removals.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.			
Prescott	South Plantagenet.....	1	1	7	5	5	545 00	565 00	450 00	191 76	203 92	166 46	191 76	203 92	166 46	.....	.....	.....
	East Hawkesbury.....	6	6	6	8	8	600 00	600 00	610 00	249 12	250 68	238 60	249 12	250 68	238 60	.....	.....	.....
	Longueuil.....	1	1	1	1	1	110 00	90 00	90 00	42 04	31 78	33 29	42 04	31 78	33 29	.....	.....	.....
	North Plantagenet.....	12	8	12	12	12	1100 00	740 00	1170 00	388 78	264 84	419 46	388 78	264 84	419 46	.....	.....	.....
	Caladonia.....	5	4	4	4	4	275 00	315 00	310 00	97 20	111 23	122 07	97 20	111 23	122 07	.....	.....	.....
	Alfred.....	1	1	6	6	6	455 00	455 00	430 00	160 24	161 25	172 00	160 24	161 25	172 00	.....	.....	.....
	West Hawkesbury.....	3	1	10	8	7	925 00	915 00	930 00	508 53	505 12	524 14	508 53	505 12	524 14	.....	.....	.....
	Hawkesbury, Village.....	2	1	5	4	4	370 00	480 00	520 00	99 82	127 12	155 36	99 82	127 12	155 36	.....	.....	.....
	L'Original.....	1	1	3	3	4	330 00	330 00	400 00	124 56	125 34	135 42	124 56	125 34	135 42	.....	.....	.....
	Pictou.....	3	1	11	10	9	2275 00	2250 00	2230 00	1229 46	1213 08	1208 53	1229 46	1213 08	1208 53	.....	.....	.....
South Marysburgh.....	1	1	1	1	1	110 00	110 00	110 00	41 42	40 80	41 00	41 42	40 80	41 00	.....	.....	.....	
Wellington.....	2	2	2	2	2	380 00	370 00	330 00	163 54	158 54	152 00	163 54	158 54	152 00	.....	.....	.....	
Sophiasburg.....	2	2	2	2	2	127 50	127 50	180 00	32 12	31 20	42 00	32 12	31 20	42 00	.....	.....	.....	
Huller.....	2	2	2	2	2	180 00	180 00	90 00	42 84	41 60	21 00	42 84	41 60	21 00	.....	.....	.....	
Ameliasburgh.....	4	4	10	10	8	462 50	462 50	462 50	114 15	110 92	112 03	114 15	110 92	112 03	.....	.....	.....	
Hallowell.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
North Marysburgh.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rat Portage.....	1	2	11	11	13	3005 00	2910 00	3165 00	1069 70	1918 69	2088 51	1069 70	1918 69	2088 51	.....	.....	.....	
Keewatin.....	1	1	3	4	7	600 00	605 00	610 00	335 35	401 80	365 46	335 35	401 80	365 46	.....	.....	.....	
Alberton.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Unorganized Districts*	.....	.....	1	2	1	140 00	180 00	124 30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bromley.....	2	2	2	2	3	240 00	240 00	410 00	117 98	117 50	218 72	117 98	117 50	218 72	.....	.....	.....	
Pembroke.....	1	1	14	14	14	2665 00	2800 00	2950 00	1183 99	1279 80	1328 73	1183 99	1279 80	1328 73	.....	.....	.....	
Ross.....	4	4	4	4	4	630 00	560 00	560 00	349 82	315 00	318 80	349 82	315 00	318 80	.....	.....	.....	
Westmeath.....	4	3	4	4	4	400 00	300 00	400 00	155 98	116 26	158 80	155 98	116 26	158 80	.....	.....	.....	
Wilberforce.....	2	2	2	2	2	200 00	220 00	180 00	67 65	76 68	59 40	67 65	76 68	59 40	.....	.....	.....	
Head, Maria and Clara.....	3	2	3	3	3	320 00	180 00	320 00	111 16	57 50	113 86	111 16	57 50	113 86	.....	.....	.....	
Petawawa.....	1	1	1	1	1	90 00	110 00	90 00	29 00	38 33	29 70	29 00	38 33	29 70	.....	.....	.....	
Rolph, Buchan & Wylie.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

* Payable wholly to the Province less expenses.

License District.	Municipality.	Licenses Transferred and Removed.		Total.		Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality.				Proportion thereof paid to Municipalities.		Excess over Statutory Duties imposed by Municipal By-Laws.		Remarks.	
		Transfers.	Removals.	1891-2	1892-3	1890-1	1891-2	1892-3	1890-1	1891-2	1892-3	1891-2	1892-3		
South Renfrew	Eganville	1	1	6	8	870 00	900 00	900 00	312 50	335 33	125 00	150 00	1891-2	1892-3	
	McNab	2	3	6	4	510 00	360 00	360 00	196 02	139 83	30 00	30 00			
	Renfrew	1	1	10	11	1359 00	1805 00	1720 00	528 60	845 38	510 00	510 00			
	Grattan					1130 00			419 22						
	Brougham					90 00	127 50	28 26	25 28	41 18					
	Bruce and Lyndoch					270 00	270 00	81 80	75 86	82 37					
	Amprior	3	2	15	11	2245 00	1915 00	2040 00	1198 02	596 14	1077 17	720 00	720 00		
	Radcliffe and Raglan							100 00							
	Griffith & Matawatzhan							50 00							
	Bagot and Bithfield			6	3	527 50	280 00	420 00	177 80	80 08	137 28				
Adnaston			1	1	100 00	100 00	100 00	38 26	35 28	37 45	10 00	10 00			
Jones															
Hagarty, etc			1	3	140 00	130 00	407 50	51 82	42 11	183 05					
Sebastopol						50 00	20 00	23 56	8 43						
Horton				1		100 00	140 00	140 00	23 56	42 14	77 45	50 00			
Russell	Cambridge	1	3	9	10	700 00	865 00	760 00	255 31	306 76	239 35				
	Russell	3	1	11	6	755 00	495 00	480 00	268 37	177 86	170 91				
	Clarence	5	2	12	9	659 00	830 00	820 00	233 98	288 71	300 42				
	Gloucester	3	1	14	13	1135 00	1205 00	1130 00	419 50	435 64	409 19				
	Cumberland		2	8	6	605 00	560 00	700 00	237 10	195 90	253 80				
	Osgoode		1	8	6	970 00	710 00	700 00	479 81	345 90	311 66	150 00	150 00		
	Rockland			2	2	410 00	300 00	340 00	199 02	187 61	162 16	100 00	100 00		
	Casselman		2	6	5	490 00	485 00	360 00	130 28	124 31	93 24				
	St. Catharines, City		6	4	39	35	6192 50	6137 50	6337 50	2073 61	1953 82	2071 41	457 50	412 50	
	Centre Simcoe	Barrie	2	7	13	20	2990 00	3070 00	3480 00	1580 73	1501 44	1830 67	1200 00	1300 00	
Summidaie				4	3	430 00	300 00	300 00	183 21	132 00	165 20	75 00	90 00		
Vespra			3	6	3	270 00	285 00	190 00	67 69	74 08	51 27				
Floss			1	5	4	550 00	410 00	410 00	128 68	110 21	121 14				
Young				3	3	270 00	270 00	280 00	68 23	68 40	79 35				
Tiny															

SCHEDULE C.—Continued.

License District.	Municipality.	Licenses Transferred and Removed.		Total.			Amounts received for Provincial Licenses, Penalties, Fines and Fees in each Municipality.			Proportion thereof paid to Municipalities.			Excess over Statutory duties imposed by Municipal by-law.		Remarks.		
		Transfers.	Removals.	1890-1.	1891-2.	1892-3.	1890-1.			1891-2.			1892-3.				
							£.	s.	c.	£.	s.	c.	£.	s.		c.	£.
East Simcoe.	Orillia and Matchedash.	1	1	2	2	2	180 00	185 00	180 00	59 34	62 08	60 83	1891-2.	1892-3.	1892-3.		
	Oro	1	1	7	3	3	290 00	220 00	315 00	98 88	76 99	114 03					
	Tay	1	1	1	1	1	130 00	130 00	370 00	69 66	69 80	186 29				40 00	
	Midonte	3	3	1	14	13	1120 47	1030 00	812 50	390 84	317 70	281 29					
	Penkangishene	1	1	6	6	7	1505 00	1485 00	1470 00	887 45	878 56	863 67				660 00	
	Orillia, Town	3	3	12	12	12	2455 00	2545 00	2740 00	1448 36	1491 75	1625 73				1080 00	
	Midland	1	1	9	6	10	1450 00	1275 00	1175 00	671 84	711 10	603 97				500 00	
																	375 00
West Simcoe.	Essa	3	1	10	8	8	855 00	775 00	810 00	438 90	401 53	405 67				187 50	
	Nottawasaga	1	2	1	2	2	715 00	580 00	540 00	338 38	276 58	250 50				100 00	
	Slayner	1	2	5	7	6	750 00	760 00	870 00	210 50	219 36	290 77					
	Collingwood, Town	1	1	13	12	11	3245 00	3240 00	3150 00	1947 80	1953 64	1851 57				1440 00	
	Tessoronto	1	1	1	4	7	335 00	370 00	490 00	157 34	133 76	170 50					
	Alliston	1	1	8	5	6	1350 00	900 00	960 00	590 47	317 52	330 83				50 00	
	Creemore	2	1	6	4	5	530 00	520 00	550 00	171 56	168 42	175 40				40 00	
Stormont	Osnabruk	2	1	15	11	10	1310 00	1281 25	1135 00	418 30	584 39	487 67				358 75	
	Finch	3	3	6	6	5	600 00	600 00	500 00	191 39	192 00	141 19				60 00	
	Roxborough	3	1	11	5	5	1230 00	635 00	640 00	737 87	310 66	273 89				175 00	
Thunder Bay	Neebing	3	1	21	19	19	3090 00	3285 00	3380 00	2160 33	2309 77	2373 10				1730 00	
	Port Arthur	1	3	24	21	22	4965 00	4987 50	4827 50	2978 46	3037 93	2920 97				2240 00	
	Unorganized Territory*	3	2	10	13	12	887 50	775 00	1040 00							2160 00	

* Payable wholly to the Province less expenses.

SCHEDULE C.—Continued.

License District.	Municipality.	Licenses Transferred and Removed.		Total.	Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality.				Proportion thereof paid to Municipalities.				Excess over Statutory duties imposed by Municipal by-laws.		Remarks.																							
		Transfers.	Removals.		1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.		1891-2.	1892-3.																					
																		1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.															
Toronto	Toronto, City	39	30	26	6	4	1	260	239	75	412	50	77	060	00	783	40	00	31	569	56	32	445	25	338	89	81	206	50	00	200	25	00					
East Victoria.	Onenec Falls	2							1	612	50	565	00	210	00	305	64	279	04	110	60	195	00	80	00													
	Fendon	1	2					3	5	665	00	600	00	700	00	354	13	324	05	362	43	240	00	240	20													
	Fendon, Township	3	1	2				8	6	420	00	427	50	390	00	132	76	147	06	131	20																	
	Bobcaygeon	1	1					5	3	717	50	598	00	410	00	346	24	307	12	205	60	210	00	140	00													
	Somerville			2				4	1	6	424	00	480	00	420	00	162	98	189	40	153	69	-40	00	40	00												
	Buxley				2			2	2	2	180	00	220	00	180	00	55	90	74	70	52	47																
	Digby							1	1	1	90	00	90	00	90	00	25	62	28	02	26	23																
West Victoria.	Lindsay	4	4	1	1	1	17	21	22	3827	50	4415	00	4790	00	2170	32	2537	08	2739	47	1920	00	2040	00													
	Woodville	1	2				4	5	3	365	00	510	00	450	00	79	02	197	72	169	56	90	00	90	00													
	Eldon		1	5			6	7	11	700	00	645	00	770	00	261	53	241	76	294	23	60	00	60	00													
	Mariposa		2				6	4		520	00	540	00			251	06	265	65			140	00															
								6	4																													

* 1 Extended.

SCHEDULE C.—Continued.

License District.	Municipality.	Licenses Transferred and Removed.			Total.	Amounts received for Provincial Licenses, Transfers, Renewals, and Fines in each Municipality.			Proportion thereof paid to Municipalities.			Excess over Statutory duties imposed by municipal by-laws.		Remarks.	
		1890-1	1891-2	1892-3		1890-1	1891-2	1892-3	1890-1	1891-2	1892-3	1890-1	1891-2		1892-3
North Waterloo.	Waterloo, Tp., N. part.	1	2	1	7	655 00	690 00	685 00	242 24	263 82	256 10	.....	.....	.....	.....
	Woolwich	1	2	1	8	730 00	575 00	555 00	299 42	217 08	202 26	.....	.....	.....	.....
	Wellesley	3	1	1	15	1365 00	1350 00	1380 00	498 10	494 66	501 43	.....	.....	.....	.....
	Berlin	2	1	2	15	2600 00	2567 50	2360 00	1137 92	1154 51	1071 52	.....	.....	.....	.....
	Waterloo, Town.....	2	3	1	10	1345 00	1423 00	1565 00	491 11	537 35	670 90	.....	.....	.....	.....
	Elmhurst.....	2	1	1	7	600 00	610 00	620 00	163 31	170 38	172 53	.....	.....	.....	.....
			1	1	1	7	.....	.....	.....	.....	.....	.....	.....	.....	.....
South Waterloo.	Galt	1	1	1	12	2970 00	2975 00	3000 00	1788 76	1791 85	1806 21	.....	.....	.....	.....
	Preston	1	1	1	7	1000 00	1010 00	1060 00	374 38	379 36	447 15	.....	.....	.....	.....
	Wilmet	1	3	1	14	1265 00	1350 00	1450 00	450 12	495 90	534 34	.....	.....	.....	.....
	Waterloo Tp., S. part	1	1	1	6	490 00	455 00	480 00	181 12	162 62	176 32	.....	.....	.....	.....
	Hesper	1	1	1	3	385 00	270 00	250 00	104 20	72 00	69 46	.....	.....	.....	.....
	North Dumfries	1	1	1	2	220 00	220 00	220 00	103 92	104 00	104 12	.....	.....	.....	.....
	New Hamburg	1	1	1	6	840 00	940 00	880 00	311 76	365 28	333 75	.....	.....	.....	.....
	Ayr, Village.....	1	1	1	2	350 00	350 00	370 00	173 92	171 00	181 81	.....	.....	.....	.....
			1	1	1	11	.....	.....	.....	.....	.....	.....	.....	.....	.....
			1	1	1	12	.....	.....	.....	.....	.....	.....	.....	.....	.....

SCHEDULE C.—Continued.

License District.	Licenses Transferred and Removed.		Total.			Amount received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality.			Proportion thereof paid to Municipalities.			Excess over statutory duties imposed by Municipal by-laws.		Remarks.		
	Municipality.		1890-1.	1891-2.	1892-3.	%	c.	%	c.	%	c.	%	c.			
	Transfers.	Removals.														
Welland	1890-1.	6	5	3	1	25	2865 00	2877 50	2932 50	840 43	872 98	892 83	1891-2.	1892-3.	1892-3.	
	1891-2.	1	1	2	2	26	180 00	204 00	180 00	66 78	80 33	66 14	1891-2.	1892-3.	1892-3.	
	1892-3.	1	1	4	5	3	605 50	512 50	115 00	291 84	294 81	242 67	1891-2.	1892-3.	1892-3.	
	1890-1.	3	1	7	7	10	899 50	877 50	928 50	186 46	181 08	211 97	1891-2.	1892-3.	1892-3.	
	1891-2.	3	1	12	9	11	857 00	715 50	905 00	325 80	315 06	340 58	1891-2.	1892-3.	1892-3.	
	1892-3.	1	1	4	1	2	350 00	300 00	180 00	335 06	277 78	341 73	1891-2.	1892-3.	1892-3.	
	1890-1.	1	2	1	5	4	317 50	255 00	255 00	122 41	100 40	99 21	1891-2.	1892-3.	1892-3.	
	1891-2.	2	2	11	7	6	1382 00	1385 00	4988 00	800 43	842 66	841 1	1891-2.	1892-3.	1892-3.	
	1892-3.	2	2	11	9	9	1607 00	1605 00	1603 00	643 54	645 38	637 28	1891-2.	1892-3.	1892-3.	
	1890-1.	4	4	1	16	18	223 00	270 00	290 00	83 48	100 40	110 24	1891-2.	1892-3.	1892-3.	
	1891-2.	1	1	1	13	13	1334 35	1546 90	1612 50	840 44	848 13	879 27	1891-2.	1892-3.	1892-3.	
	1892-3.	1	1	3	3	3	360 00	380 00	360 00	100 17	111 57	99 21	1891-2.	1892-3.	1892-3.	
	East-Wellington.	1890-1.	2	3	9	11	12	1940 00	1955 00	2055 00	916 03	912 72	991 43	1891-2.	1892-3.	1892-3.
		1891-2.	1	1	4	4	4	640 00	620 00	640 00	268 68	279 96	276 24	1891-2.	1892-3.	1892-3.
		1892-3.	1	1	5	6	5	385 00	370 00	385 00	119 98	119 99	128 33	1891-2.	1892-3.	1892-3.
1890-1.		1	1	6	6	5	1045 00	1045 00	1038 00	556 20	565 56	563 72	1891-2.	1892-3.	1892-3.	
1891-2.		1	1	2	2	2	320 00	260 00	240 00	183 38	77 58	78 12	1891-2.	1892-3.	1892-3.	
1892-3.		3	1	4	8	5	360 00	380 00	390 00	108 66	124 78	130 77	1891-2.	1892-3.	1892-3.	
1890-1.		1	1	1	1	1	50 00	40 00	90 00	27 16	52 80	29 06	1891-2.	1892-3.	1892-3.	
1891-2.		1	1	1	1	1	90 00	90 00	90 00	27 18	28 80	29 06	1891-2.	1892-3.	1892-3.	
1892-3.		2	2	2	2	2	280 00	280 00	360 00	94 31	97 59	142 33	1891-2.	1892-3.	1892-3.	
1890-1.		1	1	1	1	1	50 00	50 00	50 00	16 00	16 00	16 00	1891-2.	1892-3.	1892-3.	
1891-2.		1	1	1	1	1	50 00	50 00	50 00	16 00	16 00	16 00	1891-2.	1892-3.	1892-3.	
1892-3.		1	1	1	1	1	50 00	50 00	50 00	16 00	16 00	16 00	1891-2.	1892-3.	1892-3.	
1890-1.		1	1	1	1	1	50 00	50 00	50 00	16 00	16 00	16 00	1891-2.	1892-3.	1892-3.	
1891-2.		1	1	1	1	1	50 00	50 00	50 00	16 00	16 00	16 00	1891-2.	1892-3.	1892-3.	
1892-3.		1	1	1	1	1	50 00	50 00	50 00	16 00	16 00	16 00	1891-2.	1892-3.	1892-3.	

SCHEDULE C.—Continued.

License District.	Municipality.	Licenses Transferred and Removed.		Total.	Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality.				Proportion thereof paid to Municipalities.				Excess over Statutory Duties imposed by Municipal By-laws.		Remarks.		
		Transfers.	Removals.		1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.				
South Wellington	Pikington	2	1	3	218 00	190 00	200 00	73 64	61 52	60 43							
	Bramosa	1	3	4	700 00	750 00	720 00	265 75	253 10	220 13							
	Guelph, Township	1	1	2	147 00	180 00	210 00	51 53	62 04	77 69							
	Pushinch	2	1	3	560 00	530 00	522 50	191 19	183 65	157 51							
	Guelph, City	7	6	13	5695 00	5155 00	5465 00	2283 23	2370 30	2377 60							
					25												
					21												
West Wellington	Clifford	3	1	4	375 00	275 00	370 00	81 38	61 00	89 00							
	Arthur, Village	3	4	7	1435 00	1300 00	1195 00	769 02	635 29	665 47							
	Harrison	1	1	2	1370 00	1370 00	1382 00	799 59	783 00	802 40							
	Drayton	1	1	2	640 00	665 00	620 00	338 71	320 60	333 73							
	Palmerston	1	1	2	1275 00	1127 00	1430 00	511 85	665 78	626 43							
	Maryborough	1	1	2	351 00	310 00	270 00	163 95	112 78	81 33							
	Minto	1	1	2	90 00	95 00	90 00	25 90	28 30	28 07							
	Peel	1	3	4	749 00	785 00	770 00	351 51	365 18	372 14							
					6												
					10												
North Wentworth	Dundas	3	1	4	1672 50	1692 50	1667 50	763 16	708 51	704 15							
	Reverly	1	1	2	545 00	545 00	540 00	170 40	168 50	169 72							
	West Flamborough	2	5	7	836 00	896 00	800 00	396 76	422 50	315 16							
	East Flamborough	1	1	2	727 50	702 50	652 50	110 08	425 96	365 41							
	Watertown	1	1	2	300 00	370 00	320 00	116 04	135 40	136 56							
					2												
					2												

SCHEDULE C.—Comparative Statement by Municipalities, showing the number of Provincial Licenses, etc.—Continued.

License District.	Municipality.	Tavern.				Shop.			Wholesale.			Extended Tavern.			Extended Shop.			Six Months.			
		Ordinary.		Beer and Wine.		1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	
		1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.		
South West- worth	Binbrook	1	1	1																	
	Ancaster	4	4	3																	
	Saltfleet	7	7	7																	
	Barton	8	7	5																	
	Glanford	2	2	2																	
East York.	Scarborough	5	5	5																	
	Markham, Township.	7	6	6																	
	York, East of Yonge St.	9	9	10																	
	Markham, Village.	3	3	3																	
	Richmond Hill.	2	2	2																	
	East Toronto.	3	2	2																	
North York	Aurora	3	3	3																	
	Holland Landing	2	2	2																	
	North Gwillimbury	3	2	2																	
	King	10	10	10																	
	East Gwillimbury	5	5	5																	
	Whitchurch	3	3	3																	
	Newmarket	6	6	6																	
	Georgina	5	2	2																	
	Stouffville	3	3	3																	
	Sutton		3	3																	

SCHEDULE C.—Continued.

License District.	Municipality.	Licenses Transferred and Renewed.					Total.			Amount received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality.			Proportion thereof paid to Municipalities.			Excess over Statutory Duties imposed by Municipal By-Laws.		Remarks.		
		Transfers.		Renovals.			1891-2	1892-3	1893-4	1891-2	1892-3	1893-4	1891-2	1892-3	1893-4	1891-2	1892-3			
		1890-1	1891-2	1892-3	1891-2	1892-3													1893-4	%
South West- worth	Binbrook	1			1	1	45 00	90 00	90 00	25 50	22 40	21 34								
	Ancaster	1			1	5	583 00	595 00	457 50	166 76	146 78	117 35								
	Salisbury	1			1	7	740 00	710 00	730 00	215 96	186 66	184 93								
	Barton	1			1	7	745 00	670 00	562 50	205 78	171 74	141 04								
	Glanford	1			1	3	180 00	185 00	190 00	48 90	46 68	46 23								
East York.	Scarborough	1			6	6	868 75	872 50	897 50	189 34	503 87	532 76								
	Markham, Township	1			8	6	1085 00	780 00	800 00	526 25	385 90	432 76								
	York, East of Yonge St.	1			10	11	1085 00	1000 00	1120 00	112 82	402 90	481 87								
	Markham, Village	1			3	5	420 00	430 00	430 00	131 50	137 00	146 36								
	Richmond Hill	1			2	3	420 00	425 00	420 00	229 68	230 56	234 55								
	East Toronto	1			4	3	475 00	337 50	310 00	174 84	122 21	119 10								
	Aurora	1			3	3	590 00	600 00	600 00	231 73	273 61	273 13								
North York	Holland Landing	2	1		6	6	240 00	240 00	270 00	61 63	61 82	76 96								
	North Gwillimbury	1			12	11	317 00	256 88	265 00	113 01	96 60	97 47								
	King	1			12	11	1427 50	1345 00	1370 00	774 83	732 28	743 73								
	East Gwillimbury	1			7	8	492 50	512 50	505 00	172 11	182 88	182 12								
	Whitchurch	2			6	4	367 50	307 50	317 50	138 74	108 18	112 87								
	Newmarket	1			8	9	1520 00	1505 00	1525 00	614 81	608 00	616 80								
	Georgina	1			7	3	545 00	217 50	247 50	195 28	77 26	92 35								
	Stouffville	1			3	4	460 00	455 00	460 00	182 50	185 23	187 37								
	Sutton	1			4	5	405 00	405 00	370 00	.....	108 18	97 47							

SCHEDULE C.—Continued.

License District.	Municipality.	Licenses Transferred and Removed.		Total.	Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality.			Proportion thereof paid to Municipalities.			Excess over Statutory duties imposed by Municipal by-laws.			Remarks.
		Transfers.	Removals.		1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.	
West York.	York, West of Yonge St.	2	1	3	\$ 810 00	\$ 875 00	\$ 830 00	368 32	394 12	375 52	140 00	140 00		
	Vaughan	1	1	2	1227 50	1309 00	1180 00	610 07	630 42	629 87	400 00	300 00		
	Etobicoke	1	1	2	515 00	602 50	535 00	170 08	215 40	186 45	00 00	00 00		
	Woodbridge, Village	1	1	2	480 00	360 00	320 00	204 00	155 34	138 88	00 00	80 00		
	Weston, Village	1	1	2	545 00	569 00	500 00	265 20	276 81	278 13	180 00	180 00		
	Toronto Junction	1	1	2	1287 50	1317 50	2250 00	749 39	737 50	1318 24	510 00	960 00		
	North Toronto, Town.	1	1	2	515 00	185 00	480 00	174 15	148 58	147 75	30 00	30 00		
	Totals		8	7	15	6802 98	6856 09	10 66 11 69	83 29 19 68	26 28 9 18 7	283 976 74	14 68 76 20	15 7 246 70	

SCHEDULE D.

COMPARATIVE STATEMENT of the amount of Fines collected and the amount paid in respect of Expenses of Commissioners and Salaries of Inspectors in each License District, for the license years 1890-1, 1891-2 and 1892-3 respectively.

License District.	Fines Collected.			Paid in respect of expenses of Commissioners and Salaries of Inspectors.		
	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Addington	200 00	185 00	260 00	549 75	577 00	563 35
Algoma	160 00	120 00	329 60	443 57	504 65	694 75
Brant, North	140 00	132 00	180 00	567 09	580 81	576 57
Brant, South			50 00	379 00	403 00	379 00
Brantford	60 00	64 00	24 00	536 00	536 00	536 00
Brockville and Leeds	370 00	259 00	340 00	685 00	685 00	695 50
Bruce, Centre	140 00	205 00	395 00	500 20	552 25	508 35
Bruce, North	80 00	115 00	170 00	541 80	593 20	554 80
Bruce, South	248 00	100 00	331 00	595 35	547 80	560 00
Cardwell	288 00	40 00	285 00	565 57	569 40	561 25
Carleton	40 00	230 00	170 00	532 05	516 90	532 30
Cornwall	120 00	210 00	190 00	499 00	481 00	485 00
Dufferin	95 10	60 00	262 00	513 50	522 50	488 20
Dundas	536 00	260 00	360 00	560 29	617 05	643 27
Durham, East	144 00	130 00	315 00	511 65	500 35	536 25
Durham, West	380 00	110 00	190 00	550 00	610 01	587 00
Elgin, East	174 00	176 00	335 00	513 00	529 00	489 50
Elgin, West	220 00	230 00	180 00	657 45	571 00	563 95
Essex, North	260 00	320 00	325 00	785 97	750 00	749 97
Essex, South	195 00	322 00	344 00	542 00	564 75	537 30
Frontenac	90 00	40 00	120 00	516 00	546 00	546 00
Glengarry	100 00	207 00	200 00	597 50	582 54	590 00
Grenville	280 00	190 00	200 00	568 00	562 00	565 00
Grey, Centre	20 00	110 00		538 50	561 50	500 00
Grey, North	705 00	224 00	74 00	510 00	515 00	540 00
Grey, South	190 00	186 00	112 00	508 25	557 50	560 00
Haldimand	120 00	100 00		517 35	511 00	502 00
Haliburton				159 00	161 00	150 00
Halton	95 00	75 00		480 10	507 85	428 95
Hamilton	1200 00	1481 00	660 00	1525 00	1925 00	2002 21
Hastings, East	84 00	68 00	60 00	572 00	638 98	671 00
Hastings, North	20 00	20 00	70 00	540 35	560 60	571 50
Hastings, West	390 00	432 00	313 00	1108 62	1052 00	915 00
Huron, East	130 00	170 00	110 00	622 00	622 00	598 00
Huron, South	230 00	161 00	150 00	634 00	562 00	598 00
Huron, West	340 00	255 00	200 00	642 50	630 50	643 00
Kent, East	370 00	320 00	40 00	611 75	618 50	617 00
Kent, West	641 90	1215 25	717 75	623 00	630 50	600 00
Kingston	290 00	560 00	540 00	800 00	800 00	800 00
Lambton, East	200 00	300 00	270 00	473 75	466 65	472 48
Lambton, West	460 00	260 00	620 00	475 00	470 00	460 00
Lanark, North	365 00	185 00	445 00	462 00	450 00	458 00
Lanark, South	100 00	100 00	140 00	459 75	461 60	467 40
Lennox	210 00	350 00	315 00	516 50	462 50	458 00
Lincoln	468 00	172 90	365 00	471 25	447 25	489 45
London	804 00	482 00	770 00	941 12	1005 00	1006 85
Manitoulin	109 00	50 00	70 00	438 71	516 50	531 75
Middlesex, East	140 00	70 00	140 00	744 00	702 00	690 00
Middlesex, North	110 00	280 00	230 00	684 00	600 00	692 95
Middlesex, West	330 00	175 00	310 00	663 60	643 25	667 00
Monck	20 00	20 00	140 00	493 00	494 00	497 00
Muskoka	450 00	50 00	140 00	508 35	513 90	520 00
Nipissing	190 00		435 00	344 70	446 05	423 76
Norfolk, North	20 00	150 00	50 00	560 00	526 00	560 00
Norfolk, South	30 00	30 00	20 00	490 00	489 98	503 30

SCHEDULE D.

COMPARATIVE STATEMENT of the amount of Fines, etc., in each License District, for the license years 1890-1, 1891-2 and 1892-3 respectively.—*Continued.*

License District.	Fines Collected.			Paid in respect of expenses of Commissioners and Salaries of Inspectors.		
	1890-1.	1891-2.	1892-3.	1890-1.	1891-2.	1892-3.
	§ c.	§ c.	§ c.	§ c.	§ c.	§ c.
Northumberland, East.....	170 00	125 00	320 00	568 60	604 00	578 00
Northumberland, West.....	200 00	152 00	167 00	489 00	496 00	490 00
Ontario, North.....	245 00	416 00	259 00	643 90	658 80	640 60
Ontario, South.....	145 00	207 00	100 00	629 10	621 85	624 05
Ottawa.....	611 00	610 00	670 00	1650 00	1675 00	1806 00
Oxford, North.....	600 00	520 00	330 00	532 00	622 00	644 00
Oxford, South.....	50 00	110 00	476 00	646 50	640 60	660 30
Parry Sound.....	510 00	550 00	265 00	464 80	495 00	762 65
Peel.....	90 00	145 00	.....	579 42	592 30	545 50
Perth, North.....	480 00	50 00	146 00	644 31	561 90	630 55
Perth, South.....	335 00	180 00	250 00	608 00	646 78	630 50
Peterborough, East.....	55 00	120 00	20 00	523 80	519 00	511 00
Peterborough, West.....	126 00	336 00	221 40	472 00	573 00	622 00
Prescott.....	40 00	40 00	190 00	486 76	485 25	450 00
Prince Edward.....	130 00	100 00	60 00	576 00	614 00	578 00
Rainy River.....	50 00	90 00	169 30	250 00	300 00	300 00
Renfrew, North.....	200 00	150 00	280 00	536 25	525 20	526 60
Renfrew, South.....	854 00	595 00	870 00	553 00	563 13	540 65
Russell.....	474 00	310 00	230 00	621 78	613 30	638 31
St. Catharines.....	60 00	60 00	230 00	570 00	625 00	570 00
Simcoe, Centre.....	330 00	80 00	230 00	636 54	658 25	602 98
Simcoe, East.....	145 47	165 00	85 00	566 30	555 80	585 60
Simcoe, West.....	160 00	150 00	640 00	527 70	517 15	529 46
Stormont.....	20 00	70 00	15 00	615 00	510 00	525 00
Thunder Bay.....	240 00	190 00	140 00	498 00	457 50	517 50
Toronto.....	1530 00	3465 00	3590 00	3841 31	4166 66	4200 00
Victoria, East.....	266 50	218 00	180 00	284 05	350 31	377 00
Victoria, West.....	160 00	200 00	270 00	599 10	574 60	590 50
Waterloo, North.....	260 00	243 00	205 00	609 00	586 50	655 59
Waterloo, South.....	85 00	220 00	220 00	575 00	582 50	623 60
Welland.....	289 85	420 15	482 00	821 48	808 75	866 10
Wellington, East.....	80 00	165 00	208 00	603 46	585 90	619 15
Wellington, South.....	260 00	150 00	545 60	604 15	606 00	620 00
Wellington, West.....	224 00	272 00	162 00	633 25	675 30	630 05
Wentworth, North.....	65 00	130 00	80 00	511 75	508 50	489 00
Wentworth, South.....	159 25	180 00	220 00	528 00	554 00	528 00
York, East.....	350 00	20 00	70 00	547 85	558 79	536 55
York, North.....	290 00	120 00	200 00	528 40	524 00	512 00
York, West.....	140 00	295 00	200 00	528 80	517 75	543 75
Totals.....	22572 07	23316 30	26058 05	57931 68	59193 69	59854 36

SCHEDULE E.

STATEMENT showing Miscellaneous Expenditure incurred in each License District, including postage and stationery, printing, advertising, magistrates, constables, witness, counsel and detective fees, etc., for the License years 1890-1, 1891-2, 1892-3, respectively.

License District.	Amount 1890-91.	Amount 1891-2.	Amount 1892-3.
	\$ c.	\$ c.	\$ c.
Addington	102 75	73 50	171 03
Algoma	113 28	109 84	208 92
Brant, North	142 80	243 64	240 62
Brant, South	125 81	92 00	108 72
Brantford, City	224 98	298 00	266 46
Brockville and Leeds	145 52	75 31	129 96
Bruce, Centre	84 79	147 00	141 83
Bruce, North	172 83	103 82	60 39
Bruce, South	258 15	131 30	252 44
Cardwell	177 81	75 17	97 01
Carleton	54 63	35 35	94 22
Cornwall	41 85	29 45	36 10
Dufferin	326 87	228 66	489 65
Dundas	330 06	201 92	316 91
Durham, East	191 28	214 11	260 08
Durham, West	65 15	58 35	56 30
Elgin, East	189 56	146 47	246 35
Elgin, West	208 13	183 33	213 08
Essex, North	492 68	198 70	521 27
Essex, South	151 45	259 18	104 06
Frontenac	231 41	55 90	117 91
Glengarry	124 15	64 25	143 80
Grenville	190 64	109 26	137 52
Grey, Centre	49 95	28 25	33 35
Grey, North	199 23	113 01	42 05
Grey, South	62 06	88 76	33 00
Haldimand	79 27	62 86	54 36
Haliburton	40 41	19 50	31 43
Halton	181 75	124 23	64 93
Hamilton	1139 08	1118 03	600 74
Hastings, East	114 38	115 78	82 09
Hastings, North	57 92	41 57	39 19
Hastings, West	244 57	236 84	152 06
Huron, East	204 87	123 24	32 72
Huron, South	78 27	22 10	23 61
Huron, West	149 60	133 46	90 35
Kent, East	325 38	250 42	37 83
Kent, West	321 28	447 11	405 51
Kingston, City	125 41	111 23	129 07
Lambton, East	119 70	154 28	64 09
Lambton, West	312 09	183 13	247 88
Lanark, North	151 79	101 33	175 85
Lanark, South	87 33	110 52	94 36
Lennox	163 35	204 48	179 36
Lincoln	184 07	236 46	124 85
London	718 82	427 84	523 51
Manitoulin	90 78	33 60	25 55
Middlesex, East	147 00	85 70	135 00

SCHEDULE E.—Continued.

License District.	Amount. 1890-1.	Amount 1891-2.	Amount 1892-3.
	§ c.	§ c.	§ c.
Middlesex, North	72 25	76 01	109 81
Middlesex, West	160 92	197 42	142 47
Monck	102 45	36 79	79 98
Muskoka	87 40	48 60	98 01
Nipissing	84 60	25 61	170 75
Norfolk, North	57 55	103 39	61 14
Norfolk, South	111 85	52 52	74 43
Northumberland, East	196 11	142 51	211 18
Northumberland, West	266 72	158 11	236 30
Ontario, North	147 78	167 63	194 38
Ontario, South	56 65	83 71	90 82
Ottawa	355 28	383 01	456 37
Oxford, North	145 33	134 26	157 08
Oxford, South	92 72	140 98	428 23
Parry Sound	308 44	448 91	188 84
Peel	248 10	104 58	101 65
Perth, North	187 82	143 27	123 88
Perth, South	98 50	51 20	46 35
Peterborough, East	55 44	66 01	71 90
Peterborough, West	103 70	86 30	99 33
Prescott	115 16	62 38	59 79
Prince Edward	118 66	86 80	82 15
Rainy River	157 50	103 15	108 40
Renfrew, North	70 39	68 20	111 83
Renfrew, South	468 62	440 89	495 49
Russell	194 58	184 63	95 56
St. Catharines, City	123 29	60 52	141 64
Simcoe, Centre	218 14	135 05	166 10
Simcoe, East	194 62	142 73	92 94
Simcoe, West	154 88	92 89	347 67
Stormont	103 67	95 05	91 30
Thunder Bay	154 11	160 46	189 26
Toronto	2521 86	2575 46	1755 29
Victoria, East	162 33	76 10	49 67
Victoria, West	204 57	177 09	174 61
Waterloo, North	112 85	99 75	87 40
Waterloo, South	90 23	99 11	77 21
Welland	153 71	148 80	185 85
Wellington, East	99 15	44 45	25 75
Wellington, South	298 49	183 59	599 91
Wellington, West	198 58	208 81	110 61
Wentworth, North	72 59	108 10	105 50
Wentworth, South	105 40	139 61	146 15
York, East	255 99	113 64	42 35
York, North	211 97	157 30	202 45
York, West	202 78	200 00	169 05
Total	19198 57	16323 62	16694 26

 RECAPITULATION

of Receipts and Expenditures, 1890-91.

Total Receipts, Schedule "C"		\$680298 68
Paid to Municipalities, Schedule "C"	\$294968 26	
" to the Province, Schedule "A"	308200 17	
" for Inspectors' salaries and Commissioners' expenses, Schedule "D"	57931 68	
" for sundries, Schedule "E"	19198 57	
	<hr/>	<u>\$680298 68</u>

1891-92.

Total Receipts, Schedule "C"		\$665609 10
Paid to Municipalities, Schedule "C"	\$289487 41	
" to the Province, Schedule "A"	300604 38	
" for Inspectors' salaries and Commissioner's expenses, Schedule "D"	59193 69	
" for sundries, Schedule "E"	16323 62	
	<hr/>	<u>\$665609 10</u>

1892-93.

Total Receipts, Schedule "C"		\$664169 83
Paid to Municipalities, Schedule "C"	\$289976 74	
" to Province, Schedule "A"	297644 47	
" for Inspectors' salaries and Commissioner's expenses, Schedule "D"	59854 36	
" for sundries, Schedule "E"	16694 26	
	<hr/>	<u>\$664169 83</u>

SCHEDULE G.

Names and Post Office Addresses of the Inspectors of Licenses of the several License Districts throughout the Province.

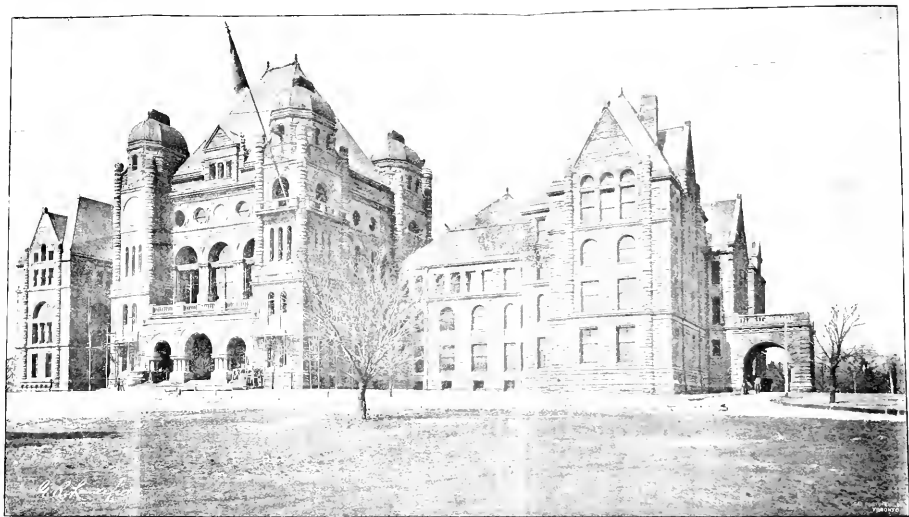
License District.	Inspector.	P. O. Address.
Addington.....	James M. Smith.....	Tamworth
Algoma.....	A. G. Duncan.....	Marksville.
Brant, North.....	Geo. Pike.....	Brantford.
Brant, South.....	Isaac B. Merritt.....	Scotland.
Brantford, City.....	Southworth Cole.....	Brantford.
Brockville and Leeds.....	R. R. Phillips.....	Caintown.
Bruce, Centre.....	John Irving.....	Paisley.
Bruce, North.....	Alexander McCannel.....	Port Elgin.
Bruce, South.....	Angus Stewart.....	Lucknow.
Cardwell.....	C. N. Clark.....	Beeton.
Carleton.....	John O'Callaghan.....	Kars.
Cornwall.....	William Pollock.....	Cornwall.
Dufferin.....		
Dundas.....	Asa Beach.....	Iroquois.
Durham, East.....	E. A. Powers.....	Port Hope.
Durham, West.....	W. R. Glimie.....	Bowmanville.
Elgin, East.....	Asa Miller.....	Aylmer.
Elgin, West.....	Alexander Beaton.....	West Lorne.
Essex, North.....	Gaspard Pacaud.....	Windsor.
Essex, South.....	Alanson Elliott.....	Oxley.
Frontenac.....	John Dawson.....	Wolfe Island.
Glengarry.....	Archibald McNab.....	Alexandria.
Grenville.....	Charles Chapman.....	Prescott.
Grey, Centre.....	James Campbell.....	Clarksburg
Grey, North.....	C. C. Pearce.....	Owen Sound.
Grey, South.....	Thomas A. Harris.....	Durham.
Haldimand.....	Hiram Gee.....	Fisherville.
Haliburton.....	William Prust.....	Haliburton.
Halton.....	T. A. Reynolds.....	Oakville.
Hamilton.....	{ J. I. Mackenzie..... } { Frederick Walter..... }	Hamilton.
Hastings, East.....	Michael Lally.....	Belleville.

SCHEDULE G.—*Continued.*

License District.	Inspector.	P. O. Address.
Hastings, North	Edward Mouncey	Madoc.
Hastings, West	James St. Charles	Belleville.
Huron, East	John R. Miller	Jamestown.
Huron, South	Wm. Ballantyne	Seaforth.
Huron, West	Wm. J. Paisley	Clinton.
Kent, East	Thomas Boon	Bothwell.
Kent, West	Israel Evans	Chatham.
Kingston	William Glidden	Kingston.
Lambton, East	H. G. Taylor	Wyoming
Lambton, West	Reuben C. Palmer	Sarnia.
Lanark, North	J. D. Robertson	Almonte.
Lanark, South	John McCann	Perth.
Lennox	W. A. Rose	Napanee.
Lincoln	R. Fowlie	St. Catharines.
London	Robert Henderson	London.
Manitoulin	J. B. White	Manitowaning.
Middlesex, East	John Durand	Dorchester Station
Middlesex, North	Daniel Schoff	Clandeboye.
Middlesex, West	W. C. Robertson	Mt. Brydges.
Monck	L. Massecar	Dunnville.
Muskoka	Elijah F. Stephenson	Bracebridge.
Nipissing	Napoleon Fink	Mattawa.
Norfolk, North	W. F. Nickerson	Simcoe.
Norfolk, South	James E. Decou	Port Dover.
Northumberland, East	Patrick Gallagher	Warkworth.
Northumberland, West	James Bulger	Cobourg.
Ontario, North	E. J. Breen	Uxbridge.
Ontario, South	John Ferguson	Whitby.
Ottawa	{ John O'Reilly. Geo. E. St. George, Asst. Insp. & Prov. Officer	{ Ottawa.
Oxford, North	William G. McKay	Woodstock.
Oxford, South	Gordon H. Cook	Ingersoll.
Parry Sound, West	William Ireland	Parry Sound.
Parry Sound, East	W. H. Siverster	Burk's Falls.

SCHEDULE G.—*Concluded.*

License District.	Inspector.	P. O. Address.
Peel	Joseph Foster	Brampton.
Perth, North	Wm. Climie	Listowel.
Perth, South	John S. Coppin	Mitchell.
Peterborough, East	John James Crowe	Warsaw.
Peterborough, West	George Cochrane	Peterborough.
Prescott	James H. Molloy	Fournier.
Prince Edward	D. L. Bongard	Picton.
Rainy River	Frank Gardner	Rat Portage.
Renfrew, North	Alfred J. Fortier	Pembroke.
Renfrew, South	John Connolly	Admaston.
Russell	Dobt. Dow	Metcalfe.
St. Catharines	R. Fowlie	St. Catharines.
Simcoe, Centre	O. H. Lyan	Barrie.
Simcoe, East	Angus McKay	Orillia.
Simcoe, West	Hugh Wright	Alliston.
Stormont	Donald P. McKinnon	South Finch.
Thunder Bay	John Hadden	Port Arthur.
Toronto	Thomas Dexter, Chief	} Toronto.
	John Wilson	
	Thomas A. Hastings	
Victoria, East	John Short	Lindsay.
Victoria, West	John Short	Lindsay.
Waterloo, North	Benjamin Devitt	Waterloo.
Waterloo, South	M. A. Abbey	Preston.
Welland	Archibald Thompson	Welland.
Wellington, East	John Macdonald	Elora.
Wellington, South	W. S. Cowan	Guelph.
Wellington, West	T. Flath	Drayton.
Wentworth, North	Joseph Bowman	Dundas.
Wentworth South	Thomas Macklem	Hamilton.
York, East	James Eckhart	Unionville.
York, North	William Malloy	Newmarket.
York, West		



SOUTHERN OR FRONT VIEW OF NEW PARLIAMENT BUILDINGS

REPORT
OF THE
COMMISSIONER OF PUBLIC WORKS
FOR THE
PROVINCE OF ONTARIO
FOR THE
YEAR ENDING 31st DECEMBER,
1893.

PRINTED BY ORDER OF THE LEGISLATIVE ASSEMBLY.

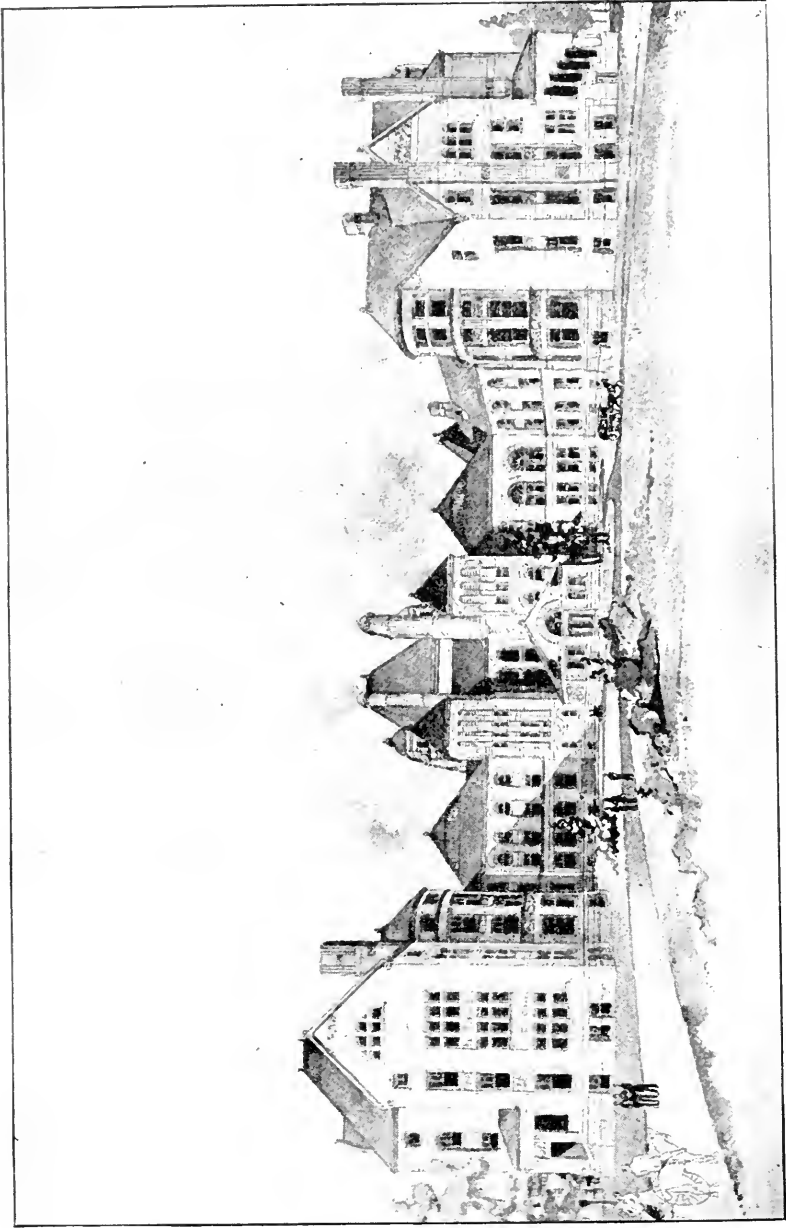


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WARWICK BROS. & RUTTER, PRINTERS, &C., 68 AND 70 FRONT STREET WEST.
1894.



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REAR OR NORTHERN VIEW OF NEW PARLIAMENT BUILDINGS.

REPORT
OF THE
COMMISSIONER OF PUBLIC WORKS
FOR THE
PROVINCE OF ONTARIO
FOR THE YEAR ENDING 31ST DECEMBER
1893.

To His Honour GEORGE AIREY KIRKPATRICK,
Lieutenant-Governor of the Province of Ontario, etc.

As required by the provisions of the Statute in that behalf, I beg to submit my report respecting the works, etc, on public buildings and other matters under the control of the Public Works Department for the year 1893.

Details of operations in connection with the Public Institutions and Buildings will be found herewith in the report of the Departmental Architect.

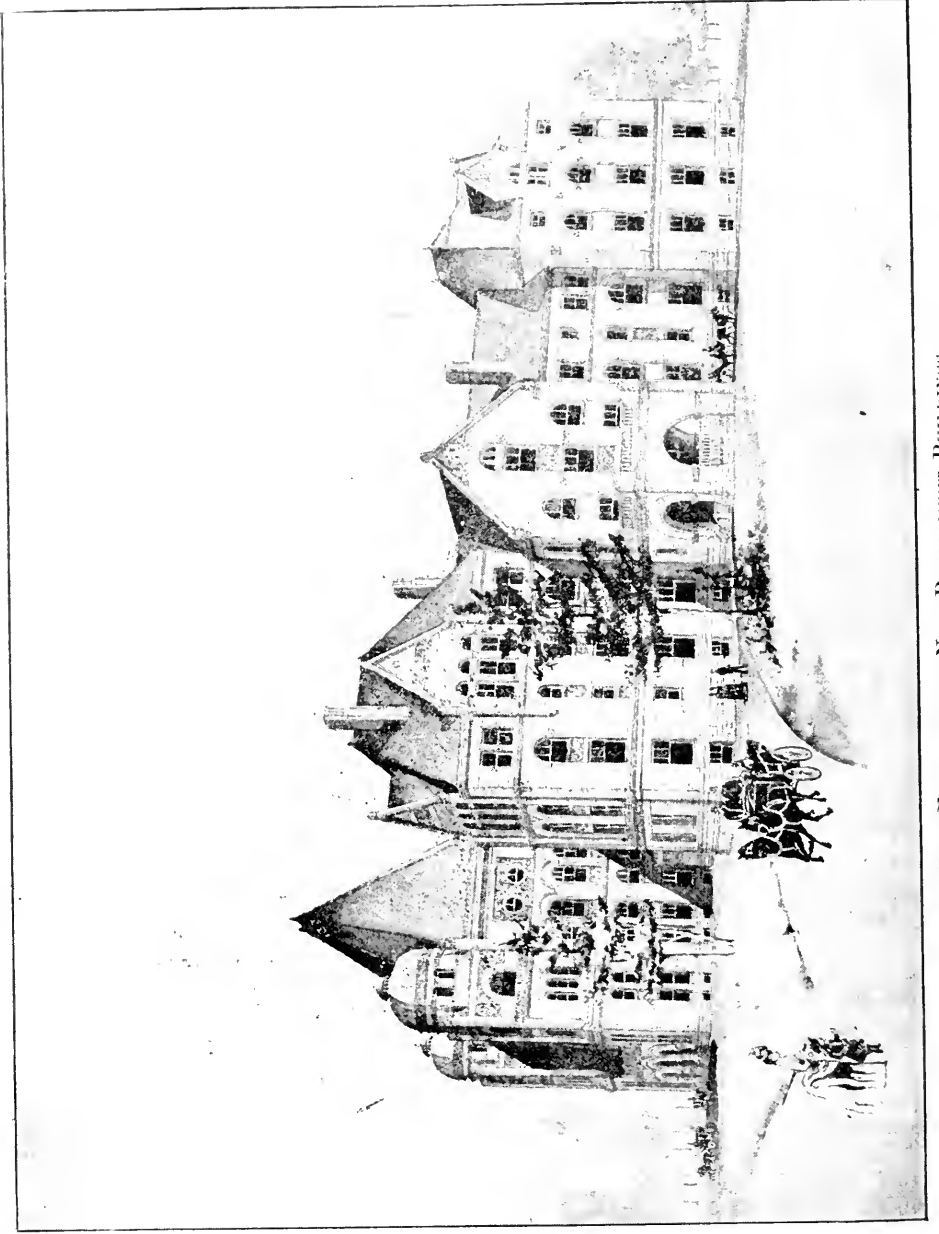
The accompanying report of the Departmental Engineer contains details in respect of locks, dams, slides, etc., and of railway construction during the year.

The usual statements of the Accountant and Law Clerk as to the expenditure in respect of the several appropriations are appended hereto.

Special statements of expenditures incurred with respect to the new Parliament and Departmental Buildings and their equipment, furnishing, fitting up, etc., are also appended hereto.

By 43 Viet., cap. 2, as last amended by 56 Viet., cap. 7, a total sum of \$1,265,000 was set apart and appropriated for the construction of these buildings, in addition to and exclusive of the special amounts otherwise appropriated and expended for their equipment, fitting up and furnishing, the laying out and ornamentation of the grounds, and for the making of roadways, pavements, etc.

Special statement No. 1 appended to this report contains a list of the Contracts entered into under the authority of the Acts above specially mentioned, with the nature of the work covered by each of the contracts, and a statement of the payments made thereunder to the several contractors.

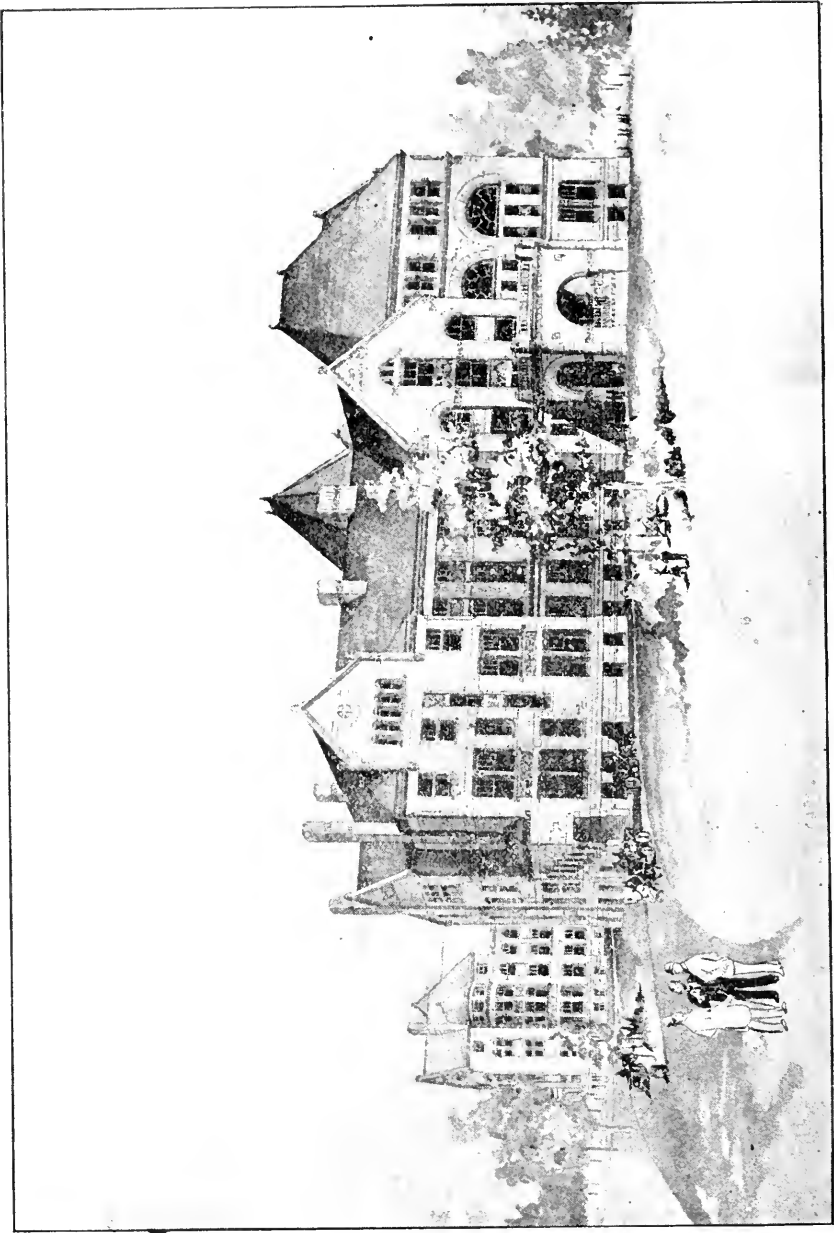


EAST ELEVATION OF NEW PARLIAMENT BUILDINGS.

The total of these contracts, according to the original contract prices, amounted to \$1,245,910, as shewn by the following schedule thereof :

Nature of Contract, etc.	Original contract price.
(1) Excavation, mason and bricklayers' works, etc., under Lionel Yorke and Carroll, Gaylord & Vick contracts, (the original contract price of which includes the 13,500,000 bricks agreed to be furnished to contractors from Central Prison. See post note A to special statement No. 1)	8752,250
(2) Iron work, etc., for ground floor and basement of west wing under Lionel Yorke contract of March, 1888	4,643
(3) Carpentry work, etc., of carcass of buildings under Lionel Yorke contract of April, 1888	90,700
(4) Wrought and cast iron work, etc., under St. Lawrence Foundry Co. contract of May, 1888	54,000
(5) Plumbing, gas-fitting, steam-heating, etc., under Purdy, Mansell & Mashinter contract of April, 1891	76,800
(6) Lathing, plastering, etc., under A. H. Rundle contract of April, 1891	37,770
(7) Slating, copper work, etc., under Douglas Bros. contract of May, 1891	44,497
(8) Interior wood-work, hardware, etc., under Wagner, Zeidler & Co. contract for August, 1891	119,900
(9) Interior painting, glazing, etc., under R. J. Hovenden contract of August, 1891	23,325
(10) Grand stair-case, ornamental grille work, etc., under H. C. Harrower contract of August, 1891	21,991
(11) Interior fire hydrants, pipes, etc., under W. J. McGuire contract of October, 1891	1,102
(12) Drainage, etc., under Garson & Purcer contract of November, 1891	5,490
(13) Tile work, under Toronto Granite Co. contract of September, 1892	1,450
(14) Decorative painting of Legislative Chamber, under Elliott & Son contract of November, 1892	4,500
(15) Mantels, grates, etc., under Rice Lewis & Son contract of November, 1892	3,322
(16) Seating of Legislative Chamber galleries, under Rogers & Sons Co. contract of December, 1892	3,250
(17) Speaker's dais, under Wagner, Zeidler & Co. contract of December, 1892	920
<hr/>	\$1,245,910

All of the foregoing contracts have been completed; the contractors have been paid in full, and in acknowledgment of such payment have executed releases and acquittances under seal in favor of Her Majesty and the Province.



WEST ELEVATION OF NEW PARLIAMENT BUILDINGS.

The entire cost of the work done under these contracts (including for this purpose the price of the brick furnished from the Central Prison to the contractors for the mason and bricklayers' work, for particulars of which see statement No. 1 appended hereto) amounts to a grand total of \$1,257,985.10.

On these seventeen contracts, involving in round numbers a million and a quarter of dollars, the total cost to the Province exceeds the aggregate amount called for in the original contracts by a sum less than thirteen thousand dollars. The whole of the payments in excess of the original contract prices have been made in connection with the three following contracts, namely :

(1) The \$90,700 contract with Lionel Yorke for the carpentry work, etc., of what was termed the carcass of the buildings, on which there has been an extra payment of less than \$300 ;

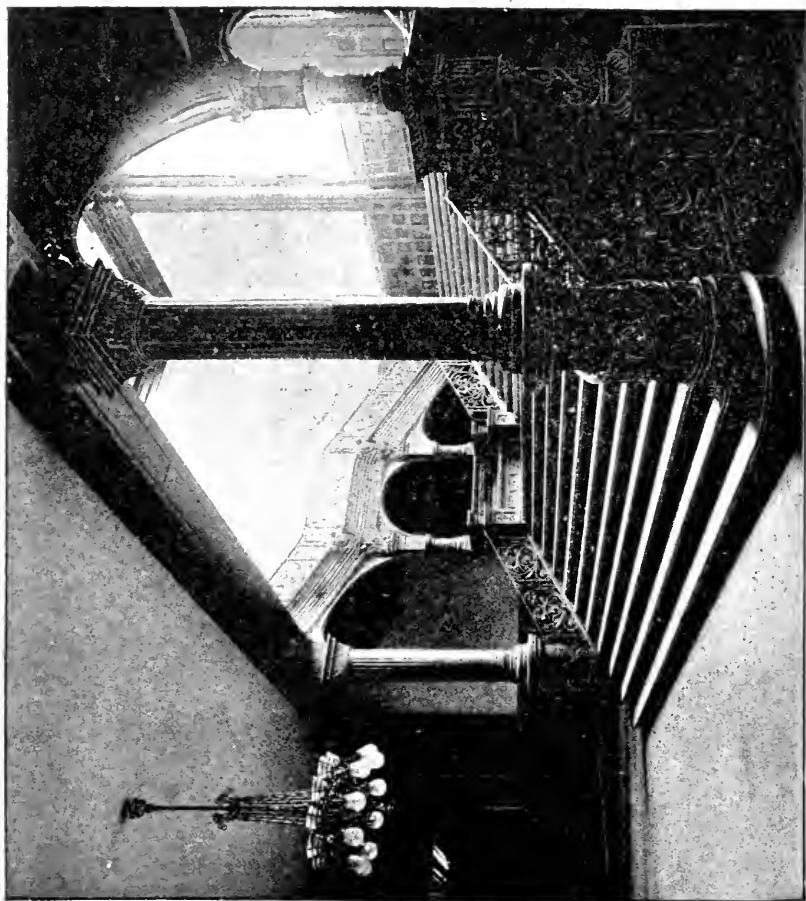
(2) The \$76,800 contract with Purdy, Mansell & Mashinter for plumbing, gas-fitting, steam-heating, etc., on which there has been an extra payment of less than \$900 ; and

(3) The \$752,250 contract respecting the excavation, masonry, brick-work etc., on which the contractors (Lionel Yorke and Carroll, Gaylord & Vick) have received in excess of the original contract price, an additional sum of less than \$12,000.

If all of these payments in excess of the original contract prices were solely for what is commonly known as contractors' extras, their entire amount in a total expenditure of a million and a quarter of dollars would be so trifling as to be remarkable, and would amply justify a claim that these buildings have practically been completed without extras. But the additional sum of less than \$12,000 paid to the contractors for the excavation, masonry and brick work, was not paid for what is usually or ordinarily known as extras. This additional sum is made up of payments for three items of work coming under the following heads, namely :

(1) Additional excavating and concreting, in respect of which there was, in the original specifications, an express provision in these words :

" In the excavation herein described, the nature of the soil may determine the architect to deepen or widen the same, or both, as deemed necessary. In case the excavation exceeds plans, sections, and figures detailed for this work, the contractor will be paid the price per cubic yard pro rata of contract; but in every such case the quantity of such additional excavation and the measurement thereof is to be fixed, determined and ascertained on and by the certificate of the architect, or Clerk of the Works, employed by the Commissioner of Public Works, and before such additional excavation is proceeded with, the contractor is to procure the written order of the Commissioner of Public Works authorizing the same."



GRAND STAIRCASE, NEW PARLIAMENT BUILDINGS.

(2) The substituting of English Portland cement for the native Canadian cement called for by the specifications, the Canadian cements then manufactured not being up to the tests required by the contract; and

(3) The inability of the Credit Valley quarries to furnish the large dimension stone required for certain portions of the southern front of the centre building, and the consequent necessity of substituting, with respect to these portions dimension stone from the Middletown quarries at an increased cost.

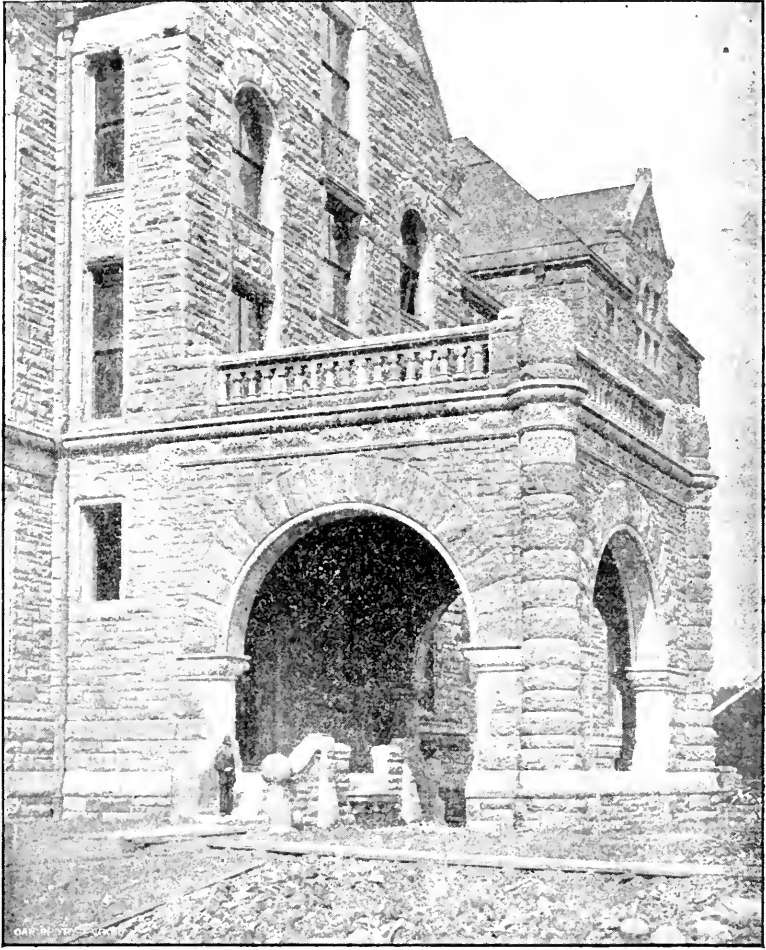
The additional excavating and concreting above mentioned became mainly necessary by reason of their being found underlying the excavated site of the buildings, and along its entire length, a common brick sewer, connected with a building which used to be known as the old hospital. The whole of the soft earth above and about this sewer had to be excavated, the brick sewer taken up, and the trench thus made filled in with a body of solid concrete. The sum paid to Lionel Yorke for (1) additional excavating and concreting, and (2) for the difference in cost between English Portland cement and the best native Canadian cement was \$5,381.39, and the whole of this sum was paid in the year 1887.

The substitution of the large dimension stone from the Middletown quarries instead of Credit Valley stone was ordered when suitable stone of the requisite dimensions not being obtainable from the Credit Valley quarries, the stone work of the southerly main front of the buildings was practically at a standstill. The Department was face to face with either a complete stoppage of the works, without a probability of the Credit Valley quarries being at any time, or at any price able to furnish this large dimension stone, or the alternative of ordering the substitution of some other stone.

After full consideration it was decided that, in the public interest, the order for substituting Middletown quarry stone should be given, and Messrs. Carroll, Gaylord & Vick were instructed accordingly, and were paid in respect thereof only the actual additional expense incurred by them in procuring and using the substituted stone.

Deducting the amount so paid to Lionel Yorke and Carroll, Gaylord & Vick in respect of the foregoing items, there remains less than twelve hundred dollars paid for contractors' extras on the seventeen different contracts above mentioned, and which seventeen contracts represent, as I have already said, a total expenditure, in round numbers, of a million and a quarter of dollars.

There have been no extras or additional payments of any kind in connection with the contracts entered into by the Department for the equipment and furnishing of the buildings. These last mentioned contracts will be found mentioned in special statement No. 2, appended to this report. They cover, amongst other matters, (1) electric elevators, (2) metal fittings for vaults, (3) combination gas and electric fittings, fixtures, etc., (4) book stacks, tables, reading desks, etc., for library, reading room, etc., (5) Members' coat and hat racks, etc.



EASTERN PORTE-COCHERE, NEW PARLIAMENT BUILDINGS.

As already mentioned the price fixed by the original contract with the late Lionel Yorke for the excavating, masonry, brick-work, etc., was \$752,250, made up of \$671,250 in cash and thirteen and one-half millions of brick, to be furnished from the Central Prison at the rate of \$6 per thousand.

The Central Prison supplied only 10,454,450 of these brick, and the balance of 1,905,700 has, therefore, been paid for in cash, partly to Lionel Yorke in his lifetime, and partly to Carol, Gaylord & Vick, who undertook the completion of his contract after Mr. Yorke's death. To these last-mentioned contractors, and to Mr. Yorke, the total paid in full of all claims and demands for or in any way connected with their contract work, and including all brick furnished from the Central Prison, was \$763,925.90, made up as follows:

Payments made in cash.....	\$701,199 20
10,454,450 brick, furnished from Central Prison, at \$6 per thousand.....	62,726 70

Total paid in all shapes.....	\$763,925 90
Original contract price as above.....	752,250 00

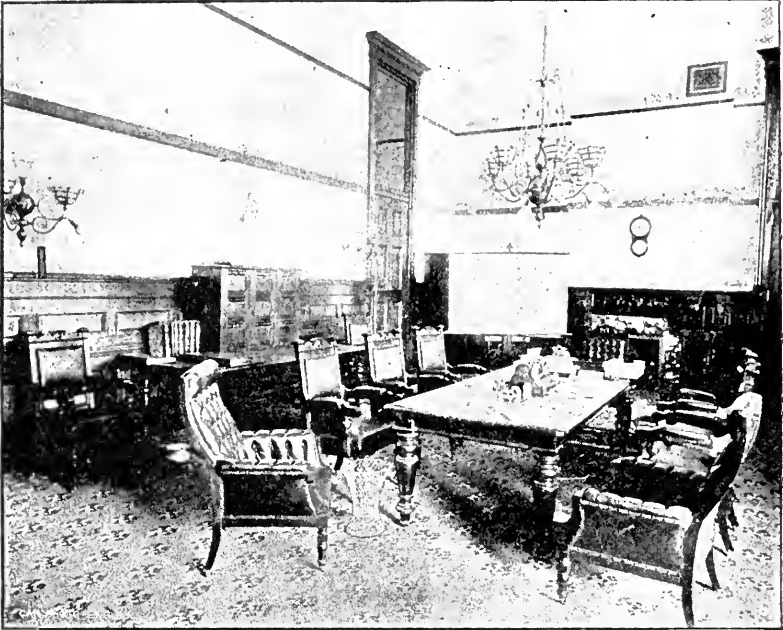
Excess of payments over original contract price..	\$11,675 90

But of this, \$62,726.70 which represents, the price of the bricks furnished from the Central Prison, only \$30,000 have (as per statement No. 1) been charged against the statutory appropriation made for the construction of the buildings.

It therefore follows that, to the total of \$1,267,290.47 shown by statement No. 1, as expended in respect of the contracts and other services therein referred to, there should be added a further sum of \$32,726.70, being the balance still to the credit of the Central Prison Industries, and chargeable against the construction account of these buildings, in respect of these bricks. Adding, then, this latter sum of \$32,726.70 to the total of \$1,267,290.47, shown by the last column of statement No. 1, the grand total of expenditures in every shape, and whether of money or material, in respect of all the works and other services specially mentioned in said statement, amounted, on 31st December, 1893, to \$1,300,017.17.

In special statement No. 2, appended to this report, will be found the details and total amount of the miscellaneous expenditures to 31st December, 1893, in connection with the equipment, fitting up and furnishing of the buildings, the laying out, ornamentation and grading of the grounds, the making of roads, sidewalks, etc., and other matters that are not included in statement No. 1.

It is a matter for congratulation that the Province is now possessed of buildings so eminently well suited for all the requirements of its Legislative and Departmental Service. In this connection it is but the simplest justice to Mr.



COUNCIL CHAMBER, NEW PARLIAMENT BUILDINGS.



LIBRARY NEW PARLIAMENT BUILDINGS.

Waite to say that, as architect of the buildings, he has shown professional skill and proficiency of the very highest order. It is worthy of note, too, that the various contractors have, without exception, completed their contracts to the entire satisfaction of the Department. I ought not, perhaps, to single out any of the contractors for special reference, but I cannot help expressing my great appreciation of the ability with which Messrs. Carroll & Viek surmounted the grave difficulties constantly encountered by them in securing a suitable supply of stone from the Credit Valley quarries, and of the very satisfactory manner in which they have completed the stone and brick work of the buildings.

Accompanying this report are a number of photogravure views shewing portions of the new buildings.

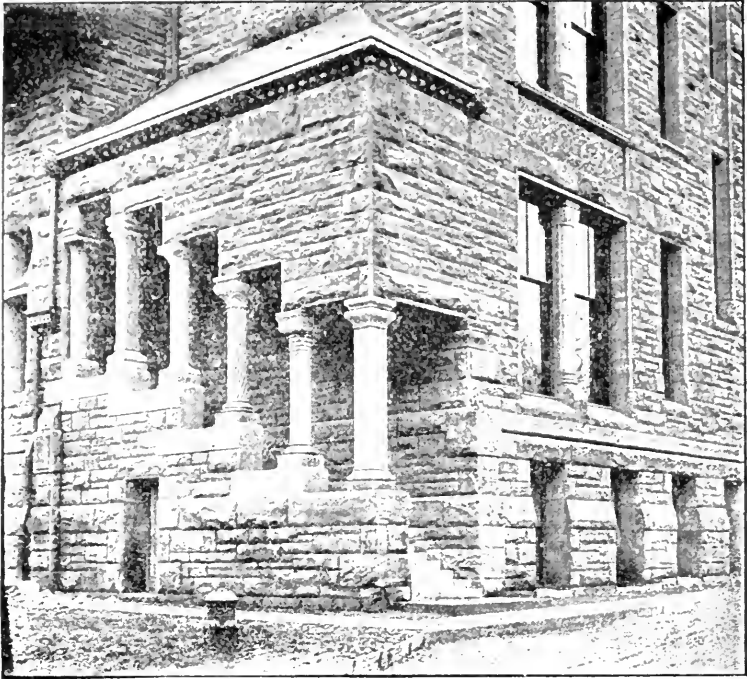
Very respectfully submitted,

C. F. FRASER,

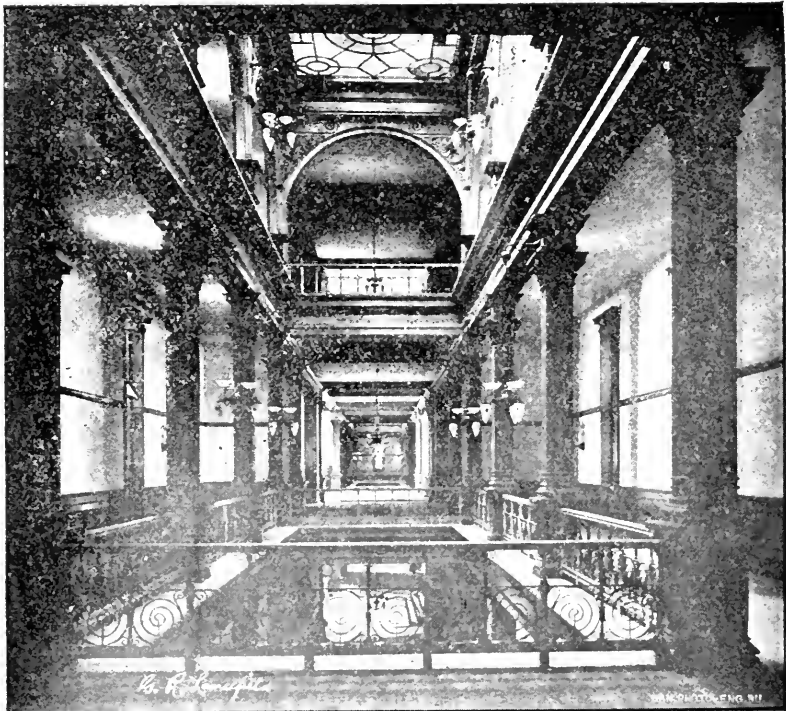
Commissioner.

DEPARTMENT OF PUBLIC WORKS, ONTARIO,

January, 1894.



ENTRANCE TO STEAKER'S APARTMENTS, NEW PARLIAM-NT BUILDINGS.



CORRIDOR—MEZZANINE FLOOR OF NEW PARLIAMENT BUILDINGS.

REPORT

OF

THE ARCHITECT, ETC.

DEPARTMENT OF PUBLIC WORKS, ONTARIO,

TORONTO, December 31st, 1893.

SIR,—I have the honour to submit the following report :

GOVERNMENT HOUSE.

In addition to the painting, papering, etc., done during 1892, the whole of the furniture and furnishings have been repaired and refitted, and new furniture supplied for general equipment, furnishings, fittings, etc.

The joists and framing of the conservatory, constructed in 1868-9, were found to be in a very unsatisfactory condition, the ends of the joists resting on the walls being quite decayed. The framing of the conservatory was taken down, and the joists replaced with new lumber. A brick wall was also built above the foundation to the level of the sills, and new double flooring relaid. The glass of the old conservatory was carefully removed, and reset in the sashes and frames. Workmen were employed and materials supplied under the directions of the carpenter and bricklayer attached to the department. The hot water pipes had also to be taken down, and were replaced under the directions of the plumber employed by the department. The grounds, as usual, were kept in good order. The rose house was repaired, and new rose trees provided.

NEW PROVINCIAL PARLIAMENT BUILDINGS.

The Legislative Assembly was opened by His Honour Lieutenant-Governor, the Honourable George Airy Kirkpatrick, in the new buildings on the 4th of April and was prorogued on the 27th of May. The Crown Lands Department moved their records to the new buildings early in the year, and all the offices and apartments are now fully occupied. The whole of the contracts connected with the erection of the new buildings have been completed and final certificates issued. The general equipment, furnishing and fitting up, were continued, as estimated, during the year. The roads, pavements, sodding, etc., have also been continued and add much to the improvement of the grounds. The completion of these buildings, including commodious vaults and fire-proof offices for the safe-keeping of the valuable records of the Crown Lands and other departments, have applied in an ample manner full accommodation for the Government offices

and have added greatly to the convenience of the public service. All the corridors, offices, and apartments are well heated, ventilated, and provided with combined gas and electric lighting—the system of heating being that known as low pressure. Four elevators, worked by electric power afford rapid and convenient access to the public offices, legislative chamber, and departments on the several floors. The buildings are also well protected from accidents that may be caused by fire, hydrants connected directly with the pressure from the city water works having been placed on each floor, in the centre portion, east and west wings, in addition to the outside protection from five city hydrants.

OLD PARLIAMENT AND DEPARTMENTAL BUILDINGS.

The Immigration Department occupies the Speaker's old apartments in the centre building, and these offices have been kept in repair, heated and lighted as provided for in the estimates. The east and west wings, having been vacated, were dismantled and closed. The caretaker occupies the house in the rear of the centre building, the whole of the buildings being under his charge.

ASYLUM FOR INSANE, TORONTO.

There has not been any expenditure on capital account for this institution, this year, excepting what was under the control of the inspector.

ASYLUM FOR INSANE, MIMICO.

Plans and specifications were prepared for the construction of polarite filter tanks in connection with the sewage disposal works, for an addition to the engine house for auxiliary electric plant, and for the root-house and addition to the cow-stables, farm buildings, tenders for which were received after due advertisement. The lowest being that of Mr. John Hanrahan, was accepted. The root-house and addition to the cow stables were completed early in the season, but the filter-tanks are not yet finished.

Tenders were also received for the construction of auxiliary electric plant steam boilers, engine and dynamos, the lowest being that of Bennett & Wright which was accepted. The electric plant, steam boiler, engine and dynamos are in place in a special addition which had to be made to the engine and boiler house, and the works will soon be available for lighting purposes. The old engine and dynamos, which furnished light for the buildings since their occupation and during the construction of the new plant, will be removed to the new engine house, and continued as an auxiliary plant.

The water supplied to the institution not being quite clear though filtered, an examination was made by a diver, and the suction pipe was found to be broken, about 1,000 feet from the lake shore, owing to damage caused by the anchor of one of the schooners which pick up stone along the shore. The damage was repaired, and the water is now pumped from a point 1,550 feet from the shore, the depth of water being 23 feet.

ASYLUM FOR INSANE, BROCKVILLE.

As soon as the weather permitted, operations were resumed on the site of the buildings, the excavation of the main building having been done during the previous year. The foundations and superstructure of the main building, which consists of the centre and rear portions, east and west wings, were erected during

the building season, with the exception of the second, third and fourth storeys of the administrative portion of the centre building, and a few feet of the second storey of the west wing, the latter of which will soon be completed if the weather permits. The roofing of the main building is now being proceeded with. The slaters and tinsmiths are working on the east wing and centre portion of the building, and it is expected that the whole of the roofing will soon be completed.

The foundations of the three west cottages were built during the season, and the ground floor joists laid, the walls having been protected from the action of frost.

The excavation for the foundations of the three east cottages was also done during the year.

A full description of these buildings were given in last year's report, including site. The internal carpenter work of the main building will be ready for plastering early in the spring, and it is expected that this portion of the building being for acute patients, will be completed during the ensuing season, and probably three of the cottages for chronic patients on the west side.

Plans and specifications are now in course of preparation for the steam heating of the main building, and hot water heating for the cottages, also for the water supply, drains, etc., gas and electric lighting, for the buildings, etc.

These works have been superintended by Mr. B. O. Byrue, permanent clerk of works, under the directions of the Department.

ASYLUM FOR INSANE, LONDON.

The annexes for the dining-rooms and water towers, also cottage near slaughter house, were completed early in the season, and occupied, the work having been done in a satisfactory manner by the contractor.

The dining-rooms in the centre portion of the main building were altered to dormitories for patients, thus affording increased accommodation.

The ceiling of the halls and corridors on the second and third storeys of the centre portion adjoining the new dormitories were sheeted with embossed sheet-iron, and cornices. This work was done by Mr. John Purdom, and has been performed in a satisfactory manner.

Plans and specifications were prepared for the construction of the addition to the boiler house and coal shed, north building, including the building of a new chimney, which was reported to be necessary, the old chimney being only of sufficient capacity for the kitchen and laundry purposes. Plans, etc., were also prepared for the addition to the rear of the bursar's house, and for a new cast-iron sewage pipe.

Tenders were received, after due advertisement, for the construction of the additions to the north building and bursar's house, also for the cast-iron sewage pipe. The lowest for the former work was that of John Purdom, London, and for the latter, Keith & Fitzsimmons, Toronto, and the work was done by them in a satisfactory manner, under the superintendence of C. Bodley, Clerk of Works.

The roofs and eaves of cottages were repaired and painted, some repairs were also made to the roof of the centre portion of the main building.

The medical superintendent's residence was heated by means of a hot-water boiler and radiators, the work having been done by steam-fitters with the assistance of asylum patients, under the superintendence of the asylum engineer.

ASYLUM FOR INSANE, HAMILTON.

The works connected with the erection of the dining-room annexes and covered ways, connecting the same with the kitchen, were continued by the contractor, F. W. Schwendimann, but were not completed until early in July, owing to the delay in completing the plastering during winter.

When the old dining-room was vacated, the alteration of the same into dormitories was commenced under the superintendence of H. G. MacMahon, Clerk of Works, workmen having been employed and materials purchased, as previously recommended by the inspector, in order to avoid the inconvenience of having strange workmen employed by contractors, over whom there could not be the same control, particularly as all the work would be inside the building. On the recommendation of the inspector, which was approved, a new chimney was constructed at the west boiler-house. The old chimney which was found too small was pulled down, and the materials were used in the construction of the new chimney, which is of ample capacity for the new boilers.

For the reasons given above, workmen were employed and additional materials purchased for the construction of this chimney, also for the addition to the kitchen of the medical superintendent's house, and for repairs to the underground water-tanks, main sewer, etc. The surface round the annexes was graded and drains constructed.

Tenders were received, after due advertisement, for the construction of an addition to the coal-shed at the Queen Street pumping house, and hot water boilers and apparatus for the dining-room annexes, the lowest being that of John Dickenson for the coal-shed, and that of A. Clarke for the hot water apparatus. The works in connection with the same have been completed in a satisfactory manner.

The alteration of the old dining-room to dormitories will soon be completed, and accommodation for twenty-four patients provided.

ASYLUM FOR INSANE, KINGSTON.

Plans and specifications were prepared and tenders received, after due advertisement, for the erection of a new infirmary building, near the main building, the excavation, masonry and cut stone work to be done under the superintendence of a foreman, with the assistance of the patients, masons and stone-cutters to be employed, a good quarry being in a convenient position on the premises. The tenders of A. Cameron, Portsmouth, for the carpenter work, Elliott Bros., Kingston, for the slating and tinsmiths' work, McKelvey & Birch, Kingston, hot water heating and plumbing, C. D. Chown, Kingston, smiths' work, Robinson Bros., Kingston, painting, and A. Newlands, Kingston, plastering, being the lowest were accepted. Elliott Bros., Kingston, having declined to proceed with the slating and tinsmiths' work, fresh tenders were received for the same, and the lowest being that of A. Cameron, was accepted. The walls were constructed, and the building roofed in and enclosed, so that the carpenter work can be proceeded with during the winter, and the plastering done during the spring. Tenders were also received at the same time for the erection of a root house at the Newcourt farm buildings, and the lowest being that of A. Newlands, Kingston, was accepted. The work in connection with the root house was completed in a satisfactory manner under the superintendence of the foreman, Mr. Wilson. A new roof was constructed over the laundry building. Levels have been taken of the several drains and sewers, openings for which were made by the patients, previous to the preparation of plans for the construction of sewage disposal works. These

plans are for a system similar to that adopted at the Mimico Asylum, and the Deaf and Dumb Institute, Belleville, by means of precipitating and polarite tanks, the sewage being treated chemically with ferozone and polarite. The work can be completed during the present year.

ASYLUM FOR IDIOTS, ORILLIA.

Plans and specifications were prepared for the construction of a root-house near the farm buildings, tenders were received after due advertisement, and the lowest being that of J. R. Eaton, was accepted. The root-house has been completed and is in use, but the drains on the outside have not yet been finished.

REFORMATORY FOR BOYS, PENETANGUISHENE.

There has not been any expenditure at this Institution on capital account except in respect of travelling expenses to a small account, and of some matters under the control of the Inspector of Prisons, etc.

REFORMATORY FOR FEMALES, TORONTO.

The only expenditure on capital account at this Institution was for repairs to the roof, water-closets and drains, the plumbing work having been attended to by the plumber of the department.

CENTRAL PRISON, TORONTO.

The expenditure on capital account at this Institution has been of a trifling character, the principal expenditure has been under the control of the Inspector of Prisons, etc.

INSTITUTION FOR THE DEAF AND DUMB, BELLEVILLE.

The sewage disposal works at this Institution have been finally completed, and are now in good working order. The system here used, being that of the precipitating and polarite tanks has proven quite satisfactory, and the sewage sludge is now used as a manure on the farm.

The reconstruction of the steam heating of the main building and dormitory on the east side was completed under the superintendence of the plumber of the department, steam-fitters having been employed and materials purchased.

The old coils that were taken out of the main building, for which radiators were substituted, were used to heat the carpenters' and shoe-makers' shop, east of the dormitory, thereby doing away with the use of stoves, which were a source of danger from fire.

Plans and specifications were prepared, and tenders received, after due advertisement, for the erection of an hospital, barn and piggery, the lowest being that of Thomas Hanley, Belleville.

The barn and piggery have been completed and in use for some time, and the hospital will be ready for occupation at the end of next month. The work was superintended by J. H. MacLaren, Clerk of Works.

INSTITUTION FOR THE BLIND, BRANTFORD.

The expenditure on capital account was trifling, except for work under the control of the Inspector.

 AGRICULTURAL COLLEGE, GUELPH.

Plans and specifications were prepared, and tenders were received, after due advertisement, for the completion of the Convocation Hall, and the erection of a dairy building, near the old dairy building, the lowest tender being that of Thomas Matthews, Guelph. The dairy building is nearly completed and will be ready for occupation about the middle of next month, when required for lectures. The work at the Convocation Hall has been delayed owing to the difficulty of underpinning the foundations, so as to construct a boiler-room for the hot-water apparatus. The contractor will have this work completed early next year.

The piggery in the rear of the farm buildings and the greenhouses were completed early in the autumn, and have been in use for some time.

The hot-water heating of the botanical laboratory and greenhouses not being satisfactory, the contractors, Purdy, Mansell and Mashinter, were duly notified of the same, and an additional hot-water boiler was placed by them in the boiler-house at their own expense. Alterations were made in the heating pipes, so that the new boiler was connected with the botanical laboratory during the day and with the greenhouses at night. The winter has been so mild that there has not been an opportunity of fully testing this hot-water heating, but so far as it can be tested it was found satisfactory.

The remaining appropriations on capital account being under the control of the Department of Agriculture, were transferred, and charged accordingly. The sewage disposal works, operated under the control of the College authorities, are in a satisfactory condition.

 EDUCATION DEPARTMENT, NORMAL AND MODEL SCHOOLS,
 TORONTO.

The only expenditure on capital account, and for maintenance and repairs has been for ordinary repairs to water-closets, drains, etc.

NORMAL SCHOOL, OTTAWA.

Ordinary repairs were made to the steam-heating pipes, and boiler furnaces, also repairs to roofs, ceilings and flooring in the Normal and Model schools. The planking of the yards and fences were also repaired. As the play-sheds and out-buildings have been removed, an appropriation will probably be necessary for levelling the ground in the rear for a play ground, some of the excavation from the addition to the buildings had to be placed there for filling over the surface, which interfered with its use as a play ground for the boys.

SCHOOL OF PRACTICAL SCIENCE, TORONTO.

An appropriation having been made for two new heating steam boilers, to replace the two old boilers which had been removed from the Education Department and in use for two winters, plans and specifications were prepared, and tenders received, after due advertisement. The lowest was that of the Waterous Engine Works Company, Brantford. The old boilers were removed, and the two new boilers placed in the basement during the vacation, the work having been done in a satisfactory manner. Repairs were made to the plumbing and drains where required. The ceilings of the six lecture rooms were deafened, and the floors of the same cleaned after deafening.

OSGOODE HALL, TORONTO.

The felt and gravel roof over the library which has been in a bad condition for some years, requiring constant repair, was replaced by a galvanized iron roof constructed over the same, the carpenter work having been done under the directions of the carpenter of the department. The roof over the west wing, which was constructed of shingle many years since, was replaced by a slate roof, and new cornices constructed at the eaves. An appropriation for the "reconstruction of the drainage, sanitary and ventilation arrangements," having been made in the estimates, the tile drains on the north and west sides connected with the water-closets were reconstructed, and the plumbing of the water-closets repaired and thoroughly tested. The work was done by the bricklayer usually employed by the department, and the plumber of the department, under the directions of Mr. A. Macdougall, Sanitary Engineer. The ventilation of the court rooms by a fan and electric power is not yet completed.

ALGOMA DISTRICT.

The expenditures at the court house, Sault Ste. Marie, have been of a trifling character. Some furniture was supplied to the registry office there.

THUNDER BAY DISTRICT.

The fences round the gaol at Port Arthur were repaired, and some furniture was supplied to the registry office and court room at that place.

A hot-air furnace was placed in the basement of the lock-up at Fort William with registers, etc., in the apartments, and so far the furnace has been satisfactory.

MUSKOKA DISTRICT.

A new shingle roof was placed on the lock-up at Bracebridge, and some furniture supplied to the lock-up and registry office there. The lot between the lock-up and sheriff's office was fenced in, the work having been done under the directions of the sheriff, and the lot levelled.

PARRY SOUND DISTRICT.

A hot-air furnace was placed in the basement of the court house at Parry Sound, in addition to a large heating stove which was removed from the west wing of the old Parliament Buildings. Repairs were made to the court house as required.

NIPISSING DISTRICT.

The court room and lock-up at Sudbury were completed and occupied early in the year, under the superintendence of W. C. Mackenzie, Clerk of Works. Owing to the construction of the Temiscamingue Colonization Railway by the C. P. R. the lock-up at Mattawa had to be removed. This was done by the C. P. R., and all damages and right of way paid for by that company last November.

RAINY RIVER DISTRICT.

The addition to the lock-up at Rat Portage was built and repairs made to the court room at that place, under the superintendence of W. C. Mackenzie, Clerk of Works, workmen having been employed and materials purchased as required.

A large quantity of stone was on the premises, and was used in building the addition. The foundations of the court room being of logs were on examination found to be quite decayed, and had to be removed, and replaced by stone walls, to prevent further settlement of the superstructure which is of frame and clap-boarded. A new shingle roof; shingles laid in mortar, had to be constructed, as the old roof was leaking badly. A combination hot air and hot water furnace was placed in the basement, with registers, etc., in the lock-up and public offices. The floor of the basement was concreted with Portland cement, and stairs constructed to the ground floor. Some furniture was supplied to the lock-up at Fort Francis.

MISCELLANEOUS.

Repairs were made to the plastering inside Brock's monument, and to the floors, roofs, etc., at the entrance lodge. Additional seats were placed in the grounds for the convenience of visitors. From an examination of the monument made last June, it appears to be a matter of necessity to have the statue of General Brock repaired, and the shaft of the column pointed to preserve the same from decay. This work should be done next year.

I have the honor to remain,

Your obedient servant,

KIVAS TULLY,
Architect, etc.

Hon. C. F. FRASER,
Commissioner of Public Works, Ontario.

REPORT

OF THE

ENGINEER OF PUBLIC WORKS.

DEPARTMENT OF PUBLIC WORKS, ONTARIO,
TORONTO, 30th December, 1893

HON. C. F. FRASER, *Commissioner of Public Works, Ontario* :

SIR,—I have the honor to submit the following report respecting works which have been attended to by the Department, also on the extension of railways throughout the Province during the year 1893 :

MAGNETAWAN RIVER IMPROVEMENT.

A channel has been dredged through a point which formed what is known as the "Big Bend," situated on lots Nos. 5 and 6 in the 7th concession of the township of Ryerson, and about four miles down stream from the village of Burk's Falls

The length of cutting from water to water was 100 feet, the surface of the ground for this distance being about six feet above water level, but in order to get depth the dredging had to be continued for a distance of 260 feet.

The width of the channel is 50 feet at the water level and a depth of 10 feet has been provided, the banks above the water being sloped two feet horizontally to one foot vertical, to provide against the material of which they are formed, falling into the cutting.

The work was commenced about the 12th of September and completed on the 20th of October.

The formation of this channel is an improvement which will be fully appreciated, not only by persons interested in the steamers navigating this stream, but also by the lumbermen and settlers in general in the locality as well, as it enables the most difficult portion of the river between Burk's Falls and Se-se-be Lake to be altogether avoided, and thereby not only facilitates navigation but also the driving of timber and saw logs.

Upon the completion of the work at the "Big Bend," the dredging plant was taken down stream and the excavation of a channel proceeded with from the

river into what is known as "Goose Lake," the work being continued until a channel 50 feet in length, 40 feet in width and about 7 in depth had been provided. This channel will prove a great convenience to the settlers and lumbermen, as it will enable cribs and booms of logs, etc., to be towed from the lake into the Magnetewan River during the entire seasons of navigation, whereas formerly logs could only be floated during high water, and will make available a safe and convenient booming ground throughout the seasons for driving timber.

The dredging plant was then taken to Burk's Falls and the machinery removed and shipped to Gravenhurst for service on Muskoka Lake during the coming year, after which the scows were taken to Magnetewan and left in charge of the Lockmaster.

LANDING PIER AT SOUTHAMPTON.

The public landing pier at this village has been improved by driving close piling along the face of the old cribwork for a distance of 112 feet up stream and filling in behind same with stone and gravel, and repairs have also been made to the cribbing at the westerly or down-stream end of the old dock.

This improvement will greatly lessen the inconvenience formerly experienced at this point owing to the available space on the old dock having become too limited to serve the general lake traffic and also afford the large fishing fleet which makes this port their distributing point, proper facilities for discharging their cargoes.

Upon completion of this work the Department was notified and examination was made, and it being found satisfactorily performed, and proper vouchers of the expenditure in connection therewith furnished, the sum of \$722.63 from the appropriation included in the estimates for the present year was paid.

MUSKOKA RIVER WORKS.

An appropriation of \$4,000 was granted last season for service on the improvement of this river at its outlet into Muskoka Lake.

The works attended to during the present year have been as follows:—

Three scows, which were built for service on the Peninsula Creek Canal have been brought from Huntsville to Muskoka Lake and the necessary repairs made thereto, and as the width of the dredge-scow prevented it being transported also, a new one 50 feet in length, 20 feet in width and 5 feet in depth, has been constructed. Upon the completion of the dredging on the Magnetewan River in the early part of November, the machinery was brought down to Gravenhurst and placed in the new scow, after which the entire plant was taken to Alport at the mouth of the Bracebridge River, so as to render it available and enable dredging operations to be commenced as early as possible in the coming year.

A re-vote of the unexpended balance of this appropriation will therefore require to be taken.

PENINSULA CREEK CANAL.

The work attended to in connection with this improvement consisted of the removal of a number of sunken logs and roots, etc., which interfered with navigation during the season of low water.

GULL AND BURNT RIVER WORKS.

The works attended to out of this appropriation during the present year have been as follows :

Horse Shoe Lake Dam.

A new dam has been constructed at the outlet of this lake in the township of Minden to replace the structure built in 1874, which had become decayed and in a worn out condition. It was expected that the foundation of the old dam could be utilized, but upon the superstructure being removed, it was also found to be so defective that it was deemed advisable to entirely rebuild the structure.

The new dam is situated a short distance below the site occupied by the old one. It is 190 feet in length, 20 feet in width, and 12 feet 6 inches in height, provided with three stop-log openings 20 feet in width each and 7 feet in depth, the openings being floored with hardwood 6 inches in thickness. The stop-log platform, 96 feet in length and 12 feet in width, is covered with three inch pine planking, and the necessary windlasses and chains required for raising and lowering the stop-logs have also been provided.

The dam is furnished with a cribwork apron 100 feet in length and 12 feet in width, the flooring opposite the stop-log openings being of hardwood 6 inches in thickness, and the remainder 3 inch pine planking. The entire cribwork is compactly filled with stone, and the dam has been well gravelled to make it water-tight.

A guide boom has also been provided extending from the pier of the highway bridge above to the centre pier of the dam. The boom is 132 feet in length and 2 feet 6 inches in width, constructed of 3x12 inch pine planking, the planking being well spiked together with 7 inch pressed spikes and bolted every 10 feet with 7 8 inch bolts.

Hall's Lake Dam, etc.

A new dam and slide has been constructed at the outlet of this lake in the township of Stanhope, also a guide pier below the dam.

In order to facilitate the driving of timber and lessen its liability to injury while in transit over this portion of the stream, the new dam has been constructed about 250 feet below the site of the old structure. It is 56 feet in length, 25 feet in width and 23 feet in height, provided with one stop-log opening 20 feet in width and 8 feet in depth, with a wing dam on the westerly side 27 feet in length, 4 feet in width and averaging 3 feet in height, the whole being constructed of 12x12 inch square timber. The slide is 71 feet in length and 20 feet in width, the average height of the sides being 4 feet. The sides and cross-sills are of 12x12 inch square timber, the cross sills being placed about 4 feet apart, floored with hardwood 8 inches in thickness, and the sides are supported with 12x12 inch posts placed on every alternate cross-sill and braced with 10x12 inch braces. The stop-log platform, 35 feet in length and 12 feet in width, is floored with 3 inch pine planking, and the necessary windlasses and chains, etc., have been provided.

The glance pier, situated on the westerly side of the channel below the foot of the slide, is 250 feet in length, 6 feet in width and an average height of 5 feet. The crib-work is constructed of 12x12 inch square timber with 10x12 inch ties, the lower courses of timber being securely rock-bolted with 1½ inch round iron

and the remainder fastened together with $2\frac{1}{4}$ inch oak trenails 22 inches in length. The three lower courses in the face of the pier is hardwood, the remainder of the timber being hemlock.

The cribwork in both dam and glance pier is filled with stone, and the dam has been well gravelled and made water-tight.

The work was commenced about the middle of March and continued until the 15th of April, when, owing to high water, it had to be suspended. Operations were again resumed on the 14th of July and continued until the 2nd of September, when the improvement, with the exception of the removal of the old dam and graveling, was completed, the latter works being attended to during extreme low water in the month of November.

Racketty Creek Slide.

A cribwork apron, 60 feet in length, 10 feet in width and an average depth of 8 feet has been constructed at the foot of this slide, which is situated at the outlet of Bob Lake in the township of Lutterworth.

The cribbing is constructed of round hard-wood timber fastened together with $7\frac{3}{8}$ inch square iron rag bolts and $2\frac{1}{4}$ inch oak trenails, the flooring of the apron being of similar material.

The work was commenced in the early part of the month of March and completed about the 7th of April.

MAINTENANCE OF LOCKS, DAMS AND BRIDGES, ETC.

The following repairs and improvements have been attended to out of this appropriation during the present year :

Otter Creek Dam and Slide.

This dam, situated in the township of Monmouth, has been provided with three new stop-logs, and the stop-log platform, 24 feet in length and 12 feet in width, has been entirely rebuilt.

A new slide has been constructed 40 feet in length and 10 feet in width, the cross-sills being 12x12 inch square hemlock timber placed 5 feet apart, and the sides 10x12 inch timber with posts and braces every 10 feet, the flooring being of birch 6 inches in thickness.

A number of boulders which formed obstructions immediately below the slide have also been blasted and removed from the channel.

The construction of this slide will materially benefit the settlers around Otter Lake, as it will greatly facilitate the passage of saw logs, railway ties, and telegraph poles, etc., down the creek, considerable quantities of which I understand are now being taken out, and which is likely to be continued for some time to come.

Grace Lake Dam.

The slide opening of this dam has been replanked with hardwood 8 inches in thickness.

Bear Creek Works.

The floor planking of the slide opening and apron of the dam at the foot of what is known as the "Big Marsh" has been repaired, and new windlasses and frames have been provided for the dam at the outlet of Little Bear Lake.

Drug Lake Dam.

This dam has been supplied with four new windlasses and frames, and four new stop-logs.

Redstone Lake Dams.

Repairs have been made to one of the dams, which prevents the water of this lake from escaping into Eagle Lake, the work consisting of the renewal of three courses of 12x12 inch square timber.

Workman's Dam.

This dam, situated on the Gull River near the village of Minden, has been supplied with two new windlasses, and repairs have also been made to the dam at Norland.

Port Carling Lock, Dam and Swing Bridge, etc.

Repairs have been made to the valve gearing on the lower gates and to the floor planking on the westerly side of this lock, and appliances have been provided at the ends of the balance beams, which enables the gates to be kept in proper position when open. The swing-bridge has been adjusted and the turntable supplied with two new wheels and otherwise repaired.

The planking on the stop-log platform of the dam has been renewed in several places and two new windlasses and frames have been provided.

A number of sunken logs and roots, which interfered with navigation during low water, have also been removed from the channel in the river between the lock and Muskoka Lake.

Port Sandfield Swing Bridge.

The floor planking on the approaches to this bridge has been repaired, and repairs have also been made to the swinging gear.

Mary's and Fairy Lakes, Lock, Dam, etc.

The cribwork retaining wall on the westerly side of the canal above this lock, has been extended down to the pier of the swing bridge. The extension is 40 feet in length, 8 feet in width and 10 feet in height, the cribbing being constructed of 12x12 inch hemlock timber filled with stone and gravel, and the swing bridge pier has also been increased 2 feet in height.

The dam has been supplied with four new windlasses, and some additional filling has been put into the cribwork on the westerly side of the channel below the lock.

Young's Point Lock, etc.

A new boom has been constructed and placed at the head of the canal above this lock to facilitate the entry of steamers and scows into it. The boom is 130 feet in length and 2 feet 6 inches in width, constructed of 2x12 inch pine planking, spiked together with 6x $\frac{3}{8}$ inch pressed spikes, and bolted every 10 feet with $\frac{7}{8}$ inch wrought iron bolts.

Repairs have also been made to the pier and platform above the canal, and also to the valves in the lock gates, and some sunken slabs and other debris which interfered with the proper working of the lock have been removed.

Balsam River Lock, etc.

A new pier 12 feet square and 10 feet 6 inches in height, constructed of 12x 12 inch hemlock timber, has been provided to support the boom above the lock, and the old pier at the upper end of the boom has been repaired with two courses of timber and some additional stone filling put in.

The small pier which supports the boom below the lock has been provided with an additional course of timber, and the flooring of the swing bridge has been renewed with 3 inch hemlock planking.

Lindsay Lock and Swing Bridges.

The balance beams of this lock have received two coats of white paint and the Lindsay street bridge has been provided with three new wheels for the turntable, and the floor planking renewed.

The bridge south of Lindsay has been provided with a new shaft and one new wheel, and the usual adjustment of all the bridges has been attended to.

The following are the Lockmasters' returns of the lockages made at the different locks during the present year:

Port Carling Lock—1,713 steamers, 636 scows, 1,415 small boats, and 253 cribs of timber.

Mary's and Fairy Lakes Lock—92 steamers, 82 scows and 26 cribs of timber.

Magnetawan Lock—525 steamers, 27 scows, 18 small boats and 12 cribs of timber.

Lindsay Lock—172 steamers, 154 scows and 229 cribs of timber.

Young's Point Lock—945 steamers, 184 scows, 53 small boats and 176 cribs of timber.

Balsam River Lock—179 steamers, 39 scows, 26 small boats and 20 cribs of timber.

EXTENSION OF RAILWAYS IN 1893.

Construction work has been in progress on several lines of railway during the present year, the details of the work done as far as could be ascertained being as follows:—

Grand Trunk, Georgian Bay and Lake Erie Railway, Owen Sound Extension.

This line will extend from Parkhead on the Stratford and Huron Railway to Owen Sound, a distance of about 13½ miles. The survey I understand was made during the month of October, 1891, and a small quantity of grading was also done at Parkhead during that year.

Construction was again resumed during the month of July of the present year, and I am informed that the grading is now completed for a distance of about 6 miles, and that 3½ miles of track have been laid and a similar distance ballasted.

It is expected that the line will be completed and opened for traffic as a portion of the Grand Trunk system about the 1st of September next.

Irondale, Bancroft and Ottawa Railway.

The construction of this railway eastward from Irondale, which was commenced during 1892, has been continued during the present year, the line being completed for a distance of 10 miles, and opened for traffic to Gooderham in the

township of Glamorgan, in the early part of November. Operations are, I understand, being continued during the present winter, and it is expected that another 10 mile section will be completed in the early part of the summer of the coming year.

Parry Sound Colonization Railway.

Construction work on this railway, which as previously reported was not proceeded with after the month of July, in 1892, was resumed in the early part of the present year, and I am informed that the grading has been completed and the rails laid for a distance of 10 miles, and that 6 miles have been ballasted, the total distance from the commencement of the line at Scotia, to the end of track, being now 30 miles. I understand that the line will be opened for traffic to Edgington in the early part of the coming year, and it is expected that Parry Sound will be reached before the close of 1895.

Ottawa, Arnprior and Parry Sound Railway.

The construction of this railway has been vigorously prosecuted during the present year, and I understand that the grading is now completed and rails laid for a distance of 82 miles, and that 74 miles are ballasted.

The portion of the line extending from Ottawa to Arnprior, a distance of 36 miles, was opened for traffic on 13th September, and from Arnprior to Egansville, a further distance of 38 miles, on 14th December, and as construction is to be proceeded with continuously, it is expected that a considerable portion west of Egansville will be completed in the early part of the coming summer, and that Scotia will be reached inside of two years.

The following revised statement to the close of 1893 gives in detail the mileage of each railway in Ontario, distinguishing between those constructed prior to and since Confederation.

REVISED STATEMENT.

No.	Name of Railway.	Terminal Points.		Completed prior to Confederation.	Length in Miles.	Completed since Confederation.	Length in Miles.	At present under Construction or Contract.	Length in Miles.
		From.	To.						
1	Grand Trunk Railway.	Main Line.	Point Edward	457					
2	do	Buffalo & Lake Huron Branch.	Goderich	158					
3	do	London Branch	London	23					
4	do	Galt & Doon Branch.	Berlin	4.5					
5	do	Waterloo Junction Railway	Elmira	10.25					
6	do	Toronto & Nipissing Branch.	Coburn	88					
7	do	Midland Railway, Main Line.	Midland City	54.53					
8	do	do Peterboro' Branch	Lakelfield	9					
9	do	Lake Simcoe Junction	Jackson's Point	26.5					
10	do	Whitby, Port Perry & Lindsay.	Lindsay	46					
11	do	Victoria Railway	Haliburton	55.81					
12	do	Grand Junction Railway	Peterborough	64.65					
13	do	Belleville & North Hastings	Madoc	22					
14	do	Toronto & Ottawa, Main Line	Casselman	9			173		
15	do	do Manilla Link	Manilla	6.5					
16	do	do Omenace Link	Peterborough	14					
17	do	Port Dover and Lake Huron.	Stratford	63					
18	do	South Norfolk Railway	Port Rowan	17					
19	do	Chumung Branch	Chumung Lake	9					
20	do	Stratford and Huron	Warton	106.27					
21	do	Owen Sound Extension	Owen Sound				13.50		
22	do	Georgian Bay and Wellington.	Durban	26					
23	Grand Trunk Railway, } Great Western Div. }	Main Line	Windsor	229					
24	do	Toronto & Hamilton Branch	Hamilton	39.5					
25	do	Loop Line Division	Fort Erie	145					
26	do	Kingscourt & Glencoe Link	Glencoe	20			60		
27	do	Sarnia Branch.	Sarnia	51					
28	do	Petrolia Branch	Petrolia	7					
29	do	Brantford Branch	Brantford	8					
30	do	Brantford & Norfolk	Tilsburg				35.88		
31	do	Wellington, Grey & Bruce	Southampton	27			102		
32	do	do S. Extension.	Kincardine				66		
33	do	London, Huron & Bruce	Wingham				69.75		
34	do	London & Port Stanley	Port Stanley	25					

	Welland Railway	Port Colborne	Port Dalhousie	25	25
35	do Northern Railway, Collingwood Line	Toronto	Meaford	91	21
36	do Muskoka Branch	Barrie	Gravehurst		53
37	do Hamilton & Northwestern, Main Line	Port Dover	Allandale		135.3
38	do do Collingwood Branch	Clarksville	Collingwood		40
39	do North Simcoe Junction	Cobwell	Pencanguishene		33.34
40	do Northern & Pacific Junction Railway	Gravenhurst	La Vause		111.5
41	do Toronto Belt Line Railway, Easterly Section	Don Station, G. T. R.	Junction with Northern Ry.		8.50
42	do do do Western do	Carlton on G. T. R.	Swansea		4.33
43	do Canadian Pacific Railway, Main Line	Ottawa	Western Provinces Boundary		1114
44	do Algoma Branch	Stouhury Junction	Sault Ste. Marie		180.25
45	do Brockville & Ottawa Railway	Brockville	Carlton Place		46
46	do St. Lawrence & Ottawa Ry. and	Prescott	Ottawa		39.5
47	do Chandrice Branch	Toronto Junction	Eastern Provinces Boundary		12
48	do Ontario & Quebec Railway	Main Line	Toronto		5
49	do do Don Branch	London	Windsor		112.50
50	do do Detroit Extension	Toronto	St. Thomas		119.13
51	do Credit Valley Ry., Main Line	Steevesville	Elora and Orangeville		62.83
52	do do Orangeville Branch	Campbellville	Guelph		15
53	do do Guelph Branch	Toronto	Owen Sound		122
54	do Toronto, Grey & Bruce, Main Line	Orangeville	Teeswater		73
55	do do Teeswater Branch	Glebeuan	Wingham		4.75
56	do do Wingham Branch	Woodsbrook	London		72
57	do West Ontario Pacific Railway	Toronto	Hamilton		10
58	do South do	Renfrew	Perry Sound		19.25
59	do Atlantic & North-West Railway	Fort Erie	Amherstburg		229
60	do Canada Southern Railway, Main Line	St. Thomas	Courtwright		62
61	do St. Clair Branch	Essex Centre	Sandwich		15.5
62	do Essex Out-off	Niagara	Fort Erie		30
63	do Niagara Branch	Ottawa	Eastern Provinces Boundary		68.08
64	do Canada Atlantic Railway	Cobourg	Harwood		14.5
65	do Colborne, Peterborough & Marmora Ry., Marmora Line	Kingston	Renfrew		103
66	do Kingston & Pembroke Railway	Pictou	Trenton at G. T. R.		32.44
67	do Prince Edward County Railway	Rondeau	Cox Hill		74
68	do Central Ontario Railway	Napanee	Tweed		70.47
69	do Erie & Huron Railway	Yarker	Harrow		50
70	do Napanee, Tamworth & Qu-bee Railway	Deseronto	Harrowsmith		7
71	do do do Harrowsmith Branch	Lake Nipissing (S.E. Bay)	Grand Trunk Railway		3.5
72	do Bay of Quinte Railway	Sault Ste. Marie	Spanish River		125
73	do Noshonong & Nipissing Railway	Kinmount	Bancroft		20
74	do Ontario & Sault Ste. Marie Railway	Brockville	Sault Ste. Marie		30
75	do Brockville, Westport & Sault Ste. Marie	Niagara Falls	Toronto		45
76	do St. Catharines & Niagara Central Railway	Walkerville	Leamington		12.5
77	do Lake Erie, Essex & Detroit River Railway	Port Arthur	Guo Fint Lake		62.5
78	do Port Arthur, Duluth & Western Railway	Scotia	Perry Sound		38
79	do Perry Sound Colonization Railway	Ottawa	Scotia		85.54
80	do Ottawa, Ampeor, & Perry Sound Railway				20
81					74
				1,447.50	4,659.20
					1,252.75

33 (P.W.)

It will be seen from the details given that construction work has been in progress on four lines of railway during the present year and that 84 miles have been completed and opened for traffic.

I have the honor to remain, Sir,

Your obedient servant,

ROBT. McCALLUM,

Engineer, Public Works

STATEMENTS
OF THE
ACCOUNTANT
AND
LAW CLERK.

STATEMENT No. 1.

Being Statement of Expenditures (under authority of 43 Vict., cap. 2, as last amended by 56 Vict., cap. 7) on account of erection and construction of the new Parliament and Departmental Buildings, and shewing (1) the total of such expenditure to the 31st December 1892; (2) the additional expenditure for the year 1893; and (3) the grand total of expenditure to 31st December, 1893.

NOTE.—For miscellaneous expenditures in respect of grounds, filling up and laying out of grounds, etc., making of roads and pavements, etc., and equipment, furnishing and fitting up, etc., of the Buildings, see Statement No. 2. For preliminary expenditures in respect of competitive plans, etc., see Note B, at foot of this statement.

To whom paid.	For what work, etc.	Expenditure to 31st December, 1892.	Additional expenditures to the year 1893.	Grand total of expenditures to 31st December, 1893.	
		\$	c.	\$	c.
Lionel Yorke	Excavating, concreting, masonry, brickwork, etc., and for bricks not supplied by Central Prison (see note A)	272,357	82	37,664	85
Carroll, Gaylor & Vick		391,176	53		
Central Prison	Bricks furnished from Prison to contractors for brickwork, etc. (see note A)	30,000	00		
Lionel Yorke	Ironwork, etc., ground floor and basement of west wing	4,643	00		
Lionel Yorke	Carpenter work, etc., other than ground floor and basement of west wing	4,062	53	14,774	11
Margaret York, administratrix		72,143	36		
St. Lawrence Foundry Co.	Ironwork, etc.	47,037	84	6,808	16
A. H. Rundle	Plastering, etc.	33,505	32	4,159	68
Purdy, Mansell & Mashinter	Plumbing, steam-heating, etc.	63,382	97	14,282	03
Douglas Bros.	Slate and copper roofing, etc.	42,731	53	1,604	97
Wagner, Zeitler & Co.	Interior woodwork etc.	66,061	86	53,613	14
				701,199	20
				30,000	00
				4,643	00
				90,980	60
				53,846	00
				37,665	00
				77,665	00
				44,336	50
				119,675	00

R. J. Howenden	Interior painting, glazing, etc.	18,203 12	5,121 88	23,325 00
H. C. Harrower	Grand staircase, grille work, etc.	16,898 51	5,040 49	21,939 00
Garson & Purser	Outer drainages, etc.	4,761 01	678 99	5,440 00
W. J. McGuire & Co.	Interior fire hydrants, piping, etc.	1,102 70		1,102 70
Toronto Granite Co.	Slate and marble tiling for vestibules, lobbies, etc.		1,450 00	1,450 00
Elliott & Son	Decorative painting of ceiling and walls of Legislative Chamber		4,500 00	4,500 00
Rice Lewis & Son	Wood mantels, mirrors, facings, furnishings, etc.		3,322 00	3,322 00
The Charles Roger & Sons Co.	Seating, etc., ladies' and visitors' galleries, Legislative Chamber		3,250 00	3,250 00
Wagner, Zeidler & Co.	Speaker's dais, etc., in Legislative Chamber		920 00	920 00
Mr. R. A. Waite	Payment of Architect's fees	33,500 00	2,500 00	36,000 00
Sundry other expenditures	Water mains, drains, advertising tenders, etc.	6,032 07		6,032 07
	Totals (see note A)	1,107,600 17	159,690 30	1,267,290 47

NOTE A.—By the terms of the original contract for excavating, concreting, masonry, brickwork, etc., approved of by the Provincial Legislature, the contractor was to receive (1) \$671,250, and (2) thirteen and one half million of brick from the Central Prison. If less than this amount of brick was supplied from the Central Prison he was to be paid at the rate of six dollars per thousand for the difference between the quantity supplied and said thirteen and one-half millions. The actual quantity of brick supplied from the Central Prison to the contractors was only 10,451,450, which at \$6 per thousand amounts to \$62,726.70. There is, therefore, in addition to the above item of \$80,000, a further sum of \$32,726.70 chargeable against construction account of the buildings for the brick supplied contractors from the Central Prison. Adding this sum of \$32,726.70 to the first two items contained in the last column of this statement, it will be found (1) that the total of the actual cost of work done under the contracts with Lionel Yorke and Carroll Gaylor and Vick for excavating, concreting, masonry, brickwork, etc., is \$763,925.90 and (2) that the grand total of cost to 31st December, 1893, in connection with all the contracts and other services covered by and included in this statement, amounts to \$1,300,017.17. For further particulars in connection with this statement see the Report of the Commissioner, *ante* p. 5.

NOTE B.—The preliminary expenditures for and in connection with the competitive and other plans, etc., prior to those prepared by Mr. Waite, and which preliminary expenditure amounted to a total of \$17,876.76, are omitted from this statement, as they form no part of the actual cost of the erection and construction of these buildings under Mr. Waite's plans.

PUBLIC WORKS DEPARTMENT, ONTARIO,
TORONTO, *January*, 1894.

J. P. EDWARDS, *Accountant*,
Public Works Department.

STATEMENT No. 2.

Showing miscellaneous expenditures (a) to 31st December, 1892; and (b) for the year 1893; and (c) the grand total of such expenditures to 31st December, 1893, in connection with the New Parliament and Departmental Buildings for (1) Old Hospital premises; (2) Outside fire hydrants, water mains for grounds, etc.; (3) Grading, levelling, filling up and laying out of the grounds, and making of roads, pavements, etc.; (4) Equipping, furnishing, and fitting up the buildings with passenger elevators, combination electric and gas fittings, and interior wiring for electric power and lighting. (5) Book stacks, shelving, reading desks, tables, etc., for library, members' reading-room, etc.; (6) Metal files, pigeon holes and other fittings for vaults, offices, etc.; and (7) Such additional fittings, furnishings, equipment and other matters as are not included in the statement of expenditure for the erection and construction of these buildings.

NOTE.—For expenditures in respect of the erection and construction of the buildings, see Statement No. 1.

	To whom paid.		For what paid.		Expenditure to 31st December, 1892.		Expenditure for year ending 31st December, 1893.		Grand total to 31st December, 1893.	
					\$	cts.	\$	cts.	\$	cts.
Toronto University					30,000	00			30,000	00
Bennett & Wright					3,685	95	21,282	31	24,968	29
Obis Brothers & Co					7,520	00	11,180	00	22,000	00
Office Specialty Mfg. Co					3,170	00	8,937	00	12,107	00
Wm. Simpson					2,583	00	2,616	00	5,199	00
Sundry persons					9,030	39			9,030	39
Carroll & Vick							1,121	85	1,121	85
Gallins & Campbell							1,373	58	1,373	58
Fliott & McKenny							191	18	191	18
Thos. Fisher							125	00	125	00
Jno. Maloney							377	75	377	75
Edward D. Morris							182	00	182	00
McKeown & Charles							158	08	158	08
Nichols, Smyth & Co							120	90	120	90
St. Lawrence Foundry Co							636	81	636	81
Sundry other persons							249	73	249	73
Sundry persons									5,614	59
Bennett & Wright									736	01
J. A. Kammerer									263	90
Toronto Electrical Works									575	98
Toronto Incandescent Light Co.									147	22
Withrow & Hillock									562	40
Sundry other persons									147	81
Sundry persons									4,817	44
W. Rosebrugh & Sons									740	57
					4,817	44			4,817	44
									740	57

	8,059 28	7,460 26	15,519 54
Pay lists of men		1,535 00	1,535 00
The Clax, Rogers & Sons Co.		700 00	700 00
Moir & McCall		532 06	532 06
John Fletcher & Sons		214 30	214 30
Consumers' Gas Co.		1,425 33	1,425 33
Aif. W. H. Gianelli		396 00	396 00
Galvanic Battery Works		140 75	140 75
Hatch & Shipway Mfg Co.		244 11	244 11
The Jas. Morrison Brass Mfg. Co.		223 15	223 15
M. O'Connor		460 00	460 00
Wm. Simpson		760 80	760 80
Tucker & Dillon		147 36	147 36
Wagner, Zedler & Co		2,449 53	2,449 53
J. B. Smith & Sons		572 45	572 45
Sundry other persons		2,024 48	2,024 48
Albany Venetian Blind Co		1,310 55	1,310 55
J. G. Wilson		718 31	718 31
Alexander & Anderson		218 00	218 00
Geo. F. Bostwick		655 00	655 00
do		358 85	358 85
F. C. Burroughes & Co.		840 17	840 17
Sammel Clarke			
The E. Howard Watch and Clock Co			
M. L. Hughes		185 00	185 00
John Irwin		529 03	529 03
Jolliffe & Co		136 80	136 80
Jno. Kay, Son & Co		314 75	314 75
Jno. Macdonald & Co		1,677 10	1,677 10
J. & J. L. O'Malley		2,647 25	2,647 25
L. Rawlinson		1,111 95	1,111 95
The Clax, Rogers & Sons Co.		181 75	181 75
Thos. Thompson & Sons		1,558 25	1,558 25
Suzarc-Schuyler Mfg. Co		126 26	126 26
McDonald & Willson		575 00	575 00
J. T. Wilson		246 00	246 00
Sundry newspapers		130 00	130 00
		98 20	98 20
Totals	74,770 65	87,959 91	162,730 56

NOTE.—This statement does not embrace (1) The expenditure of \$17,876.76 for and in connection with the competitive and other plans, etc., submitted prior to those prepared and designed by Mr. Waite, as to which latter expenditures, see note "B" to Statement No. 12; nor (2) the expenditure of \$1,258.06 in connection with the sale of lands set apart by Act to form New Parliament Buildings Fund. The amount realized from the sale of these lands to 31st December, 1893, was \$174,210.01.

PUBLIC WORKS DEPARTMENT, ONTARIO,
TORONTO, January, 1894.

J. P. EDWARDS, Accountant,
Public Works Department

STATEMENT No. 3.

Being Statement of Expenditures on Capital Account for 1893, and total of Expenditures up to the 31st December, 1893, on Public Buildings and Works other than the New Parliament and Departmental Buildings.

NOTE. For New Parliament and Departmental Buildings, see Statements Nos. 1 and 2.

Name of Work.	Expenditures from 1st July, 1867 to 31st Dec., 1892.		Expenditures for 1893.		Total of Expenditures to 31st Dec., 1893.	
	\$	c.	\$	c.	\$	c.
Government House	172,085	95	9,180	95	181,265	90
Old Parliament and Departmental Buildings	85,285	98			85,285	98
Asylum for the Insane, Toronto	318,629	94	8,112	68	326,742	62
Mimico	517,864	51	17,795	80	535,660	31
Brockville	20,438	58	92,883	03	112,823	61
London	821,527	93	33,402	93	854,930	86
Hamilton	766,796	83	30,670	22	797,467	05
Kingston	363,929	24	17,591	23	381,520	47
" (Branch)	9,429	82			9,429	82
Asylum for Idiots, Orillia	483,426	40	2,963	76	486,390	16
Deaf and Dumb Institution, Belleville	275,337	70	17,230	05	292,567	75
Blind Institution, Brantford	254,535	01	1,562	50	256,097	51
Reformatory for Boys, Penetanguishene	160,177	58	4,738	52	164,916	10
Agricultural College, Guelph	394,919	72	17,773	55	412,693	27
Central Prison, Toronto	739,722	02	38,526	62	778,248	61
School of Practical Science, Toronto (old building)	59,100	26			59,100	26
" (new building and addition)	187,204	43	8,382	20	195,586	63
Andrew Mercer Reformatory for Females, Toronto	202,475	49	2,065	34	204,540	83
Osgoode Hall, Toronto	129,049	12	5,701	69	134,750	81
Agricultural Hall, Toronto	324	00			324	00
Educational Department and Normal and Model Schools, Toronto	137,981	84	266	72	138,248	56
Normal and Model Schools, Ottawa	195,480	09	3,591	52	199,071	61
Government Farm, Mimico	51,646	34			51,646	34
Brook's Monument, Queenston Heights	3,841	01	85	00	3,926	01
Niagara River Fence	8,025	43			8,025	43
Muskoka District - Immigration Sheds at Gravenhurst	355	00			355	00
" Registry Office and Lock up, Bracebridge	10,150	40	1,460	43	11,610	83
" Lock-up and Court Room at Huntsville	7,974	47	39	35	8,013	82
" Lock-up, etc., Baysville	22,998	37	47	00	23,045	37
Algoma District - Court House, Guelph and Registry Office, etc., Sault Ste. Marie	15,532	03	8	00	15,540	03
" Grand Manitowlin Island - Three Lock-ups (Gore Bay, Little Current and Manitowaning)	1,292	97			1,292	97
" Lock-up at Killarney						

STATEMENT No. 3.—*Concluded.*

Being Statement of Expenditures on Capital Account for 1893, and total of Expenditures to 31st December, etc. — *Continued.*

Name of Work.	Expenditures from 1st July, 1867, to 31st Dec., 1892.		Expenditures for 1893.		Total of Expenditures to 31st Dec., 1893.	
	£	c.	£	c.	£	c.
Moira River Improvements (Township of Thimlow)	2,135	22			2,135	22
Trent River Bridge	2,000	00			2,000	00
Washago and Gruvenhurst Road	32,792	12			32,792	12
Wharf	189	22			189	22
Portage du Fort Bridge	5,247	99			5,247	99
Des Joachim's Rapids — Bridges and Appurtenances	5,937	72			5,937	72
Surveys, Inspections, Arbitrations and Awards	13,950	87	357	63	14,298	50
Maintenance of Locks, Dams, Slides, Bridges, etc	95,209	23	3,531	51	98,740	74
Roads in Township of Ryerson	7,265	06			7,265	06
Clearing and Log Houses on Free Grant Lands (Settlers' Homestead Fund)	16,780	75			16,780	75
Aldborough Drainage Works	7,189	02			7,189	02
Brooke	31,747	73			31,747	73
Delaware	5,740	93			5,740	93
Dunwich	10,105	86			10,105	86
Ekfrid, Caradoc and Metcalf Drainage Works	13,667	66			13,667	66
Grey Drainage Works	8,175	47			8,175	47
Moore	17,091	58			17,091	58
Most	12,714	75			12,714	75
Nissouri West Drainage Works	36,469	64			36,469	64
Raleigh	8,178	50			8,178	50
Russell	11,543	77			11,543	77
Sarnia	40,540	55			40,540	55
Sombra	53,169	01			53,169	01
Tilbury, East	35,297	62			35,297	62
“ West	31,577	06			31,577	06
Williams, East	2,291	75			2,291	75
“ West	36,448	51			36,448	51
Surveys and Drainage of Swamp Lands (Provincial Account)						
Totals	7,724,887	91	339,362	22	8,064,250	13

J. P. EDWARDS, Accountant.
Public Works Department.
Toronto, January, 1894.

STATEMENT No. 4.

Contracts, Bonds, etc., entered into with Her Majesty during 1893.

Date.	Service.	Subject of Contract.	Contractor.	Surances.	Amount.
1893. Jan. 21...	New Parliament and Departmental Buildings, Toronto.	Ninety five combination gas and electric chandeliers.	Bennett & Wright, Toronto.	To Joseph H. Leech and William G. Wright, both of Toronto.	\$ 2,030 00
March 20.	Gull and Burnt Rivers Works.	Timber for reconstruction of dam at outlet of Horse Shoe Lake.	George W. Stevens, of the Township of Stanhope.	the William H. Stevens and John Welch, both of the Township of Stanhope.	Square pine and hemlock timber, per lineal foot. Sawn larch or maple, per 1,000 feet, board measure. Pine planking per 1,000 feet, board measure. 10 12 00 9 00
April 5...	Gull and Burnt Rivers Works.	Timber for reconstruction of dam at outlet of Hall's Lake.	George F. Mark, of the Township of Stanhope.	the Richard Bailey and Richard Dawson, both of the Township of Stanhope.	Square pine and hemlock timber per lineal foot. 10 x 12 hemlock, per lineal foot. Birch or maple per lineal foot. Pine planking per 1,000 feet, board measure. 08 06 08 10 00
May 17...	Muskoka River Works	Timber for reconstruction of dredge scow.	Mickle, Dymont & Son, of Barbic.	None	Pine timber per 1,000 feet, board measure. 17 50
June 20.	Maintenance of Locks and Dams.	Hemlock timber for crib work on canal above Mary's and Fairy Lakes Lock.	The Uterson Lumber Co. (Limited), of the City of Toronto.	James Tedhunter and W. Allan, both of Toronto.	Hemlock timber per 1,000 feet, board measure. 10 50

STATEMENT No. 4.—Continued.

Date.	Service.	Subject of Contract.	Contractors.	Sureties.	Amount.
June 28 . . .	Ottawa Normal and Model Schools.	Coal for season 1893-4.	J. G. Butterworth & Co., of Ottawa.	Harold L. Corbett and Neil W. Remick, both of Ottawa.	Scranton or Pillsston coal— Large egg or grate, per ton . . . 4 95 Briar Hill soft coal, per ton . . . 5 70
June 28 . . .	Ottawa Normal and Model Schools.	Wood for season 1893-4.	George A. Harris, of Ottawa.	William Cowan and John Rogers, both of Ottawa.	Hard wood, per cord . . . 4 20 Pine wood, " . . . 1 65
June 29 . . .	Parliament and Departmental Buildings and Institutions, Toronto.	Coal and wood for season 1893-4.	The Conger Coal Co. (Ltd.), of Toronto.	Charles Crane, both of Toronto.	Scranton or Pillsston coal— Grate size, per ton . . . 5 00 Small egg stove and nut size, per ton . . . 5 10 Pea size, per ton . . . 5 65 Soft coal, per ton . . . 4 20 Do. screenings, per ton . . . 2 85 Hard wood, per cord . . . 5 25 Pine wood, " . . . 3 50 Charcoal, per barrel . . . 50
Aug. 2 . . .	Asylum for the Insane, Mimico.	Laying water supply pipes in lake and connecting with present intake pipe.	Garson, Purser & Co., of St. Catharines.	None	Per lineal foot 2 90
Aug. 19 . . .	School of Practical Science, Toronto.	Construction, etc., of two new steam boilers.	Waterous Engine Works Co. (Ltd.), of Brantford.	J. E. Waterous and D. J. Waterous, both of Brantford.	2,550 00
Aug. 21 . . .	Asylum for the Insane, Mimico.	Erection of an addition to the boiler and engine house; of an addition to the cow stables; of a roof house and of a filter house and filters, sludge tank, etc.	John Hamrahian, of Toronto.	W. T. Stewart and James J. O'Hearn, both of Toronto.	9,231 00

Aug. 21	Deaf and Dumb Institute, Belleville.	Construction of a barn, piggery and infirmary.	Thomas Hanley, of Belleville.	Thomas S. Carmen and Andrew N. Pringle, both of Belleville.	11,600 00
Aug. 21	Agricultural College, Guelph.	Erection of an additional building for dairy purposes; the building of additions for water-closets, and constructing baths, etc., and the construction of stage front and dressing rooms at Convocation Hall.	Thomas Matthews, of Guelph.	Robert Phillips, Alexander Bruce and George R. Bruce, all of Guelph.	9,154 00
Aug. 21	Asylum for the Insane, Hamilton.	Construction of a hot water apparatus and radiators for heating the dining room annexes and passages.	Adam Clarke, of Hamilton.	Edward Gurney, of Toronto, and Robert K. Hope, of Hamilton.	2,498 00
Aug. 21	Asylum for the Insane, Hamilton.	Construction of an addition for a coal shed to the pumping engine house.	John Dickenson, of Guelph.	Edward Dickenson, sr., and Edward Dickenson, jr., both of North Guelph.	587 00
Aug. 21	Asylum for Idiots, Orillia.	Erection of a root house.	James R. Eaton, of Orillia.	Melville Miller and Herbert Cooke, both of Orillia.	1,860 00
Aug. 21	Deaf and Dumb Institute, Belleville.	Hot air heating apparatus at the infirmary.	Wheeler & Bain, of Toronto.	None	210 00
Aug. 24	Asylum for the Insane, London.	Construction of an addition to and making alterations in the boiler house, coal shed and scullery, and the erection of an addition to the bursar's residence.	John Purdom, of London.	Thomas H. Purdom and Alexander Purdom, both of London.	6,180 00

STATEMENT No. 4.—Continued.

Date.	Service.	Subject of Contract.	Contractors.	Supplies.	Amount.
Aug. 24 . . .	Asylum for the Insane, London.	Construction of sewage discharge pipes from engine house to sewage tank.	Keith & Fitzimons, Toronto.	of George Coleman, and Samuel Muirhead, both of Toronto.	\$ c. 1,625 00
Aug. 26 . . .	Asylum for the Insane, Hamilton.	Plumbing, steam heating, etc., old dining-room.	Adam Clarke, of Hamilton.	None	\$95 00
Aug. 26 . . .	Rainy River District.	Heating apparatus at the curt room and lock-up, Rat Portage.	The Gurney Foundry Co (Ltd.), of Toronto	None	800 00
Aug. 30 . . .	Asylum for the Insane, Kingston.	Carpenters and joiners' work, iron ceilings, etc., at the Infirmary.	Alexander Cameron, of Perth, month.	William Ross McRae and Neil McNeil, both of Kingston.	5,900 00
Aug. 30 . . .	Asylum for the Insane, Kingston.	Painting and glazing works at new Infirmary.	Robinson Bros., of Kingston.	William J. Dick and William Robinson, both of Kingston.	1,050 00
Aug. 30 . . .	Asylum for the Insane, Kingston.	Hot water apparatus and plumbing at new Infirmary.	McKelvey & Birch, of Kingston.	Robert Crawford and R. J. Caron, both of Kingston.	2,404 00
Aug. 30 . . .	Asylum for the Insane, Kingston.	Iron works, etc., at new Infirmary.	Charles D. Chown, of Kingston.	Edwin Chown and Albert P. Chown, both of Kingston.	625 00

Aug. 30 . . .	Asylum for the Insane, Kingston.	Erection of a roof-house near the farm buildings.	Alexander Newlands, Kingston.	of William Ross McKae and William J. Livingston, both of Kingston.	2,873 00
Sept. 14 . . .	New Parliament and Departmental Buildings, Toronto.	Grading and sodding, etc., of grounds.	James Collins and Charles Campbell, both of Toronto.	None	06½
Oct. 2	Asylum for the Insane, Mimico.	Electric light plant, composed of steam boiler, engine, dynamo, wiring, lamps, etc.	Bennett & Wright, Toronto.	To Joseph H. Leech and William G. Wright, both of Toronto.	5,446 00
Oct. 2	Thunder Bay District.	Heating apparatus at lock-up and court room, Fort William.	Wheeler & Bain, of Toronto.	None	513 00
Oct. 12	Agricultural College, Guelph.	Plumbing and gas-fitting works in lavatories and basement.	Keith & Fitzsimons, Toronto.	To None	937 50
Nov. 10	New Parliament and Departmental Buildings, Toronto.	Supplying and placing in position new mahogany clock case for the Legislative Chamber.	George F. Postwick, Toronto.	To None	225 00
Nov. 14	Deaf and Dumb Institute, Belleville.	Metal ceilings at infirmary building.	Douglas Brothers, Toronto.	To None	172 00
Nov. 15	Asylum for the Insane, Hamilton.	Slating and tinsmith works, metal ceilings, etc., re alterations to old dining room.	James Findlay, of Hamilton.	None	772 00

STATEMENT No. 4.—*Concluded.*

Date.	Service.	Subject of Contract.	Contractors.	Sureties.	Amount.
Nov. 15	Asylum for the Insane, Hamilton.	Painting and glazing works, etc., &c alterations to old dining-room.	E. A. P. Cooke, of Hamilton.	None	\$ c. 534 00
Nov. 22	Asylum for the Insane, Kingston.	Lathing, plastering, etc., at new Infirmary.	Alexander Newlands, Kingston.	William J. Livingston and R. W. Ellicott, both of Kingston.	1,745 00
Dec. 4	Asylum for the Insane, Mimico.	265 winter sashes for the main and centre buildings and cottages.	Gosson, Purser, & Co., of St. Catharines.	None	775 00

J. P. EDWARDS,
Accountant and Law Clerk,
Public Works Department.

PUBLIC WORKS DEPARTMENT, ONTARIO,
 TORONTO, *January, 1894.*

THIRD REPORT OF

THE BUREAU OF MINES

1893.

PRINTED BY ORDER OF THE
LEGISLATIVE ASSEMBLY OF ONTARIO.





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To His Honor GEORGE AIREY KIRKPATRICK,

Lieutenant-Governor of Ontario :

I have the honor to transmit herewith, for presentation to the Legislative Assembly, the Third Report of the Bureau of Mines.

I have the honor to be, Sir,

Your obedient servant,

A. S. HARDY.

Commissioner of Crown Lands.

DEPARTMENT OF CROWN LANDS,

Toronto, April 27, 1894.



THIRD REPORT OF THE BUREAU OF MINES.

To the Honorable ARTHUR S. HARDY,
Commissioner of Crown Lands:

SIR,—I have the honor to submit herewith, for presentation to His Honor the Lieutenant-Governor, the Third Report of the Bureau of Mines.

Besides the statistics of mineral production in the Province, and of mining lands leased or sold by the Department of Crown Lands last year, this Report deals with several subjects which are attracting notice at the present time. Scope of the Report.

One of these subjects relates to our gold fields. Last year I visited mines in the Lake of the Woods region, in the district north of Lake Huron and Georgian Bay, and in the county of Hastings, and a full account of operations in those several fields is given in the Report. I also performed the duty of inspecting the several gold mines and mills, and therefore it was not necessary for the Inspector to visit them. The prospect of gold mining in the Province has greatly improved during the year, and with new fields to attract the industrious explorer there is promise of increased activity this year. Gold fields of the Province.

Another portion of the Report is devoted to an account of exploratory work undertaken at Point Mamainse, on the east shore of Lake Superior, with the object of ascertaining the value of the copper-bearing formations there, which are identical with the copper-bearing rocks in Michigan, on the southern shore of the same lake. Copper-bearing formations at Point Mamainse

Our deposits of fibrous talc and actinolite in the counties of Hastings and Addington have also received attention. The talc industry has recently been largely developed in the State of New York, where the value of the yearly output of the mills has reached half a million dollars. With properly directed enterprise there is, I believe, a good field for mining and milling talc and actinolite in this Province also. Fibrous talc and actinolite.

Vitrified brick
for street
paving use.

The adoption of vitrified brick as material for street pavement has been made the subject of enquiry by the Secretary of the Bureau, Mr. Gibson. There is no doubt as to the suitability of brick for this purpose, as is amply shown by the experience of American cities; and if, as is almost certain, we have clays for the manufacture of vitrified brick of the right quality—such as our beds of Hudson River and Medina shales—a new industry of no little importance may soon be established in the country. The yearly demand for pavement material in our towns and cities is large and steadily growing; and if we can employ labor and capital to produce a good article at home, it is much better that we should do so than continue dependent on foreign supplies.

Utilization of
peat.

The utilization of peat is a subject that continues to receive attention, and inventors of various processes of treatment for the production of fuel are sanguine of ultimate success. For a paper on other uses of peat I am indebted to Mr. Edward Jack, of Fredericton, New Brunswick.

Report of the
Inspector of
Mines.

The annual report of the Inspector of Mines accompanies the Report of the Bureau.

I have the honor to be, Sir,

Your obedient servant,

ARCHIBALD BLUE,

Director.

Office of the

BUREAU OF MINES,

Toronto, April 27, 1894.

REPORT OF
THE BUREAU OF MINES.

I.
STATISTICS.

There is not much change to note in the condition of the mining industry when the statistics of last year's production are compared with those of the previous year. There has been a decrease in the quantities and values of building stone and nickel and copper, but this is offset by the increase in the quantities and values of petroleum products. Transactions in mining lands, while showing a noticeable increase in the number of locations leased or sold, are marked by a lowering of average areas. The activity displayed in the earlier part of the year was not maintained in the latter part : but inasmuch as a large proportion of those who take up mineral lands in Ontario are Americans, the falling off was no doubt a consequence of the financial disturbance which overtook them at home.

Comparison with the previous year's statistics.

SALE AND LEASE OF MINING LANDS.

The following table gives the number of patents for mining lands issued last year in each of the several districts, the areas of the locations, and the amounts which the sales realized : Statistics of locations sold,

District.	No. of patents.	Acres.	£
Rainy River.....	41	2,390.72	6,856 00
Thunder Bay.....	4	362.59	920 75
Algoma.....	3	410.00	1,113 00
Nipissing.....	3	200 00	622 00
Elsewhere.....	12	1,007.00	1,986 25
Totals.....	63	4,370.22	11,498 00

Included in the above are two patents of mining rights, sold under the provisions of section 19 of The Mines Act 1892. They embrace an area of 186 acres, and the price paid was \$232.50.

The number of patents issued in 1892 was 65, covering 6,200 acres, and the price paid was \$15,273. There was only a difference of two in the number of patents issued in the two years; but while in the former the average area was 95.38 acres, it was in the latter only 69.37 acres.

and of loca-
tions leased.

The next table gives the number of mining leases issued in each district, the area covered by them, and the amount received for rent of the first year:

District.	No. of leases.	Acres.	\$
Rainy River.....	68	6,857.00	6,857 00
Thunder Bay.....	3	360 00	260 00
Algoma.....	32	3,540.62	3,458 88
Nipissing.....	7	599 63	336 62
Elsewhere.....	12	1,689.50	821 40
Totals.....	122	13,046.75	11,933 90

Included in the foregoing are 11 leases of mining rights, granted under the provisions of section 19, embracing an area of 1,094½ acres, for which the first year's rent was \$401.05.

In 1892 the number of leases issued for mining locations was 95, covering 13,122½ acres, and the amount of first year's rent paid was \$12,314.36—the average area of locations being 138.13 acres as against 106.94 acres in 1893.

The amount of rentals received in 1893 on leases issued in 1891 and 1892 was \$2,735.86, as against \$603 received in 1892 on leases issued in 1891. The total amount of receipts for sales and rentals last year was \$26,167.76, and in the previous year \$28,190.36.

MINERAL STATISTICS.

Building
stone.

The value of the product of 310 stone quarries last year is computed at \$721,000, made up as follows: 1,400,000 cubic feet dimension stone, \$260,000; 44,700 cubic feet heads and sills, \$21,000; 170,000 square yards coursing stone, \$180,000; and 410,000 cubic yards rubble stone, \$260,000. The number of workmen employed at the quarries was 1,700, and the wages paid for labor \$464,000.

Cements.

The manufacture of cements is steadily increasing. There are now four works producing Portland and five producing natural rock cement. Last year the output of Portland cement was 31,924 barrels, valued at \$63,848, and of natural rock cement 74,353 barrels, valued at \$63,567. The number of workmen employed in the industry is 224, and the amount of wages paid for labor \$60,208. Tests of Portland cements used in Toronto show that some of the brands manufactured in Ontario are superior to the imported cements of the same class.

Lime.

The number of lime kilns in operation in the Province is about 300, and last year they produced 2,700,000 bushels valued at \$364,000. The number of workmen employed at the quarries and kilns was 600, and the amount paid for wages \$122,500.

There are in the Province about 350 works for the manufacture of common brick, of which about 150 are also employed in the production of drain tile. The output of these works last year was 162,350,000 brick, valued at \$932,500, and 17,300,000 drain tile, valued at \$190,000. The number of workmen employed in the joint industries was 2,650, and the amount paid for wages \$451,000. Brick and tile.

Six works were employed in the manufacture of pressed brick and terra cotta, the output of which was 20,208,000 plain brick, 1,373,000 fancy brick and 53,000 of roofing tile. The aggregate value of brick, roofing tile and terra cotta products was \$217,373. The number of workmen employed was 224, and the amount paid for wages \$80,686. Pressed brick and terra cotta.

Two companies have been carrying on the manufacture of sewer pipe, one of which was started last year and worked only part time. The average number of men employed was 85, and the amount of wages paid \$34,000. The value of product was \$230,000. Sewer pipe.

There are about forty works in the Province employed in the production of pottery. Last year the total value of wares made was \$115,000, employing the labor of 150 men, whose wage-earnings reached \$36,000. Pottery.

The gypsum industry is making slow progress, and last year only four of the six companies which own mines and works on the Grand river were actively employed. The total quantity of gypsum mined is reported to be 2,958 tons, the greater portion of which was ground into land plaster. The value of raw gypsum and plaster (2,818 tons) is computed to be \$7,363. The rest of the mineral, 140 tons, was manufactured into alabastine and plastico at the new works at Paris, and is valued at \$14,800. The number of men employed at the mines and works was 33, and the amount of wages paid \$9,220. At the alabastine works gypsum is now being used in the manufacture of a potato bug poison, which is claimed to possess the double merit of destroying the bugs and fertilizing the crop. Gypsum and alabastine.

The apatite or phosphate of lime mines of the Province were idle last year, with a single exception; the cheaper production of South Carolina and Florida mines continuing to make operations in Ontario unprofitable at the European prices. One mine was worked for a short time by four men, who raised 20 tons valued at \$200. The cost of labor was \$500. Phosphate of lime.

The salt-making industry remains practically at a standstill, for although the production was greater last year than in the preceding year, the aggregate value was less. The new Canadian Pacific Railway works at Windsor did not begin operations until late in the year, and two other works in Huron were idle. The total output of fifteen establishments was 39,150 tons of fine and 9,300 tons coarse salt, the value of the former being \$123,450, and of the latter \$26,400. The number of workmen employed was 210, and the amount of wages paid for labor, \$44,440. In 1892 the total product was 43,387 tons, valued at \$162,700, and the wages paid for labor \$37,800. Salt.

Mica. Mica mining was limited to operations on five properties, where 70 tons were produced, valued at \$8,600. Forty workmen were employed, and the amount of wages paid was \$4,500.

Nickel, copper and cobalt. With the exception of operations at Point Mamainse on Lake Superior to open up the copper veins there, all mining for copper and nickel in the Province during the year was carried on in the Sudbury district. Five companies were employed in the industry, but owing to financial difficulties one of the works was closed for the greater part of the year. The total quantity of ore raised was 64,043 tons, and the quantity smelted was 63,944 tons. The product of the furnaces was 7,176 tons of ordinary and 452 tons of bessemerized matte, the metal contents of which are estimated to be 1,431 tons copper, 1,642 tons nickel and 19 tons cobalt. Values are computed on the market price of matte at the furnaces, and are for copper, \$115,200; for nickel, \$454,702; and for cobalt, \$9,400, being a total of \$579,302. The average number of workmen employed at the mines and works was 495, consisting of 129 men underground and 356 men and 10 boys under 17 years above ground, and the aggregate of wages paid for labor was \$252,516.70. The running time of the smelting furnaces in the year ranged from 46 to 239 days, and the working time in the mines from 40 to 297 days in the year, the aggregate working time of men under ground being 24,348 days.

A Duluth company began late in the year to open up a promising property on lots 10 and 11 in the third concession of Trill, where a shaft has been sunk on a body of solid ore. It is the intention of this company, if the exploration work is satisfactory, to erect a plant for treating the ore by a new process, from which good results are expected.

Gold. Fifteen gold properties were worked during the year, upon which labor was expended to the amount of \$49,027. The average number of men employed above ground on all the properties was 112, and below ground 56. The work however was chiefly of a development character, the cost of which bears no relation to the gold product. Nine mills for treating ores were in operation, but none of them for a long period. Four of these were Crawford mills, four were stamp mills, running a total of fifty stamps, and one a mill for treating refractory ores. The latter was an experimental plant, erected to test a new process of extracting gold from mispickel, and its capacity is only five tons per day. Two of the stamp mills were completed only a few days before the close of the year, another was closed down for repairs for several months, and the fourth was idle for nearly the whole of the year. The Crawford mills do not appear to have given much satisfaction where they were tried, and none of them were run for more than a few days. The total quantity of ore treated during the year was 5,560 tons, which yielded 1,695 ounces of bullion, valued at \$32,960.

Silver. Silver mining was inactive throughout the year. All the producing mines were shut down in consequence of the depreciation of silver, and the only work done was of a development character. Five men were employed for sixty days at a cost for wages of \$400. The quantity of ore produced was 500 tons, with a nominal value of \$2,500.

The shipments of crude and refined petroleum from the Petrolea and Oil Springs fields for the year ending 31st October was 1,045,000 barrels, reckoned in the equivalent of crude; but the produce of the year was 72,000 ^{Petroleum.} barrels less. The yield of the Petrolea field was 795,131 barrels, and of the Oil Springs field 177,869 barrels, or 34,055,000 imperial gallons, valued in the crude at \$1,099,868. Returns from the refineries are only complete for 21,160,170 gallons; but with the data which these afford it is possible to make a very close estimate of the production of all the refineries. The average of illuminating oil in the crude was 39.12 per cent., at which rate the total of the distilled oil would be 13,322,320 gallons, valued at \$1,372,209. The yield of lubricating oils was 12.45 per cent. of the crude, giving a total of 4,239,847 gallons, valued at \$277,500. All other products except paraffin made up 28.14 per cent. of the crude, or a total of 11,220,705 gallons, valued at \$323,156. The paraffin wax product is computed to be 2,250,000 lb., valued at \$143,325. Besides the above, a produce of the crude was utilized for fuel, the value of which is computed to be \$72,500. The aggregate value of the industry was therefore \$2,188,600, and it gave employment in the refineries to 515 men, whose wage earnings are computed at \$302,000. The number of men employed in other departments has not been ascertained, but the total number employed by the industry is not less than 1,500.

Seventeen firms and companies have made returns of natural gas ^{Natural gas.} production, but six of these were inoperative for the whole or a greater part of the year. The number of wells bored during the year was 27, of which 19 were producers and 8 non-producers. The whole number of producing wells in the Province was 107, and the total yield of gas is computed to be 2,342,000,000 cubic feet, valued at \$238,200. Eight wells in the Essex field have an estimated daily capacity of 42,000,000 cubic feet. Hitherto these wells have been supplying the villages of Kingsville, Ruthven and Leamington, but an eight-inch pipe line is now being laid to supply Sandwich, Windsor and Walkerville, about 35 miles distant from the wells. Last year there were 117 miles of pipe lines in the Province; the number of working men employed in the industry was 59, and the amount paid for wages, including the cost of labor drilling wells, was \$24,592.

Mining operations were carried on in the county of Hastings, opening up fibrous talc ^{Fibrous talc and lithographic stone.} properties in the township of Elzevir, and lithographic properties in Marmora; but although they gave employment to a considerable number of men, at a cost of several thousand dollars in wages, the work was mainly of a development character, and mineral was not produced in marketable quantity. The results of these operations accordingly cannot be presented in statistical form, but hopes are entertained that the properties are in a position to produce considerable quantities both of fibrous talc and lithographic stone during the present year.

SUMMARY OF MINERAL PRODUCTION.

Product.	Quantity.	Value.	Em- ployees No.	Wages.
		§		§
Dimension stone, cubic feet.....	1,400,000	260,000	1700	164,000
Heads and sills, " ".....	44,700	21,000		
Coursing stone, square yards....	170,000	180,000		
Rubble, etc., - cubic yards.....	410,000	260,000	224	60,208
Natural rock cement, barrels.....	74,353	63,567		
Portland cement, " ".....	31,924	63,848	600	122,500
Lime, " " " bushels.....	2,700,000	364,000		
Drain tile, " " " No.	17,300,000	190,000	2650	451,000
Common brick " " ".....	162,350,000	932,500		
Pressed brick, plain, " ".....	20,208,000		224	80,686
Pressed brick, fancy, " ".....	1,373,000	217,373		
Roofing tile, " " ".....	53,000		85	34,000
Terra cotta, " " ".....		230,000		
Sewer pipe, " " ".....		115,000	150	36,000
Pottery, " " ".....				
Gypsum, " " " tons.....	2,818	7,363	33	9,220
Alabastine and plastic, " ".....	140	14,800		
Phosphate of lime, " ".....	20	200	4	500
Salt, " " ".....				
Salt, " " ".....	48,450	149,850	210	44,440
Mica, " " ".....	70	8,600		
Nickel, " " ".....	1,642	454,702	495	252,517
Copper, " " ".....	1,431	115,200		
Cobalt, " " ".....	19	9,400	168	49,027
Gold ore, " " ".....	5,560	32,960		
Silver ore, " " ".....	500	2,500	5	400
Petroleum, imperial gallons.....	34,055,000			
Illuminating oil, " ".....	13,322,320	1,372,209	515	302,000
Lubricating oil, " ".....	4,239,847	277,500		
All other oils, " ".....	11,220,705	323,156	59	24,592
Paraffin wax, " " lb.....	2,250,000	143,325		
Fuel product.....		72,500		
Natural gas, M cubic feet.....	2,342,000	238,200		
Totals.....		6,120,753	7,162	1,935,590

Quantity and value of mineral production in 1893, with number of workmen employed and amount of wages paid for labor.

II.

THE GOLD FIELDS OF ONTARIO.

Once about a quarter of a century ago in Hastings county, and again about ten years ago in the Lake of the Woods region, discoveries of gold, working of mines and milling of ores had encouraged the hope that Ontario might become a gold producing country. But for one cause or another, after much money and labor had been expended upon properties and works, the conclusion appeared to be reached that the right conditions did not exist, or if they did that the energies of those who ventured upon the enterprise were either inadequate or were misguided and misapplied. Past experience however has not persuaded the men of our day that there is not gold in our Province in workable quantities in districts not hitherto explored, nor even that in fields where operations were formerly carried on without success better methods and appliances may not yield profits to those who have the courage to undertake their development with more capital, modern equipment and new modes of treatment. It was remembered perhaps that in the early days of quartz mining in California and elsewhere, with the old-time processes of treatment, more gold went off with the tailings than was caught and saved; and it was no doubt believed that with the more scientific methods now in use ores might be treated with profit which twenty-five or thirty years ago were thrown into the dump. It came to be known also that gold was not limited to Hastings county or the Lake of the Woods district, and confidence was felt that in the wide area over which formations which may be gold-bearing extend there is a chance for making valuable discoveries. Interest in prospecting for gold in various parts of the Province began therefore to revive, new discoveries were reported, and in several localities mining and milling operations started to attract notice. Silver mining had enjoyed a long career of prosperity, and the rich and extensive mines of the western States and Territories had enabled their owners to amass great fortunes. But when prices fell below a point at which it was alleged production ceased to be remunerative, the millionaires of the West closed their mines and works, and their employés were left to shift for themselves as best they could. There was also, it may be said, a touch of politics in the turn of affairs in the United States, arising out of the repeal of the Silver Act. Nevertheless it was not long in that country until capital and industry commenced to take hold of gold properties, to explore and work them; and the same thing happened in Ontario also, after the silver mines of Lake Superior had closed, wherever discoveries of gold were made which seemed to give promise of reward to enterprise. Other causes had also influenced the movement towards an exploiting of gold fields, the most potent of which doubtless was the

Gold mining
in Ontario at
earlier
periods.

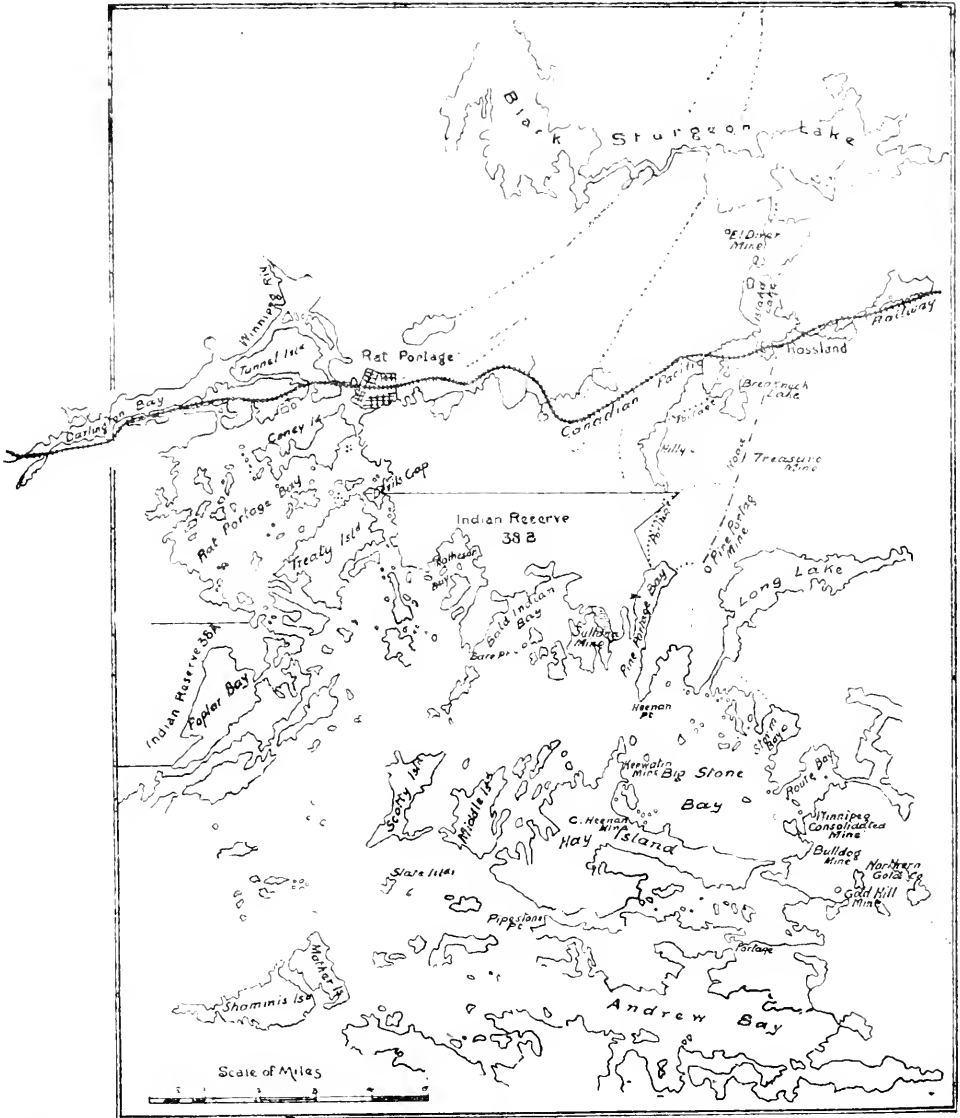
Revival of in-
terest in the
industry.

and some
causes thereof.

Silver mines
closed,

and the iron trade collapsed.

collapse of the iron trade. So many iron mines were shut down in the United States, and so many furnaces blown out, that men with capital to spare were ready to take risks in any new venture which had in it the appearance of a healthy speculation. Every business undertaking is more or less uncertain; and while in gold mining there are perhaps more blanks than prizes drawn,



1. Map of northern part of Lake of the Woods. The curved dotted line shows the division between the Huronian and Laurentian formations.

An element of speculation in gold mining, the blank as a rule deters few and the prize encourages many. We may have too much silver or iron, lumber or wheat; but no one fears that we can have too much gold. Moreover, whilst almost every other article of commerce needs to be pushed upon the market, requiring the service of an army

of commercial agents and middlemen, no trouble is ever experienced in disposing of gold : it has only to be deposited in the bank or expressed to the mint, and forthwith there is an end to the anxieties of the producer. Other occupations may afford larger profits, but there are none in which there is less uncertainty in making sales, and none in which the fluctuations of prices are maintained within narrower margins. And so the industry of gold mining will often attract capital and labor when all other industries are in a state of paralysis. It can only be carried on at a loss when the cost of producing a dollar's worth of gold is more than a dollar. Whether it will be profitable in Ontario or not at this third effort to establish it, remains to be proven.

The renewed interest in prospecting in various localities, the discoveries reported, and the commencement of mining and milling operations on several new tracts, as well as resumption of work after a period of inactivity on the two old ones, suggested the propriety of devoting special attention to our gold fields during the past summer, the results of which are presented below. Two new fields have since come into notice, each of which may possibly prove to be of greater value than any of the ones referred to here. On Rainy Lake gold was discovered upon the American side of the international boundary in the month of August last year, and since then numerous gold-bearing veins have been explored on the Ontario side of the lake and on the Seine and Manitou rivers, the shows of which are so good as to have attracted to the region large numbers of prospectors. Around Lake Wahnapiatae in the eastern part of the Province gold was discovered several years ago, but it is only very recently that ore of much promise has been found there. If the samples shown are any indication of the general character of the ore, the Wahnapiatae country also will merit and reward the attention of the gold-seekers.

In the description of ores and rocks of mining properties in this section of the Report I have in all cases consulted Dr. Coleman, who has this year been appointed Geologist and Mineralogist of the Bureau.

THE SULTANA ISLAND MINES.

Sultana island is on the north shore of Lake of the Woods. In a direct line it is four and one-half miles southeast of Rat Portage ; but the overland route is used only in winter, and even then it is hardly better than a snowshoer's trail. By water the distance is eight miles,—southward through the Narrows between the mainland and Coney island in Rat Portage bay, and the Devil's gap between the mainland and Treaty island on the south side of the bay ; southeastward by groups of small islands to Bare point, a long tongue of land separating Matheson and Bald Indian bays ; and eastward over a stretch of open water and through another group of green islands to the brown and naked Sultana. This is the summer route, and in good weather it may be taken safely and pleasantly in a canoe. But gusts of wind spring up often without warning on Lake of the Woods, and the canoe is then a frail craft in the lumpy waters. Tugboats are not too safe at such times, especially beyond Bare point, where the wind has a long sweep. But usually it is a delightful trip from Rat Portage to Sultana island, for there are many fine

bits of scenery. Perhaps none are more picturesque on this beautiful lake than the little bay with darkly wooded shores above Devil's gap, and the narrow gap itself through which the waters of the lake rush swiftly out into Rat Portage bay.

OPHIR MINE LOCATION.

Originally attached to the mainland.

In a survey and map of Indian Reserve 38B made for the Dominion Government in 1880 what is now known as Sultana island was shown to be part of the mainland, but separated from it by a swamp or marsh. It was included with the Reserve, yet the timber upon it was claimed under the Mather lease (which covered the islands in Lake of the Woods), and in 1880-1 most of the pine on it was cut by the Keewaydin Lumber Company. Six or seven years afterwards, when a dam was built across the middle outlet at Tunnel island, the level of the lake was raised about four feet, and then, if not before, Sultana became an undoubted island. About that time also gold

Quarry island.

was discovered on the western side of the island, across the channel from the quarry on Quarry island, from which stone was taken for bridge piers on the Canadian Pacific Railway. An intrusive mass of granitic or gneissic rock rises here through the hornblende schists of the district and occupies nearly the whole of Quarry island and a large part of Sultana.¹ Many veins or stringers of quartz intersect this area of gneiss in irregular courses, some of which were discovered to carry free gold. Previous to 1888 applications had been received by the Ontario Department of Crown Lands for mining locations on Sultana island, but before any patents were issued the Department of Indian Affairs asserted its control on the ground that the land was part of Indian Reserve 38B and at the time of the survey was attached to the mainland. The claim was ultimately allowed by the Local Government; but a right of occupation was maintained for several years afterwards by the Keewatin Lumber Company under the provisions of the Mather timber limit lease, and the titles granted by the Dominion Government were under a cloud. The matter was finally settled in November, 1891, and the patentees were left in undisturbed possession by the Lumber Company. But in the meantime the island was overrun by fire, and scarcely a living tree was left upon it. The brown and naked rocks of the west shore now stand out prominently, and the contrast with the green islands in front is striking.

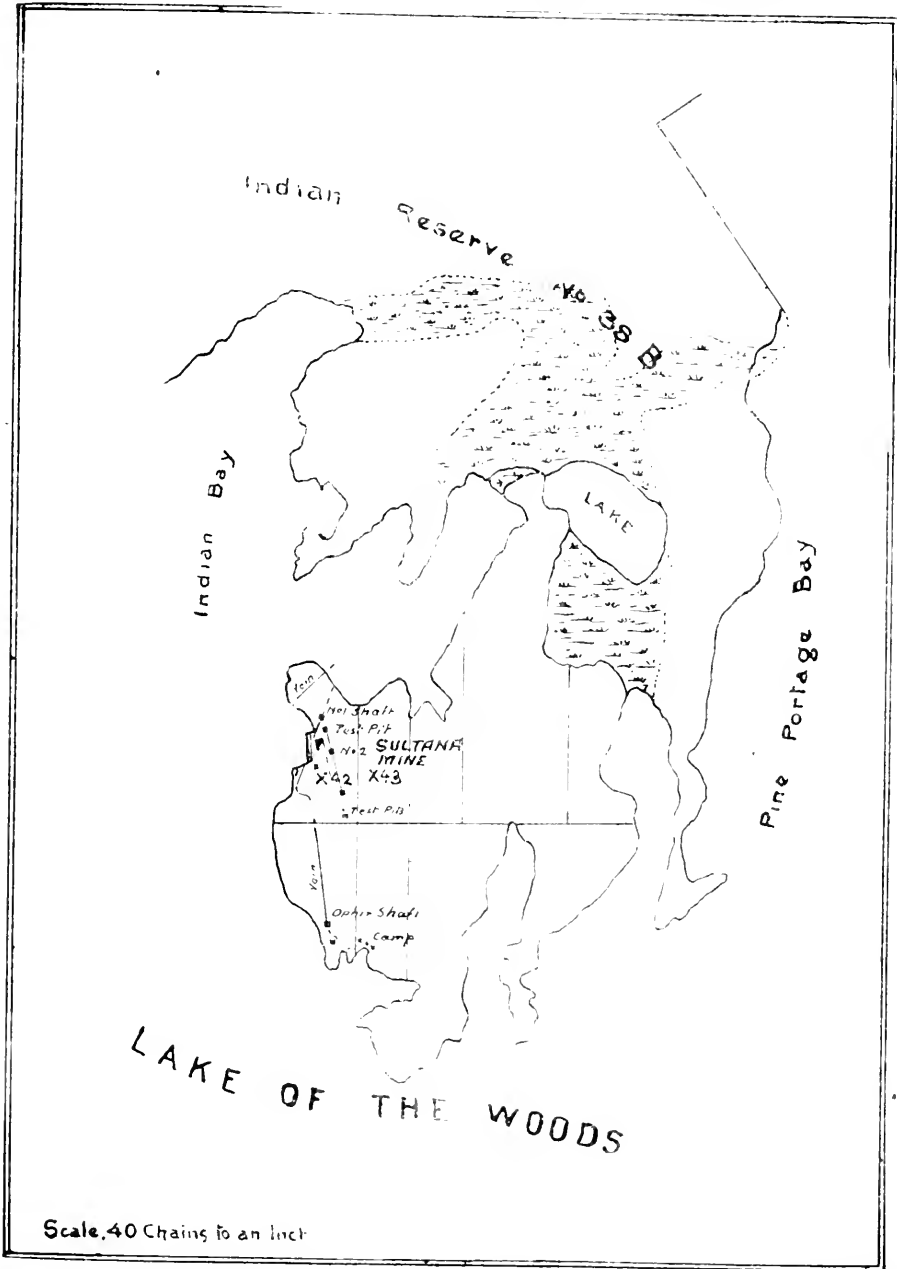
First discovery of gold, and issue of patents by the Dominion Government.

Ophir mine location.

The Ophir mine location, opposite Quarry island, is said to be the first on which gold was found, and specimens taken from it created the impression that it was a very rich property. It is held by the Ontario Mining Company, but a wrangle amongst the officers and shareholders has hindered operations upon it. At one time it was bonded to an English syndicate, and it is said that a shaft was sunk on one of the veins to a depth of fifty feet, with excellent showings, but the wrangle of the shareholders broke out afresh and the ore was thrown back into the shaft, which is now filled with water. There is no

¹ A note on Lawson's map (Geological Survey Report, 1885), referring to this area says: "A boss of coarse grained, gray granitoid gneiss projects through the schists on Quarry island and on the opposite shore. A quarry has been opened in this for material for bridge piers, and the gneiss or 'granite' as it is called, is found to furnish excellent blocks for heavy masonry. Small veins of quartz carrying molybdenite traverse the gneiss in places, and larger veins of molybdenite have been found in the country between Quarry island and Rossland."

doubt that rich ore was found, for although the dump has been picked over by prospectors and visitors many times, fine specimens showing free gold may



2. Map of Sultana Island according to survey of the Department of the Interior in 1880 ; showing also the plans of mining locations on the island.

yet be got there. I found a number last summer. The vein matter is chiefly a massive milky quartz ; some samples are smoky, probably owing to the

presence of hornblende. But what is going to be done with the property, nobody appears to know. The property was patented by the Crown to H. G. McMicken of Winnipeg, 23 July, 1890.

THE SULTANA MINE.

The Sultana
mine location.

Sultana mine, known as location 42x, adjoins the Ophir property on the north, and occupies the whole of the northwestern corner of the island. It is indented on the west and north by small bays, between which a low nose of schistose rock extends out to the northwest, covered with a few feet of rich soil. Along the shore of the west bay the rock is gneiss, the same as on a large part of the Ophir location and on Quarry island. It rises inland in a series of steep benches or terraces to a height of 150 feet above the lake, where it is covered by masses of greenstone. The area of this location is only 27 acres, one-half of which is high rocky tableland, and the remainder low and comparatively level land along the north and west shores. The patent was issued by the Indian Department in November, 1888, to H. Bulmer, jr., J. H. Henesy, C. A. Moore, and S. S. Scovil. In April, 1890, John F. Caldwell of Winnipeg became the owner of all except a sixteenth interest held by Henesy, and this was purchased by him in the fall of 1892. He also acquired location 43x on the east, which had been patented to Messrs. Bulmer and Hart; this has an area of 40 acres. Previously he had purchased an interest in the Ophir, which he still holds. Prospecting was commenced on the Sultana location by Mr. Caldwell in 1890, but actual mining was not begun until March, 1892. The prospecting operations proved that there are at least three veins on the property, one of which runs close to the shore line of the west bay through the low ground a little east of north towards the north bay, and that there are two others along the terraces nearly parallel to the first and probably running into or cutting it before reaching the north shore line, their course being a little west of north. There is evidence of a fourth vein crossing the northwestern part of the location in a northeast and southwest course, but no openings have been made upon it. A fifth skirts the northern shore, showing itself by splashes and lines of quartz at frequent intervals on an east and west course, and is probably a continuation of a large and clearly defined vein which crosses the nose of the promontory between the two bays on the north side of locations 42x and 43x, which is about 10 feet wide and covers the sloping bank down below the water's edge. The vein on the upper terrace is known as No. 1, the one on the lower terrace as No. 2, and the one along the shore as No. 3.

Prospecting
operations.

Principal
veins of the
location.

No. 3.

At the base of a low bluff near the southern extremity of the west bay, No. 3 vein crops out very conspicuously, one side of which is along the water line and the other enclosed by a wall of gneiss. It is a whitish yellow quartz, 23½ feet wide, and quite free from any portion of country rock. Sixty yards south, where the vein might be expected to appear again in a steep projection of the shore line, there are only scattered bands or stringers of quartz from one to six inches wide, but extending over a breadth of 30 feet. On a low beach 150 yards northward it reappears from the bluff of gneiss, but enclosed on either side with a selvage of mica-chlorite schist, the total width of the

vein between the walls of country rock being about 30 feet. At this place the stamp mill has been erected, and in blasting for the foundations large masses of interbanded schist and quartz were thrown out. The vein has been worked by an open cutting some 75 yards beyond the mill, where it appears again to dip under the gneiss. The total width of quartz and schist ranges from 20 to 25 feet, and it is claimed to be free-milling throughout. About four feet of the middle of the vein is a thorough going quartzite, samples of which furnish a good illustration of stratified quartz, carrying brown oxide of iron and some iron pyrites. The cutting on this vein north of the mill ranged from 12 to 20 feet in depth by 20 to 25 in width, but owing to its nearness to the lake water flowed in so freely through the joints of the rock that work at this point could not be continued to a greater depth without the use of a strong pump.

In the bluff above the most southerly exposure of No. 3 vein, and about 60 yards east of it, No. 2 vein crops out and a cross cutting has been made upon it there to a depth of 25 feet. The course of the vein at this cutting is irregular, and it is not easily traced; but apparently it continues northward through a gap or ravine east of the bay to rise in one of the terraces behind the mill, where it is well defined. There, about 70 yards from the mill and within 15 yards of the open cutting on No. 3 vein, a shaft 6 by 14 feet was sunk last summer to a depth of 30 feet. The vein was found to dip towards the west at an angle of 75°, in silicious gneiss; but a casing of schist lies between the walls and the quartz varying from half an inch to two inches in thickness. At 15 to 18 feet the vein was found to be irregular, but the walls continued to be clearly defined and the character of the quartz to improve. Samples of the selvage taken from the bottom of the shaft consist of fine-grained lustrous mica chlorite schist, holding crystals of iron pyrites, and samples of the centre of the vein of a purplish quartz with mica chlorite schist and iron pyrites.

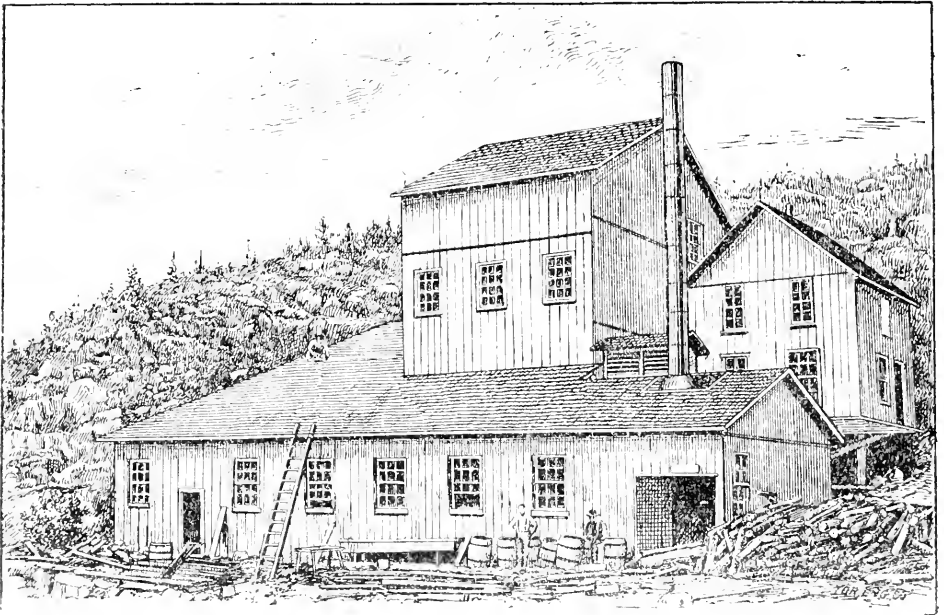
Above No. 2 vein about 50 feet and running in nearly the same course is No. 1 vein, on which a shaft 12 by 7 feet was sunk last summer to a depth of 30 feet. At the surface the quartz matter of the vein is 3 feet wide, with 10 feet of schist on the foot and one inch on the hanging wall, enclosed on both sides with gneiss. The dip of this vein is in the opposite direction from that of No. 2, being about 70° east. Samples of the ore contain pyrrhotite, galena and iron pyrites, the last two predominating, and also some copper pyrites and zirconite. It is claimed that some of the ore from this shaft milled as high as \$300 per ton.

Those three veins gradually approach each other northward, and at a point about 75 yards from the shaft on No. 2 vein a shaft was sunk through the gneiss to a depth of 25 feet in the hope of striking them. Five feet of the bottom of this shaft shows schist and quartz, but in case this should not prove to be the vein proper it was Mr. Caldwell's intention to explore by cross-cuttings. Later in the season however he decided to sink a deep shaft on No. 3 vein at the northern terminus of the open cutting, and by the end of the year he had reached 100 feet. Twelve miners and two blacksmiths,

working by night and day shifts, were able to make rapid progress, and the mill was supplied with good pay ore. Operations were arrested for some time by the flooding of the shaft from the lake, but this was overcome by putting in a pump of sufficient capacity, and work has been continued throughout the winter. At this date the shaft, which is 7 by 14 feet, is down nearly 150 feet, and proves the size of the vein to be well maintained, and the ore of good average quality, it being almost wholly free-milling. By driving levels the supply to the mill has been considerably increased, and the mine is now considered to be on a paying basis. Much of the work hitherto has necessarily been of a prospecting and experimental character.

About 200 tons of ore had been taken out of No. 3 vein, where it outcrops on the western bay, to be tested at the Rat Portage reduction works; but no portion of it was satisfactorily milled, and it remained for Mr. Caldwell himself to prove its value by erecting a stamp mill on the location. The mill was commenced on 26th September, 1892, and finished with its equipment of machinery in December. The site as already stated, is close upon No. 3 vein, on the low open space along the west bay. The main building is 65

The mill and
its equipment.



3. Sultana Gold Mill, on Sultana Island.

feet by 30, raised in terraces against the bluff, with an engine room 20 by 25 feet, and an office building of two and a half stories, 36 feet square. There are two engines, one of 100 h.p., built by the Waterous Engine-Works to drive the mill, and one of 8 h.p. built by the Doty Company to run a dynamo. The stamp mill was supplied by the Jenckes Machinery Company of Sherbrooke, but the shoes, dyes, bossheads and tappets are of American manufacture. There are two batteries of five stamps each for reducing the ore, each stamp weighing 850 lb. and running with a drop of six inches at

the rate of 90 per minute.² The aggregate stamping power of the batteries is therefore 382,500 foot pounds per minute, or 275,400 foot tons per day of 24 hours, and this enormous energy results in crushing only 20 tons of ore to a fineness for passing in water through a 40-mesh sieve (*i.e.*, 1,600 meshes per square inch). That is to say, a stamping power of 13,770 foot tons is required to reduce one ton of ore to the condition in which the free gold in it is taken up by quicksilver—a fact which vigorously illustrates the cost of gold-winning. The other machinery of the mill consists of a hoisting drum with steel-wire cable to haul ore from the mine; a Blake crusher, with a capacity of 40 tons per 24 hours; two Tulloch feeders, which feed the ore automatically to the stamps from a 30-ton bin; two improved Frue vanners with corrugated rubber belts, over which the pulp is run to produce concentrates after it has left the amalgamating plates; and a Blake pump to supply water for the batteries and other purposes, the water being pumped out of the lake to a steel tank at the top of the mill. There is also a cyanide plant, which was added last summer, but it is of no practical value, as nearly all the gold in the ore is saved on the plates. The total cost of the mill and plant is about \$30,000.

The stamp mill was started on the 20th of December, 1892, but owing to the poor quality of the dies and other defects it was run irregularly until the 20th of January, when new castings were procured from the States. ^{Operation of the stamp mill.} Work was then continued until the end of April, the gold product being regularly forwarded through the Imperial Bank agency at Rat Portage to the New York branch of the U. S. mint. The mill was closed down during four months of the summer, while the plant for the cyanide process was being set up; but it began to run again in September and has been working steadily since, saving one or two short interruptions.

Mr. Caldwell has met with a full share of the pioneer gold miner's difficulties, but he has faced them with courage, intelligence and enterprise; and while his property has not yet proved to be a bonanza, there appears to be ^{Pioneer difficulties.} good reason for the hope that it will yield a liberal return. We have not had many miners in Ontario who have shown such tenacity of purpose as Mr. Caldwell, and none who have shown a better example of what pluck and skill can do; and he deserves to succeed.

The employes of the mine and mill last summer consisted of twelve miners, three above and nine under ground, a smith, five mill men and a ^{Working force of the mine and mill.} superintendent, besides two cooks; and the aggregate cost of wages, with board, was about \$30 per day. All employes were housed and fed at the camp, as there was no white man's habitation within several miles of Sultana mine. A part of the location however is finely situated for miners' dwellings, and will likely be used for this purpose. It is level, nearly surrounded by water, and the soil is suited for making excellent vegetable gardens.

² The ten stamps of the batteries strike fifteen blows every second, and the sound made by them is unbroken except to the finest ear. Yet by the arrangement of the cams on the shaft, by which each stamp is raised and turned simultaneously, no two of them drop at the same moment. The agitation of the water in the mortar is consequently as regular as the dropping of the stamps, and the even vibrating flow which carries the crushed ore with it hither and thither over the face of the dies causes it to be reduced to a pulp, the fineness of which is only limited by escape through a screen of woven wire whose meshes number 1,600 per square inch. The native gold in the ore is liberated by this milling process in whole or part, according to the character of the ore and the fineness of the gold, and is amalgamated by the mercury on the inner and outer plates. At the Sultana mill quicksilver is added to each mortar at the rate of one-third to one-half a spoonful every half hour.

THE BURDETTE OR GOLD HILL LOCATIONS.

In the summer of 1885 Mr. D. B. Burdette of Belleville, now of Minneapolis, employed a party of four men to prospect for gold on the east side of Lake of the Woods. The district explored by them lies about twelve miles in a straight line southeast of Rat Portage, having Big Stone bay on the north and Moore bay on the west. The Winnipeg Consolidated mine is on the shore of Big Stone bay, and had been worked to some extent in 1883. Several other gold-bearing veins had also been discovered in the same locality, and eastward of it within a radius of twelve miles, two or three of which are said to be large and well filled with quartz, carrying iron and copper pyrites and some mispickel.³

Winnipeg
Consolidated
mine.

In his description of the Winnipeg Consolidated mine Mr. Coste says the vein was found to be greatly varying in inclination, the dip at the surface being 65° south, at forty feet 57°, at eighty feet 45°, and at ninety feet it was again 65°. "At the depth of eighty-two feet two drifts had been commenced; the western drift was thirty-five feet in length and the eastern twenty-five. The true vein of massive quartz in these drifts as well as in the pit was found to be narrow (6" to 2'); it is certainly auriferous, and I think rich: it contains, besides iron and copper pyrites, mispickel, a little calcite and a very little galena and blende; it follows the foot wall. At the roof the enclosing amphibolite is changed into schist for one or two feet, and these schists are penetrated by small veins of quartz and impregnated with mineral substances; they are taken out and submitted to the stamps in the crushing house, like the quartz. The crushing house is located on the shore of the lake, 500 or 600 feet from the pit; it contains five stamps; a long copper amalgamated retaining plate, a grinder which receives all that passes over the plate and grinds it more finely; and lastly a sort of closed pan, the inner surface of which is also amalgamated so as to retain the last particles of the amalgamable gold; the refuse runs into the lake, carrying away all the non-free-milling gold."⁴

The mine here described was closed down in 1884 for want of funds, and the mill is fast becoming a ruin. But the rich specimens of ore taken out of the shaft together with the small quantity of bullion produced at the mill gave rise to a hope that other gold bearing veins might be found in the locality besides those already discovered on the Winnipeg Consolidated and adjoining locations. Mr. Burdette was one of the few inspired to prospect this region of the lake, and he chose for his field of exploration a portion of country about

³ "A mile and a half east of the Winnipeg Consolidated mine, in the woods, and forming part of the property of that company, is another vein in which a small excavation some ten feet deep has been made. This appears to be a very good fissure, and the vein of quartz filling it is massive; it is quartz mixed with calcite, and is rich in iron and copper pyrites, with a little galena. The thickness of this lode is about five feet; it strikes 165°, and dips east. About a quarter of a mile farther east in the woods, another vein about eleven feet in thickness has been purchased by an American company." E. Coste in *Geo. Sur. Canada*, 1882-4, p. 12k.

⁴ E. Coste in *Geo. Sur. Can.* 1882-4, p. 11k. Mr. Coste might have added that much of the mercury was allowed to run off into the lake also, for if one examines the bottom of the small inlet where the mill stands he will see that it is covered with pellets of mercury. Alexander Matheson of the Hudson Bay Co. stated in his evidence before the Mining Commission that "the mill was not well suited for its work, and the managers had not sufficient knowledge of milling gold ore to make proper use of the equipment they had." It would seem so.

1,000 acres in extent lying two miles south of the Winnipeg Consolidated Co's location, close to the line of contact between the Huronian and Laurentian formations. Moore bay bounds it on the west, and several picturesque lakes lie within its limits. There are two ways of approach to the Burdette territory, one from the landing of rocks at the Winnipeg Consolidated mill and the other from the head of Moore bay, and either way the trail or road is about two miles to the location of the present works. The one most frequently taken however is by the way of Moore bay, from which has been constructed a wagon road and a pole-road—the latter to facilitate the drawing in of heavy machinery required for the mill. Moore bay itself is reached from Big Stone bay through a narrow, winding, beautiful channel known as Eagle Pass, which lies between Hay island and the mainland.

Mr. Burdette's party of explorers consisted of F. W. Moore, Joseph Thompson, J. K. Wright and George Dulmage. These men made a careful survey of the district selected for the purpose during the season of 1885. Several veins were discovered by them, some of which were large and well defined, and almost all of which, it is claimed, showed free gold in the ore or in the pan. Application was made for eight several locations, to which fancy names were given after the manner of miners. One was known as the Ada G., a second as the Combination, a third as Jerusalem, a fourth as Golden Slipper, a fifth as Big Ellen, a sixth as Live Post, a seventh as Judge Mills and the eighth as Golden Gate. All these lie in a block between Moore bay and the line of contact, but owing to the boundary dispute delay occurred in issuing the titles. However in July, 1891, Mr. Burdette obtained patents for six of the locations, covering an area of 458 acres. Four of these, viz.: 190P of 247 acres, 191P of 9 acres, 193P of 14 acres and part of 194P of 52 acres, are included in one patent. The others, 175P of 58 acres and 70K of 78 acres, are held under separate patents. The rest of the area prospected and applied for was in the Mather timber lease, and the title to it is still in the Crown.

THE NORTHERN GOLD COMPANY.

Having acquired his patents, Mr. Burdette proceeded to interest a number of Minneapolis capitalists in his enterprise, and in 1891 the Northern Gold Company was organized under the laws of the State of Michigan and stocked for \$1,250,000. The company acquired forty acres of location 70K, upon which some development work had been done in 1886. Six parallel veins cross this property in a formation of fine-grained mica-chlorite schist. Upon one of these near the northern side of the location, known as the Ada G. vein, a shaft was started in the fall of 1891, eight by ten feet in size, which was sunk to a depth of 50 feet. The vein is six feet wide and dips southerly at an angle of 50°. At 35 feet the dip is said to change to 60° or 65°, but the shaft being half filled with water I was not able to verify this statement. The matrix of the vein is a fine-grained quartz, with some mica-chlorite schist, and it carries copper carbonate. The next vein, known as the D. B., is about 350 feet south of the first. It is four feet wide, and the dip is about the same as the Ada G. Several openings have been made upon it towards the west side of the location, where it is capped with the country rock, and in

1892 a shaft was put down a depth of 50 feet. The third vein lies 45 feet south of the D. B. Like the others, it extends across the location, but is capped at the east and west ends, between which it passes through low ground covered with muskeg. Where it rises to the surface on the west side of the muskeg a trench exposes the vein to a length of 25 feet, and a shaft commenced last summer showed a well defined vein of four and a half feet, dipping southward at an angle of 75°. The ore is quartzite with mica-chlorite schist, the mineralized parts showing copper pyrites and traces of pyrrhotite. Fifty feet farther south is the fourth vein, outcropping two and a half feet wide on the surface; and the fifth vein is 200 feet beyond the fourth, with a width of two feet. The sixth vein is 100 feet south of the mill. At its western end it is covered by the waters of Islet lake, the southwestern boundary of the location, while eastward it is capped with the country rock. A vein having a north and south course has been traced by cuttings from the mill northward, and a shaft has been commenced near the crossing of the D. B. vein, where the formation is mixed and broken. At a depth of 20 feet the vein was struck and some ore taken out. But neither on this vein nor on any of the east and west veins does the ore show visible free gold.

Exploration
work on the
property.

It could hardly be said that real mining work had commenced on this location when I visited it in August. All that had been done to that time had for its object the proving of a number of veins, their extent, and the quality of their ores. Deep sinking would follow, and it was the manager's intention to at once commence such work on the two veins of best promise. One of these is the north and south vein, near the intersection of the D. B. vein. This is known as the No. 3 shaft, and although the formation is much the same as elsewhere on the property—being a fine grained hornblende chlorite schist, but with more chlorite than hornblende, or possibly an altered trap—it has some time apparently been the scene of considerable disturbance. The ore taken from the shaft is quartzite stained by small quantities of silicate, and mica-chlorite schist with iron pyrites. In some samples very fine grained lustrous chlorite schist is included in the ore, and in others calcite.

THE COMPANY'S GOLD MILL.

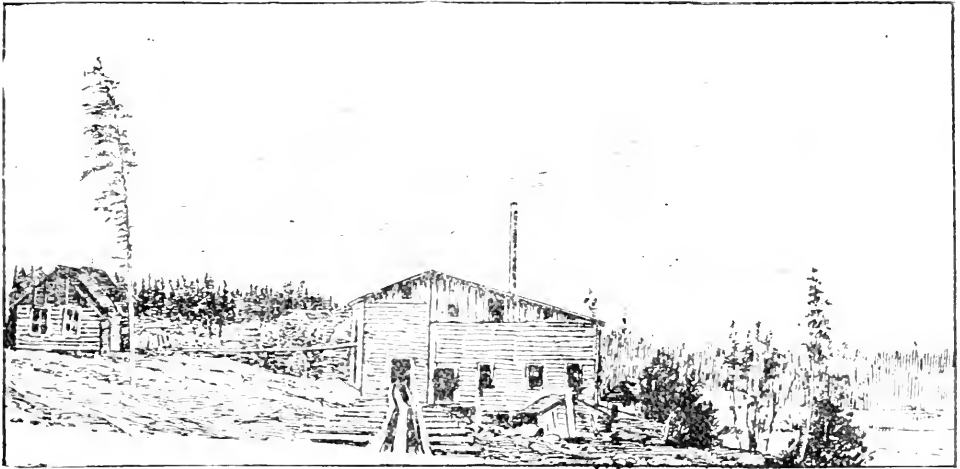
The mill and
its equipment.

In 1892 the directors of the Northern Gold Co. became satisfied that the supply of ore on their location was ample enough to warrant the erection of a mill, and in the fall of that year preparations began to be made for one. The site chosen for it is at the northeast corner of Islet lake, between the rock bank and the water's edge. It is built of jack pine and cedar logs, the dimensions being 30 feet by 60 and three stories high. The basement floor is only half the size of the building. It is occupied with a 45 h.p. boiler and engine, made by Leonard & Son of London, and a set of chrome steel rolls for crushing the ore. The second floor is divided into two rooms, each about 30 feet square, one of which is occupied by a Forster ore breaker, and the other as first fitted up by a Gates pulverizer, a copper stirring tub, a pair of Cook amalgamators and a pair of Leede furnaces for roasting ore. The third floor, which is on a level with the rock bank of the lake, was furnished with a set of steel finishing rolls, two sizers or sieves, and tanks to hold a supply

of water for the boilers and amalgamating tubs, and for fire protection purposes. A small force pump raises the water to these tanks from the lake, and the supply will always be ample for the needs of the mill.

An elevated tramway has been built from the mill to the shaft on the Ada G. vein, over which the ore is delivered from the several shafts to the breaker on the second floor. This machine has a capacity of 65 tons per ten hours, reducing to the size of a four-mesh sieve. From the breaker the ore is lifted by elevators to be fed into sizer No. 1, and the portion of the charge passing through it goes by a spout to the rolls in the basement; the coarser lumps are returned to be fed again into the breaker. In the chrome steel

Process of
treating
the ore.



4. Northern Gold Company's mill: office and assaying rooms to left, and Islet Lake to right.

rolls the ore is reduced to a twenty-mesh, and is conveyed thence to the finishing rolls on the third floor. Here it is ground to a fineness of fifty-mesh and passes through sizer No. 2, to be reground if necessary in the same rolls. So reduced the charge is conveyed to the copper stirring tub on the second floor, where it is thoroughly mixed with water and discharged over galvanized copper plates for the last process into a pair of Cook amalgamators—quick-silver having been placed both in the stirring-tub and on the plates to take up the free gold.

The Cook amalgamator, an invention of Dr. Henry Cook of Colorado, consists of a drum of boiler iron three feet long and twenty inches diameter, with an interior iron spiral having a length of forty feet. One-third of this spiral is silver plated on copper for collection of the floured mercury and fine gold. The drum revolves at a rate of thirty per minute, and the pulp having been carried the whole length of the spiral is delivered on silvered copper plates in which are wells to catch the amalgam. There is no saving of concentrates, if there be any in the pulp, and the water carries the tailings from the last series of plates down a sluice into the lake. The action of the Cook amalgamator, it is claimed, imitates panning. "The circular motion given to the pan," Dr. Cook says, "holds the gangue in such a state of suspension in the water that the mineral is allowed to gravitate to the bottom.

The Cook
amalgamator

The circular motion of the cylinder accomplishes the same result. To finish separation of the mineral and the fine heavy gangue remaining with it, a small quantity of water is made to flow by a circular motion around the inner edge of the pan, which carries away the fine and heavy particles of gangue, leaving the mineral free, and if mercury is present the particles are all united. The circular action of the cylinder accomplishes the same result." The machine has a capacity of 12 to 15 tons per day of twenty-four hours, weighs 500 lb., requires 18 gallons of water per minute, and is driven by one-eighth horse power.

THE LEEDE ROASTING FURNACE.

Merits of the
Leede furnace
for roasting
ore,

A special feature of the Northern Gold Co's mill as first out-fitted was the Leede furnace, a pair of which were set up for roasting the ore before subjecting it to the rolls. This furnace is the invention of Julius Leede of Minneapolis, and the claim made on its behalf is that it imitates the process of nature in oxidizing the ore and so brings it into a free-milling state. Gas made from crude petroleum supplies fuel for the furnace. In the production of it the oil is fed into a chamber where it is agitated or "atomized" by air blown into it through a set of perforated tubes, in which condition it passes into a retort maintained at red heat and is there converted into gas. The furnace itself consists of an upright cylinder of rolled plate, of two feet diameter and six feet height, divided into an upper and a lower section by a trap diaphragm, and having an inner slitted cylinder of about fifteen inches diameter to hold the ore. The gas is forced out of the retort through tuyeres at the base of each section of the furnace, where it is ignited and the ore is subjected to a flame of intense heat. In the annular space are a series of perforated tubes from which jets of water play upon the ore at short intervals through the slits of the inner cylinder, whereby, according to the idea of the inventor, nature's process is pursued of oxidizing the ore by the combined agencies of heat and moisture, and the sulphur, arsenic and other refractory constituents are carried off in a gaseous state to be recondensed as bye-products in a cooling tank. At the start the upper section of the furnace is filled with ore as it comes from the breaker, and when treated for a certain time the charge is dropped through the trap into the lower section, where it undergoes the process again and becomes converted into free ore, ready for the pulverizer and the amalgamator.

in theory and
practice.

Such is the Leede furnace in theory, with a capacity of roasting 30 tons per day of twenty-four hours. The officers of the Northern Gold Co. had witnessed the performance of an experimental plant set up and tested under the eye of the inventor at Minneapolis, and confidence in its suitability for the work was shown by their ordering two furnaces for the new mill, together with a supply of nearly 200 barrels of crude oil for fuel.

The mill was started on the 23rd of July, but the Leede furnace was a grievous disappointment. The generator could not produce enough gas to roast $3\frac{1}{2}$ tons of ore per day, and after a futile attempt to induce the inventor himself to visit the works and direct the operations, a meeting of the directors was held and orders were given to reconstruct the mill. The Leede plant

was torn out, the pulverizers and sizers were removed, and a ten stamp mill of the Gilpin county pattern was procured in their stead. But it was near the end of the year before the alterations were completed, and there are no operations to report. The mill reconstructed.

OTHER GOLD HILL PROPERTIES.

A ravine the head of which is in the eastern part of the Northern Gold Co's location runs eastward about half a mile to Granite lake, a small body of water along the contact line of the Huronian and Laurentian formations. The south bank of the ravine is near the lake a steep cliff of mica chlorite schist about ninety feet high, and is cut from top to bottom by a vein thirty feet wide, which is known as the Keystone. This vein has a north and south course, dipping about 65° eastward, and consists of white crystalline quartz with fine grained schist and calcite, carrying copper pyrites and films of carbonate of copper. The wall rock appears to be a fine grained chlorite or mica-chlorite schist, which is more or less mixed with the vein matter. A granite dyke eight feet wide cuts across the vein and the country rock, having an east and west course, and about seventy-five yards nearer Granite lake is a quartz vein six to eight feet wide, running north and south. The Keystone vein is traceable across a high ridge about a quarter of a mile south and disappears under marshy ground. Beyond this low land what seems to be the same vein is noticed again and may be followed to the shore of Gold lake on location 190p, a mile from the northern outcropping at Granite lake. Keystone vein.

There are a number of veins on location 190p, on two or three of which some prospecting work has been done. On one of these, the Combination vein, a shaft was sunk by Frank Moore five years ago to a depth of 56 feet, and it is claimed that good samples of ore were taken from it. The vein is seven feet wide, runs northeast and southwest, and dips towards the west. East of it about 300 yards is a parallel vein eight feet wide, and 100 yards farther is what is believed to be the Keystone, seven feet wide. Seventy yards west of the Combination is a decomposed vein three feet wide, having an east and west course, and 100 yards farther on is a like vein eighteen inches wide. All these veins run into Gold lake, a beautiful sheet of water enclosed on all sides with dense greenwood. A series of veins on Gold Lake.

There are several other veins on properties explored by Mr. Burdette, one of which on the Judge Mills location is about twenty-five feet wide; but as far as known they do not carry gold.

THE BLACK JACK MINING COMPANY.

Mining location 90x, known as the Bulldog mine, adjoins the property of the Northern Gold Company on the west, while north and west of it are the locations of the Canada Consolidated and the Winnipeg Consolidated Companies. It consists of 336 acres, and the Crown patent was issued in 1889, to William J. Franks of Toronto. Mr. Franks prospected it to the extent of putting down a test pit on a northeast and southwest vein to a depth of 18 feet, which is said to have assayed \$8 to \$14 per ton. In the fall of 1892 The Bulldog mine.

Developing
the property.

this location was purchased by the Black Jack Mining Company, composed of Duluth and other Minnesota capitalists, with Parlan Semple of Oshkosh as president, E. Brown of Duluth as secretary-treasurer, and E. B. Barnes as general manager. The Company began operations by putting down a shaft 11 by 7 feet on the southern part of the property, at a point on a bluff about 300 yards north of Islet lake and 100 yards from the eastern line of the lot. The vein lies in hornblende schist, is about 8 feet wide, and is composed of quartz and mica-chlorite schist. Samples of the ore show it to carry copper pyrites and small quantities of pyrrhotite. On the 17th of August the depth of the shaft was 63 feet. It is perpendicular to a depth of 20 feet, and then dips south at an angle of 75°. At 52 feet a drift has been opened east and west on the vein about 18 feet, and a cross cutting 9 feet north and 3 feet south which shows vein matter throughout. At that date mining operations were carried on with a small force and prospecting pits were being sunk on other veins, some of the ore showing free gold. In the winter of 1892-3, a small mill building was erected at the foot of the bluff near the shaft. It is built of round logs, the main portion being 30 feet square, with an engine room 18 by 25 feet, and a crushing room 16 feet square on the bank attached to the main building. It was equipped with a steam engine and boiler of 40 h.p., two Crawford mills, and a Blake crusher with a capacity of breaking 20 tons of ore per day of ten hours to half inch size. Only one of the mills was tried and 50 tons of ore were run through it in a week, but the work was not satisfactory. It is admitted that the free gold was extracted, \$300 having been saved from the run, but that the gold in the sulphurets was not touched. Charles Brent was in charge as superintendent and assayer, with four miners, engineer, teamster, and cook; but I learn that operations were closed early in the fall of the year, owing to the financial stringency in the States. There are numerous veins on the location, and it is probable that the work of developing them will be resumed when money gets easier.

Testing the
ore with a
Crawford
mill.

PINE PORTAGE MINE.

Location of
the Pine Port-
age mine.

A property which made some stir in the Lake of the Woods district ten years ago is known as the Pine Portage mine. It is easily reached from Sultana island by paddling up to the head of Pine Portage bay, south of the island, a distance of about three miles, and then following the road towards Rossland about half a mile to the old camp built when operations were active at the mine. A road leads southward from the camp between two ranges of rock which at a distance of 300 yards open out into a spacious valley, with the Huronian schists on one side and the Laurentian granite and gneiss on the other. At the head of this valley the mine was located, and a mill and all other necessary buildings were erected alongside a little stream which has its source not more than 200 yards above. Referring to this enterprise in the Geological Survey report of 1885, Andrew C. Lawson said:

Early records
of the enter-
prise.

"The Pine Portage mine, the most important and most promising venture in the district, was worked steadily throughout the summer of 1884, there being about a dozen hands employed. The shaft was sunk to a depth of 100

feet, and a drift run to a considerable distance to the south. The ore was milled as it was taken from the shaft. In 1885 very little work was done at the mine, but it is, I believe, the intention to continue operations during the coming season, the aspect of the vein and the character of the ore being fairly constant so far as developed, and warranting the vigorous prosecution of the enterprise. The reason assigned for the suspension of work is largely the difficulty encountered on the part of the proprietors in securing a thoroughly competent and experienced mining engineer to take charge of the operations of the mine, and their reluctance in the light of experience to enter upon any further serious outlay till such a manager can be procured. The position taken by the proprietors of the Pine Portage mine is a sound one, but one that brings into prominence the fact that in Canada or the adjoining States there are extremely few practically trained mining men, who, in addition to their knowledge of the economic management of the works and mine, possess also a scientific comprehension of the problems concerned in the extraction of the gold, which will enable them to study to advantage the milling of new ores such as these, and devise methods of treatment for particular cases which will preclude serious loss in the tailings, such as has been the aggravating experience at the Pine Portage mine."³

The course of the vein is a point west of north and east of south, and it has been explored on the surface by an open cut for a length of 50 feet in walls of hornblende schist, the hanging wall rising about 70 feet above the valley. A shaft sunk at the southern end of the open cut is now filled with water, but it shows a dip of about 75° to the east. Mr. Lawson, who had an opportunity of examining the mine while work upon it was in progress, describes the lead as a fissure cutting a hard massive schistose hornblende rock at a distance of only 150 feet from a granite mass towards which it dips, and as parallel to the contact of granite and schist. "The dip of the Pine Portage vein towards the granite mass at so short a distance to the east of it is a feature of the mine that may develop interesting facts as the work proceeds. It is extremely difficult to discover whether the granite actually occupies an inferior position to the schist, or the reverse. If the former is the case the shaft, if continued at its present incline in the vein, would strike the contact of the schist and granite at no great depth, and the analogy of some of the most successful mines would warrant the presumption of a concentration of metallic material in the neighborhood of the contact of two such diverse rocks, with the juxtaposition of which is so evidently associated the existence of the lead."⁴

But in spite of the seemingly good promise of this property, it has lain idle for the last ten years. One of the principal owners, Mr. Thomas W. Dobie of Tilsonburg, claims to have expended \$25,000 upon it, and his confidence in its value remains unshaken: but others are not so sanguine, and hesitate, it is said, to put up their share of the money required for a thorough development. It would certainly be very interesting to know the character of the vein at the line of contact,—if it continues into the granite and is

³ Geo. Sur. of Canada: Report on the Geology of the Lake of the Woods region, 1885, p. 141 cc.

⁴ Ibid, p. 143 cc.

mineral-bearing in that formation, and if at the contact there is any enrichment of the contents of the vein, as is often found to be the case in such circumstances.

The mill which was built to treat the ore of this mine is already a ruin. It was supplied with a steam engine from Erie City Iron Works, a Fraser and Chalmers stamp mill and a pair of Frue vanners, and these remain as if waiting for the mine to start into life again. But one wonders why such a mill should have been erected on a brooklet whose channel is dry half the year. Obviously enough, and for more reasons than this one, there was need of the service of a competent engineer to manage the affairs of Pine Portage mine.

THE RAJAH MINE.

A mining property in Jaffray township.

English capital interested in it.

Extent of mining operations.

The Rajah mine is on location 317P, about five miles northeast of Rat Portage, and consists of 131 acres. By the recent survey of the township of Jaffray it is found to occupy part of lot 13 in the seventh concession of that township. A colonization road intended to connect Rat Portage and Rossland runs about three miles south of the location, from which it is reached by a very good road over a belt of burnt land. The Rajah Gold Company of London, Eng., acquired the property early in 1892 from Messrs McGee, Brereton and Henesy, the joint discoverers, and made arrangements to develop it. Bands of hornblende schist and gneiss cross the location from northeast to southwest, rising to a height of 150 feet above the valley on its western side. The vein runs with the course of these bands, and has been traced about one-third of a mile across the location; but about midway an east and west gorge makes a break in its continuity, which is covered over with debris and soil. At the northern end a shaft 7 by 9 feet has been sunk to a depth of 60 feet. The dip of the vein is about 85° to the northwest, and the hanging wall is well defined from top to bottom of the shaft. At 36 feet a gallery was driven southward on the vein a length of 47 feet from wall to wall, the average width of which was found to be about 5 feet. The ore is a fine-grained quartzite in bands of blue and white, and carries iron pyrites. It is stated that assays made by Mr. Hille of Port Arthur showed an average of \$15 in gold and silver per ton. On the southern side of the gorge a shaft of 7 by 9 feet has been sunk to a depth of 63 feet, and work was in progress at the date of my visit (August 19th). It is mostly hard hornblende schist, containing however a band of quartz which varies in thickness from 3 feet to 10 inches, the latter being its width at the bottom. Assays are claimed to have shown as high as \$200 of gold and silver, but the prospect is not at all promising. At the break in the vein made by the gorge an opening was being made at the time of my visit, and samples of ore taken out showed it to be composed of banded quartzite, with some limonite and tourmaline. A force of nine men was employed, under the management of M. T. Hunter, and operations had been carried on steadily since the first of December, 1892. The London Company sent out an old and experienced expert, Mr. W. B. Pascoe, to examine the property last summer, and he collected many bags of samples to assay upon his return to England. It is understood that Mr. Pascoe's report has been decidedly unfavorable, and that the Company has ceased operations.

THE EL DIVER MINE.

This name is reputed to be an English refinement for hell diver, a bird of that species having been seen on the stream which crosses the property when the prospector made his discovery. The location is $2\frac{1}{4}$ miles north of Rossland station, and due east of the Rajah mine, a portion of it being on lot 16 of the same concession in the township of Jattlay; but about two-thirds of it is in the unsurveyed district east of the township. The owners are Mr. J. H. Webster, a lawyer of Cleveland, Ohio, and Mr. E. W. Gaylord of Bristol, Connecticut. It is known as location 351r, and contains 80 acres. The easiest way of reaching it is by boat from the head of Island lake at Rossland—a beautiful sheet of water which overflows into Black Sturgeon lake. Paddling a mile and a half northward a landing is found at the rear of Burnt island, from which an excellent road leads over a tract of gravel to the mining camp. The east side of the location is an obscure gneiss, but towards the north and west it is traversed by a high ridge of hornblende slate, the surface of which shows evidence of glacial planing. There are two northeast and southwest veins in the gneiss, on opposite sides of a creek which runs northward to Black Sturgeon lake, half a mile beyond the location. The gneiss rises in rounded bosses on either side of the creek, and along the line of the veins it is cut by numerous stringers of one to five inches wide. The No. 1 vein, on the east side of the stream, has been sunk upon by a test pit to a depth of 8 feet, where the width is shown to be about three feet. Separated from it only a few feet is a narrow vein of iron ore. Another opening, made about 50 yards northward, has exposed a body of ore containing a variety of minerals. Specimens are found to consist of magnetite, impure pyrites weathering into limonite, and pyrrhotite mixed with a silicate, possibly hornblende or pyroxene. No. 2 vein on the opposite side of the stream, 100 yards northwest, crops out in many narrow stringers across a rounded hill of gneiss, and here a shaft house has been built and a shaft 7 by 9 feet sunk to a depth of 102 feet. This shaft was filled with water, and my information concerning it and all other work done on the property was gleaned from Mr. Gaylord, one of the owners. Both walls are in gneiss and the dip is northwestward about 80°. At the surface, as stated above, there is only a showing of stringers, the vein being capped with the country rock, but at a short distance below it is found to be 7 feet between the walls, and this width is maintained to the bottom with little change. The quartz in the vein pinches and widens irregularly from six inches to 4 feet, but it was found to be continuous. At 70 feet it was lost in the hanging wall, but at 85 feet a cross-cut of 6 feet was made where the vein was again found to be 4 feet wide. The quartz, or rather quartzite, is of a bluish tinge, stained with silicate, and is impregnated with iron pyrites. The wall rock is a coarsely crystalline gneiss.

A mine in the Laurentian formation.

Development work.

In the winter of 1892-3 an American pulverizer was put in to treat the ore, and also a cloth apron vanner to concentrate the pulp; but the process was not successful, and in the spring of 1893 a Crawford mill was introduced. This mill was started in April and was run four weeks. Mr. Gaylord says it treated the ore very satisfactorily in all respects except as to quantity of work.

Milling the ore.

Instead of milling 8 tons per day of 24 hours as claimed by the manufacturer, it only milled 5 tons. And now comes the curious part of the narrative. On May 31 the mill was cleaned up, and the amalgam was left in an open kettle inside the building. That night the building was destroyed by fire. On examining the contents of the kettle it was discovered that they had been strained, as the total quantity of quicksilver put into the mill was 240 lb., and the quantity after the fire was considerably less than 200 lb. The wonder is that after passing through the fire there should be any of it left. However, according to the statement of Mr. Gaylord, there is no doubt in the mind of the owners that the gold in the amalgam was stolen, and that the mill was fired to hide the theft. The engine which drove the Crawford mill and also the hoisting engine was badly damaged by fire, and mining operations on the El Diver were thenceforth discontinued.

The mill
destroyed by
fire.

THE TREASURE MINE.

The Treasure mine is on locations 400P and 409P, two miles southwest from Rosland station, comprising 160 acres. It is owned by Messrs. Webster and Angell of Cleveland, who have done considerable prospecting work. There are two strong veins on these properties, each of which has a northeast and southwest course. The country rock is a coarse grained granitoid gneiss, and also felsite, a very fine grained and distinctly laminated light gray rock. No. 1 vein is well exposed on the western bank of a depression or gorge which crosses the locations, and numerous stringers run into it, one of which has yielded many samples showing free gold. The fissure of the main vein at the surface is filled with felsite, and near the top of the bank it divides into two veins, the main one continuing in a southwest course with a width of 6 feet, and the smaller one diverging south-southwest with a width of 2 feet. At a point 40 feet below this divergence (or junction) a shaft of 7 by 9 feet has been sunk to a depth of 60 feet. At a depth of a few feet the felsite gives place to quartzite and interbedded mica-chlorite schist, with a little iron pyrites distributed in thin plates or leaves in the fissures. The vein dips towards the southeast, and as the shaft was sunk perpendicularly the lower portion of it is in the country rock. At 50 feet a cross-cut of 36 feet was made which struck the vein at 6 feet from the shaft, showing a width of 7½ feet of banded quartz and schist. The shaft on No. 2 vein is also 7 by 9 feet, and has been put down to a depth of 50 feet. The characteristics of the vein matter are the same as those of No. 1, but with more iron pyrites. It is lined with a selvage of mica-chlorite schist and sericite schist on the foot wall; the hanging wall was not exposed by the shaft, but the vein towards it was well mineralized.

Locations of
the Treasure
mine.

Character of
the veins.

OTHER LOCATIONS IN LAKE OF THE WOODS DISTRICT.

There are many other gold locations in the Lake of the Woods district, on some of which a little prospecting work has been done; but most of them are held for a speculative object. Bad mine, 349P, consisting of 40 acres, is three-quarters of a mile south of Rosland; M. M. Holmes of Rat Portage,

Bad mine.

is part owner. Test pits sunk upon the vein on this property have yielded very promising samples of ore, nearly all of them showing native gold. Norway mine, 395^e, is a mile south of Rossland, and is owned by Messrs. McKellar and Horne of Fort William, and Ross of Rat Portage. The vein on it is 8 feet wide, with a course of northeast and southwest and a dip of 75° towards the southeast. A test pit was sunk upon it last summer to a depth of about 25 feet. On Pipestone Point, south of Hay island, in Lake of the Woods, some work undertaken last summer in the interest of Mr. McMicken of Winnipeg. Some samples showed the ore to consist of quartz with iron pyrites and mispickel; in others the mineral was weathered iron pyrites, but no mispickel.

GOLD REDUCTION WORKS.

In a new mining district like Lake of the Woods, where there is scarcity of capital to undertake mining operations as well as of experience to direct them, one often hears a wish expressed for such help to the industry as a custom mill might afford. With a mill that would treat the ore and extract the gold at a fixed charge or toll per ton, or that would purchase ore from miners on the basis of valuation by sample lots, it is thought that owners of locations on or near the lake would be readily induced to develop and operate them. Certainly a body of navigable water like Lake of the Woods—with hundreds of islands on many of which gold-bearing veins have been discovered, and with bays and inlets ramifying a large area of country, which on the testimony of prospectors is a network of veins and fissures—such a water ought to greatly favor the project of a custom mill, and ensure for it a plentiful supply of ore. But something more than a process of reasoning is required before tangible results are realized. Rat Portage has had its scheme of a reduction mill, which has cost the municipality and a goodly number of its citizens many thousands of dollars, and in the matter of results, carefully calculated upon and sanguinely hoped for, it has been a dead failure. I visited this mill on the 18th of August, 1891, when a short test run was made for the gratification of a few interested visitors, and the notes taken then are here transcribed for the first time.

THE RAT PORTAGE GOLD AND SILVER MILL.

“The Lake of the Woods Gold and Silver Reduction Company was organized in December, 1889, under the laws of the state of Illinois, as the Canadian Milling and Reduction Company, with a capital of \$200,000. Work on the mill was commenced in January, 1890, and in May of the same year the concern was reorganized under an Ontario charter as the Lake of the Woods Gold and Silver Reduction Company, with Robert Linn of Cleveland as president, and Henry J. Powers as manager. At first it was intended to erect the mill on a site near Ross, Brown & Hall's sawmill, in the southern part of the town, and the municipality was induced to promise a bonus of \$10,000 when the mill was completed with a capacity to treat 30 tons of gold and silver ores per day. By a subsequent arrangement however

the site was changed to the north side of Rat Portage bay, on the east side of the main outlet of the lake and convenient to the track of the Canadian Pacific Railway.

The mill

"The mill is a frame structure on a stone foundation, 147 feet north and south by 117 feet east and west, and 57 feet high above the first sill in the main portion, where the elevator and water tank are located. Work has been carried on until the present time, and the mill is not fully completed, owing to the non-delivery of part of the machinery.

and its
equipment
in prospect.

"There are two ore crushers with an aggregate capacity of 8 tons per hour—one known as the American, which treats $3\frac{1}{2}$ tons, and the other as the Blake and Dodge, which treats $4\frac{1}{2}$ tons. One per cent. is taken by an automatic sampler, which goes into a box and is pulverized and assayed separately. This forms the basis of the value of all the ore to the mill and to the producer or miner. The rest of the charge is raised by elevators to hoppers on a floor 40 feet above, to descend through chutes and automatic feeders into two pulverizers, known as the Standard. These are six feet in diameter, and enclose a steel ring of 4 by 5 inches, having a diameter of $5\frac{1}{2}$ feet. Within each ring a muller plate is suspended upon a spindle or upright shaft, forming a movable bottom which may be raised or lowered at will. Resting flat upon each plate are nine rolls of 14 inches diameter by 4 inches face. In motion, the spindle revolves the muller plate, and it in turn drives the rolls by centrifugal force on the ring, against which they revolve in an opposite direction from that of the plate. While the charge of ore is entering the pulverizer from above in regular quantity through the automatic feeder, a supply of water is being delivered under pressure from below through the thin annular space between the plate and the ring. Now the same centrifugal motion which sends the rolls against the steel ring carries the ore in the same direction, and between the two hard surfaces it is gradually reduced to pulp. It cannot escape through the opening between the ring and the plate, being prevented by the upward pressure of water which keeps this space clear; but that pressure in the pulverizer gets to be outward as well as upward in obedience to centrifugal law, and the pulped ore issues through a screen which forms a portion of the enclosing wall of the pulverizer above the steel ring. All fine gold is carried out with the pulp, but grains too heavy to be floated drop through the space between the ring and the plate and are collected in the water chamber below. The screen has a fineness of 640 meshes per square inch, which is thought to be sufficient; but of course a screen of any finer mesh may be used if closer milling is found to be necessary for extracting the precious metal.

The process of
treating the
ore

to extract the
gold or silver.

"The pulp from the pulverizers passes over a series of riffles in which the free gold is caught, and the tailings over concentrating tables, from which the concentrates are conveyed to the hopper of a furnace of three chambers. In the first of these chambers the pulp is dried; in the second it is partially desulphurized; and in the third of highest temperature the remaining sulphur is driven off, and if necessary the charge is chlorinated. From the third chamber it goes to a set of steaming pans, moistened by the addition of water and heated by steam to a temperature of 150° F. In two or three

hours sodium and potassium are added, and afterwards quicksilver, the whole being constantly worked and mixed meanwhile by the action of distributors in the pans. When this operation is finished the pulp is transferred to agitators, where it is diluted with water to five or six times, and is thence drawn off into settlers with escape discharges at top and bottom to divide the rich from the lean—the latter passing over concentrators to catch any particles of fine gold which may float off with it, and the former into clean-up pans to be drained off and put into trays for treatment in the retort, where the quicksilver is volatilized and recondensed in a cooler. The bead is then taken off the retort, the contents of the trays are placed in crucibles, and the gold is melted and cast into bricks.

“Mr. Powers has been employed in mining since 1860 and in the erection and management of reduction works for eighteen years, having put up and operated mills in Colorado, Dakota, Wyoming, Arizona, New Mexico and Mexico.”

Such was the mill on the eve of completion in 1891, when half hour trial runs were made under the direction of Mr. Powers to the delectation of visitors. The following subsequent account of the enterprise was given me last summer by Mr. Charles Brent of the Black Jack Mining Company, who had charge of the mill after the retirement of Mr. Powers :

“The mill was completed in the fall of 1891, and the town paid over its bonus of \$10,000 upon the assurances of a report made by Mr. Walpole Roland of Port Arthur, who had been employed for the purpose by the Council of the municipality. According to this report the mill was declared to be capable of treating 191½ tons of ore per day of twenty-four hours. As a matter of fact the only ore treated at the works under Mr. Powers’ management was a lot of 75 tons from the Sultana mine, and 5 tons of concentrates from the Pine Portage mine. The average value of the concentrates was \$80 per ton, but after going through Powers’ process of roasting and amalgamation they still assayed \$60 per ton. At the end of November a disagreement took place between the president and the manager of the company and the latter resigned. President Linn ran the works until Christmas, treating the Sultana ore, but he wasted about half the gold. I arrived in Rat Portage on the 20th of December and took hold of the management in the first week of January, 1892, and we ran through another lot of 75 tons of Sultana ore, finishing it about 15th January. I was not able to do better with the mill than my predecessor, and at a meeting of the directors it was decided to put in new concentrators and a chlorination plant. This was done; the mill was remodelled and docks erected at a cost of \$15,000, which brought the total cost to this date up to about \$75,000. Under the Linn and Powers organization shares had been sold to cover the cost of the works, the chief purchasers being residents of Winnipeg and Rat Portage. There was about \$5,000 in the treasury when I took charge, and the balance of \$10,000 was raised by the issue of debentures which were distributed pro rata among the stockholders. The improvements were completed and the mill started again in June, 1892. It was run for two months; but numerous stoppages occurred owing to the breakage of various parts of the pulverizers, until

The expectation and the reality.

Manager Brent's story of the mill in operation.

finally three machines broke down entirely and the works were closed. The concentrates were roasted in a reverberatory furnace and subjected to chlorination, but with very poor results on account of the quantity of metallic iron worn off the pulverizers. Experimental tests had given 90 to 97 per cent. by chlorination, but the largest extraction in actual running was not more than 70 per cent.

"The mill was closed about the end of August and has been idle ever since. It was sold under foreclosure of mortgage in January, 1893, passing into the possession of an American syndicate for \$15,000. The intention is to put in four batteries of twenty stamps and resume operations, but owing to financial distress in the United States the undertaking has been delayed."

CUSTOM MILLS AND SMELTERS IN COLORADO.

The story of the Rat Portage reduction works is only one more instance of the folly of adopting new processes on a large scale before they have been tried and proven on a small one, and unluckily it is usually on new gold fields that new-fangled methods are most readily taken up. But the failure of the attempt to establish a custom mill at Rat Portage does not prove anything against the utility of such a scheme to assist mining enterprise or development. Concerning their operations in Colorado, I obtained the following information from Major Long, who had charge of the Cook amalgamators at the Northern Gold Company's mine last summer :

The lesson of
the enterprise.

Custom stamp
mills and
smelters in
Colorado.

"In all gold camps of Colorado," Major Long said, "custom stamp mills are erected for treating ores, and there are custom smelters at Denver, Pueblo and Leadville, and two at Durango. The stamp mills range from 80 to 125 stamps per mill, with a daily capacity of $1\frac{1}{2}$ tons of ore per stamp. They are owned by companies, and as a rule a company owns only one mill. State aid is never given to a mill, neither is municipal aid; occasionally a municipality will give a site for a smelter, but very rarely a bonus. The state requires smelters and mills to keep a record of results, and this record is open to public examination. Every company is obliged to keep a record showing yield, whether it treats its own or custom ores, so that statistics of production may be obtained for public use. In stamp mills the practice is to charge for crushing, usually \$15 per cord of eight tons. The free gold is caught on coppers, and the concentrates are dried, sacked and loaded on cars. Few miners have their own mills, the practice being to send the ore to custom mills. Often also the owner or owners of a mine will let workings under tribute, taking a royalty on the output. The advantages of the custom mill plan are that great care is exercised in the works, that good workmen are employed, that less capital is required, and that each mill aims to do its best possible work so as to secure custom. The concentrates and rich ores are sent to sampling works where they are sampled for the smelters. One lot goes to the assayer of each smelter and one to the owner, who, if he so desires has it assayed by a private or a State assayer—the report of the latter always governing the value in case of dispute. The smelting charge ranges from \$6 to \$22 per ton of ores or concentrates, which is deducted from the price paid for them. The bullion is never returned to the miner, but the value of it is placed to his credit."

THE OPHIR MINE IN GALBRAITH.

Ophir mine in the township of Galbraith is reached by way of Bruce Mines, a station on the Canadian Pacific Railway 449 miles from Toronto, or by railway and steamship via Collingwood or Owen Sound direct to Bruce Mines, or by way of Sault Ste Marie, according as one takes the Northern Transportation or the Canadian Pacific Railway line of boats up Lake Huron.

THE OLD BRUCE COPPER MINES.

The village of Bruce Mines lies on the lake shore, upon a bay between Eagle Point and French Islands; and it is noted for having been at one time the most famous mining centre in Canada. The copper lodes which cut a wide band of greenstone here on the Cuthbertson mining location were worked from 1849 to 1875, and the ore was either smelted on the ground or was crushed and treated for shipment. The principal vein has a northwest and southeast course, extending from the lake shore east of the old village of Bruce Mines for a mile and a half or two miles northwestward across the whole breadth of the greenstone outcropping.

The workings towards the east end were known as the Bruce mines, and those towards the west as the Wellington mines; but several smaller veins occur on both locations, from which considerable quantities of ore have been raised. Shafts were sunk at various points along the veins, some of which reached a depth of 80 fathoms, and in places the ore was stoped out to the surface. Where this was done the openings were covered over with timber and earth or rock for the safety and comfort of the miners; but the timbers are rotted and long sections of the roof have fallen in, showing gaps once filled with vein matter and now filled to 25 or 30 feet of the top with rock and debris. The irregularity of the veins is clearly exposed, as regards both size and course. The width varies from 3 or 4 to 8, 10 and 12 feet or more, and although a general course is maintained it is in places zigzag to a striking degree.

At the old mines a small mill for treating the ore had been erected about 150 yards from the shore, but old miners tell that it fell as soon as the works were started and that three men were buried under the ruins. It was built of the boulders which so thickly strew the ground over the greenstone ridge, and looking at the remains one cannot but wonder what caused walls of such massive thickness to give way. The second mill, also of stone, was erected south of the first and close to the lake shore. The main building is yet intact, but the addition which contained the crushing machinery is unroofed and a portion of the wall upon the west side has fallen. Two sets of Cornish rolls were worked here, into which the ore was fed by a large wooden wheel with wooden buckets on the inner rim, and after being crushed to the requisite size it was jigged to separate the ore from the quartz and other gangue matter of the vein. The jigs occupied a long frame building which stood on the west side of the crushing mill, and were worked over a series of oblong pits, $2\frac{1}{2}$ by 6 feet. They were constructed of coarse wire, about 9 meshes per square inch, and as they were shaken to and fro the ore sank to

the bottom and dropt into the pit, the lighter gangue matter being meantime skimmed off the top. One boy could attend three jigs. The ore was afterwards removed from the pits and wheeled into a heap upon a platform south of the building, whence it was either taken to the smelter or loaded upon vessels for shipment to Wales. The engine which drove the machinery of this mill is yet standing in the main building. It is of the old Watt pattern, with a huge walking-beam 28 feet in length, and two balance wheels with massive rims of cast iron and a diameter of about 30 feet. A large and well constructed frame building stands upon the east side of the stone mill, which is known as the Yankee mill. It was erected for the purpose of testing an American method of treating the ores, but tradition says it ran only a few days. The manager of the works fell one night from the upper story to the ground floor and was killed, and probably this fatality had much to do with the failure of the process. The smelter stood on the lake shore, about 50 yards west of the mill. It ran for a number of years, but was partially wrecked in a gale of wind and afterwards destroyed by fire.

A sand bar of

The dump of tailings was on the lake side of the mill, but the waves have washed it into a sand bar which extends out to Crocket's island, about 200 yards from the shore. It is an evidence of the large quantity of ore treated at this mill.

The old village of Bruce Mines.

The old village was a busy place forty years ago, its principal street extending for half a mile along the shore of the lake. The dwellings were either log or frame, and most of them were small, being not more than 20 by 25 feet. All are deserted now, save one. Eastward of the mill stood a row of frame houses, including the Company's store and offices and a number of double dwellings, in front of which ran a well-paved street, now grown over with grass. At the eastern end of this street was the manager's house, which was the most imposing dwelling in the village. Numbers of the old houses have either fallen or have been torn down for fuel. One of these had served the double purpose of a church and a Sunday School.⁵ A union church was subsequently built in the west end of the village, where service was conducted by Episcopalians, Presbyterians and Methodists; but it is deserted now. There was also a small Roman Catholic church in the place, which was moved west after the closing down of the old works, and it too has been unoccupied for many years. The best preserved buildings are the powder houses, which stand apart at some distance northeastward of the mines.

Mills at the Wellington mines.

The Wellington mines were supposed to be much richer than the Bruce, and were worked for nearly twenty years later. The principal openings are believed to be on the same vein as the Bruce mines, but large quantities of ore were taken from another vein farther south, about 200 yards from the lake shore. A small stone mill was built near this latter vein, and a larger frame one about half a mile to the northwest. A third mill of much greater dimensions was erected in 1872 or 1873 a short distance west of the old mill, in the centre of the new village of Bruce Mines. It is about 100 feet by 250,

⁵ The site of this edifice was pointed out to me by Sam Cullis, who said he had attended Sunday School there when a little boy. He passed through all the stages of a miner's occupation at the Bruce and Wellington mines, from jigger-boy to hammer-man.

and its tall brick shaft is a land mark for miles out upon Lake Huron and up the St. Mary river.

The ore was crushed in Cornish rolls at the new mill, as in each of the other mills, and the steam engine was of the same design as that of the old Bruce mill, though not so ponderous; its walking beam is 25 feet in length. The boilers were made in Lancashire, England, and bear the date of 1871. At that time there were many works in Canada which manufactured engines and boilers of any required capacity, but no doubt the English company was persuaded that they could not compare with the ones made in England for the purpose; certainly they did not in avoirdupois.

A new process, the invention of a Frenchman, was introduced at this mill during the later years of its working, by which the milled ore was roasted in brick furnaces, ten in number, and leached in wooden vats which stood in double rows under the low leanto roof on the south side of the building. Certain chemicals were used in the leaching vats, but the cost of the process was so great that the company is said to have lost \$100,000 in one year. The brown colored tailings on the dump indicate the quantity of ore treated by this method.

The great heaps of gray and brown tailings which surround the mill eastward and westward are some evidence of the extent of operations at the Bruce and Wellington mines; yet the piles now remaining here are but a small portion of the whole, as hundreds of train loads have been carried off to ballast the track of the Canadian Pacific Railway. It is currently reported that these tailings carry gold, and that several recent assays show it to run from \$2 to \$7 per ton. It is also said that one or two parties have been anxious to purchase the heap with the object of setting up a plant to extract the gold, but that the railway company thinks it has more value for ballast. A well founded tradition says that the presence of gold in the Bruce and Wellington locations was known to one or two of the old miners. William C. Dobie, police magistrate of Port Arthur, has informed me that it was discovered by his father-in-law in one or more veins, and that he had reported the fact in a letter to the head office of the company, and that for his pains in so doing he was advised to mind his proper business. The discovery of gold in the township of Galbraith was therefore not a startling surprise to some of the old employés of the Bruce and Wellington mines.

THE OPHIR GOLD MINE.

From Bruce Mines to the Ophir Mine the distance is usually computed at 16 miles, but as measured by the length of telephone wire put up on the road last summer it is found to be 18 miles. It is an old colonization road, on which many of the employés of the copper mines and their descendants have settled as farmers, and it traverses a number of rich sections of farm land especially around the lake basins and along the river valleys. After running in a northeasterly direction about $3\frac{1}{2}$ miles across the Cuthbertson location, a tract of 6,400 acres, the road cuts through the northwest corner of lot 4 in the sixth concession of Plummer Additional, and thence through lot 4 in the first concession of Plummer to Ottertail, a hamlet at the lower end of a lake

of that name where the Thessalon river issues on its way southeastward between high hills of red and white quartzite towards Lake Huron. Winding around the south end of Ottetail lake, the waters of which have been lowered for the purpose, the road crosses a wide peaty bottom and ascends a band of white quartzite hills to trend northward along the line between lots 2 and 3 in Plummer to Coffin, and thence eastward and northward to the townline between Coffin and Galbraith, where once more it enters the valley of the upper Thessalon, near the junction of its east and west branches. Turning south on a newly built road across the east branch, half a mile brings us to the Ophir location. This is composed of the south half of the north half and the north half of the south half of lot 12 in the third concession of Galbraith, having an area as was supposed of 153 acres.

Improving
the road to
Ophir Mine.

The road as far as Ottetail has long been in excellent condition, but beyond that hamlet it was until last year very rough and heavy for the greater part of the way and badly cut up by traffic to and from the lumber camps upon the head waters of the Thessalon, Echo and Mississaga rivers. Little or no statute labor had been put upon it by the settlers since the time of its early construction because, as they claimed, the lumbermen did most of the travel over it and contributed nothing for its maintenance. But with the development of the Ophir mine repairs became a necessity, as in the old state it would have been impossible to carry in the supplies and machinery required at the camp. Accordingly the Ophir Company undertook upon its own account to make the improvements called for by the condition of the road, and \$2,000 was expended in making the worst sections passable. This with a grant of \$1,200 by the Ontario Government has sufficed to put the road in substantial shape, and until the heavy October rains began to fall it was as good for wheeling as many roads in the older settlements. The successive ranges of rocky hills which cross the country, usually in a southeast and northwest course, but in places with awkward irregularity, make steep and long grades unavoidable, but inasmuch as no road allowances have been laid out in the survey, five per cent. of the land being reserved by the Crown for this purpose, the most feasible routes consistent with a general course along the surveyed lines are taken for road construction. The abundance of gravel beyond the Thessalon river furnishes material for excellent road building; and although level roadways are unattainable, it is quite practicable to make them first class in every other respect.

Geological
relations of
the district.

In its geological relations this section of country is one of the most interesting in Ontario. The junction of the Silurian and Huronian systems takes place in the channel between St. Joseph's island and the mainland at Bruce Mines; and after crossing the band of greenstone at the latter place, the breadth of which is not more than a mile, we travel for a distance of not less than 15 miles over a series of formations which fold over each other in long succession to form what is known as the Thessalon trough—appearing, disappearing and reappearing in almost bewildering confusion to one who has not ample time to observe and study out their varied and interesting relations. And what adds to the perplexity of the task is the fact that some time in the long history of the Huronian age a dislocation occurred, whereby the forma-

tions were thrown for thousands of feet out of the lines in which they had been originally laid down. Murray estimated the total displacement at 11,000 feet, and his observations led him to believe that the line of fault extends a distance of about 40 miles, or from near Echo lake to the mouth of Mississaga river.⁶ Then again the crowns of the anticlinals have been planed down by glacial action, filling the valleys to great depths with sand, gravel and clay, while at longer or shorter intervals the formations are cut by dykes of greenstone or upheaved and contorted by mountain masses of syenite and diorite. Little wonder therefore if the geology of the country cannot be read with exactness or satisfaction in the course of a hurried drive across it, however watchful the observer may be.

Between Bruce Mines and Ottertail there are exposures of greenstone, limestone, sandstone, conglomerate and red quartzite; but farther north on the same side of the Thessalon river there are ranges of jasper conglomerate fine grained sandstone, chert and white quartzite. Beyond the river the road passes over successive ranges of white quartzite, red quartzite banded with quartz and jasper conglomerate, white quartzite with bands of quartz conglomerate, red quartzite, altered sandstone containing pebbles of granite and quartz, greenstone and quartz syenite. The last named range is succeeded northward by another outcropping of white quartzite which extends from the schoolhouse in Coffin to the low mountain of gray diorite which crosses the middle of the Ophir location on a northwest and southeast course. About a mile southward, on the farm of Mr. Moor, the quartzite and diorite abut conspicuously against each other, as they also do upon a lower spur at the north-western corner of the Ophir lot. The diorite escarpment is seen to extend for some distance towards the east, where it rises about 300 feet above the bed of the Thessalon river.

Nestled on top of the tableland thus formed, and enclosed by high walls of rock saving on its southeast side, is Lake Iekta, three-fourths of whose area of 65 acres lies within the limits of the Ophir location, but without forming any part of it. It is a beautiful sheet of clear blue water, 300 feet in depth, and is fed by numerous springs, a portion of the bottom at the south and southeast shores being quicksand. The outlet at one time was probably on the southeast side, where the beach is sandy and a valley opens out through the mountain; but now it discharges a small stream through a gap in the rocks at its northwestern angle, the waters of which tumble down a narrow gorge until they reach the eastern branch of the Thessalon. There is evidence however that the discharge was through another gorge about 50 yards farther west, when the level of the lake was a few feet higher than it now is, but both channels unite midway down the bluff.

At the foot, where the water of the stream flows off quietly to the river, a quartz vein occurs upon which a shaft has been sunk to a depth of 50 feet, I was told, but it is filled with water. This is on an adjoining location to the Ophir, the northern quarter of lot 12. Openings have been made at various points higher up the bluff, by which the vein may be traced eastward

⁶It would not be a surprise if this fault was found in sections to be filled with mineral-bearing vein matter; but being covered with drift along the greater part of its length, no attempt to explore it appears yet to have been made.

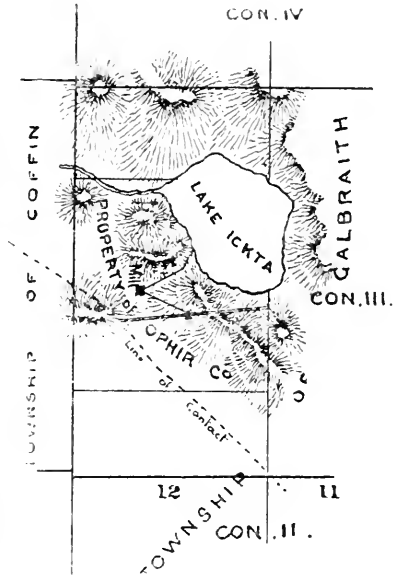
through diorite to what looks like a horse of white quartzite, at an elevation of 100 feet above the shaft, and there all trace of it disappears under the mass of boulders which have fallen into the gorge. Eastward from the outlet of the lake about 75 yards, another vein of chloritic schist and quartz crops out at the waterline and is seen to extend in an easterly direction in the bed of the lake. There can be but a small portion of this vein on the Ophir location however, as the northern limit is only a few yards back from the shore; nor is it known to hold any valuable mineral. A vein of quartzite cuts the diorite for some distance eastward along the north shore of the lake, where the rocks show signs of not a little disturbance.

The Ophir location,

Lot 12 in the third concession of Galbraith was computed in the original survey to contain 320 acres, whereof 307 acres was land and 13 acres water. A survey by Mr. Cozens, P.L.S., shows it to contain 324 acres, whereof 271½ acres is land and 52½ acres water. The total area of the lake is 65 acres, the balance of 12½ acres being in lot 11.

and the discovery of gold upon it.

The discovery of gold on lot 12 is said to have been made by William Moor, a neighboring farmer, but there are so many conflicting stories as to the discovery and the subsequent dealings with the lot that one may despair of getting a statement of facts upon which all the parties concerned will agree. The portion known as the Ophir location, comprising the south half of the north half and the north half of the south half, was assumed to contain 153½ acres, but according to the Cozens' survey it embraces only 137½ acres.



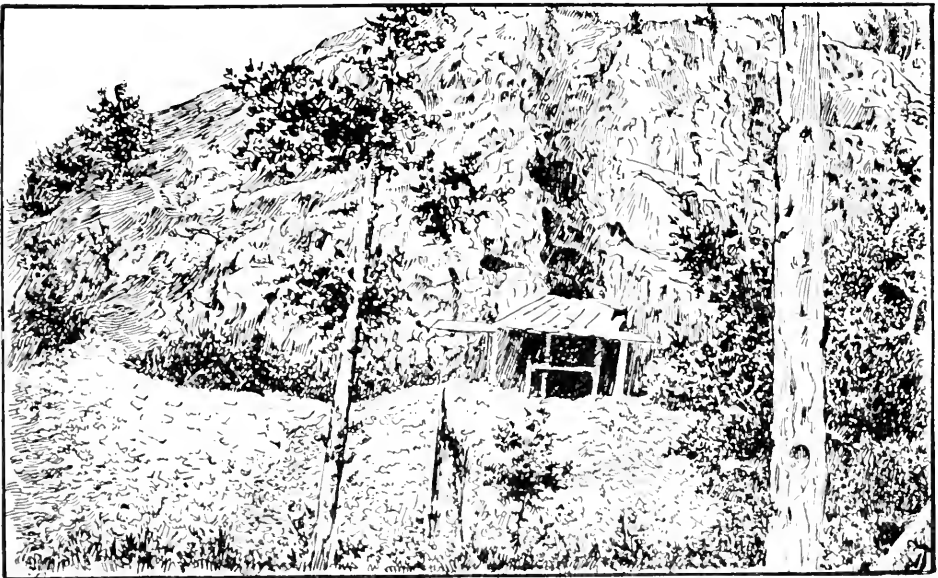
5. Ophir gold location.

⁷ The south half of the lot was purchased by Roderick Mackenzie from the Crown in 1883, at 20 cents per acre, subject to settlement duties. Mr. Mackenzie never lived upon it, but it was claimed that a portion of the duties was performed by his brother. As to the discovery of gold, the following affidavit is filed with the papers in the Crown Lands Department: "I, William Moor, upon oath declare that I live upon the north half of lot 11, con. 2, Galbraith township. That in the month of November, 1889, about the first, while prospecting, I found on the south half lot 12, con. 3, Galbraith township, specimens of ore containing silver ore or lead and gold. That I afterwards showed specimens to a man named Malcolm McLeod and gave him some of them, and they found their way into the hands of a man named W. J. Miller, residing in Thessalon, who came to me on the 12th November and asked me to show him the vein, which I did. He said he thought the discovery was valuable. He said he would open and work the same and pay all expenses and that I should have one-quarter interest, free and clear. I have worked between six and seven weeks on the lot under Miller's orders up to the 22nd day of January, and received seven dollars only from McLeod for same." Sworn before John F. Day at Ottertail, 4th February, 1890. This was filed in the Department by Moor to protect his own interests. Subsequently a similar affidavit by Moor, setting forth original discovery by him, was filed by Miller in proof of claim to the lot. On 7th December, 1889, Miller had applied to purchase the north half of 12 as mining land, and on the 17th he applied to purchase the north half of south half and the south half of north half. He obtained the patent for the north half of the lot, but the ruling in respect of the south half was in favor of Mackenzie, who transferred his interest in the north half of it to Alexander McArthur of Toronto. By a subsequent arrangement the McArthur and Miller interests were united.

Nearly the whole of Lake Ickta lies within its boundaries, occupying the northeastern quarter, but the lake has been reserved by the Crown. The mountain of diorite which encircles the lake shows a perpendicular bluff at the northern boundary of the lot, and extends in a southeasterly direction across it, throwing out a spur westward about midway in which the vein occurs. Another lower boss of diorite outcrops west of the bluff, where it comes into contact with the white quartzite formation, but the rest of the location is for the most part covered with rich black loam to the western boundary, which is the townline between Galbraith and Coffin.

Where the vein has been worked it lies about 100 feet south of the dividing line between the north and south halves of the location, and has a course 15° south of west and north of east. The face of the spur looking westward is cleft from top to base by the vein, showing a dip southward of about 80° . Along the crown or apex of the spur the fissure is traceable eastward 175 feet, where it is covered over by gravel drift. Its width in this distance increases from 18 inches to 7 feet, and the vein matter changes from chloritic

The vein and its workings.



6. Ophir gold mine; showing fissure vein in face of the bluff, and mouth of the shaft; hanging wall of chimney on extreme left.

schist to quartz. On the western face of the spur the vein has a perpendicular exposure of 98 feet from the crown to the base, and it widens from 18 inches to 3 feet 4 inches, being filled throughout with chloritic schist. Here a shaft 6 by 8 feet has been sunk upon it to a depth of 90 feet, and at 85 feet it was found that the schist had given place to quartz in the vein. At the mouth of this shaft the vein is covered with gravel drift to a depth of 20 feet, but its course westward has been exposed by pits a distance of 1,185 feet to the line of contact between the diorite and the white quartzite, where it ap-

pears to be broken into stringers. A pit sunk in the drift at 1,000 feet shows it to be $3\frac{1}{2}$ feet wide. On the northern slope of the spur there is very large outcropping or chimney of vein matter, extending around it like an arc of a circle. It is divided into three lens-shaped folds by bands of schist, whose greatest thickness is 43 feet. The workings show it to be connected with the fissure vein at both ends of the arc, its total length being about 400 feet. The point of junction at the lower or western end has not been definitely ascertained, but it is probably not more than 100 feet west of a vertical line from the base of the spur; the upper or eastern junction is shown by an adit to be about 225 feet from the nose of the spur. The upper and middle folds taper and run out towards the east, and an incline shaft 6 feet square sunk upon the lower part of it, 75 feet from the shaft upon the fissure vein, proves that they run out downwards also. The depth of this shaft is 105 feet, and being sunk upon the foot wall the dip is shown to be 40° south. This is maintained to 65 feet, when it changes to 50° , and it is at this point that the upper and middle folds thin out; it does not appear however that they are gold-bearing anywhere. The pay streak is in the lower fold, but it varies greatly; in some places the mineralized portion is not more than 4 feet wide, in others it is 16 feet, and in some sections the vein is barren. Four adits have been driven in upon the chimney at intervals above the incline shaft, the level of the fourth or top one being 115 feet above the mouth of the shaft. The first has a length of 80 feet, its course being 5° north of east. The second is 25° degrees south of east and has been opened to the roof; the vein has been worked out from wall to wall and has a thickness of 43 feet, and discloses a long wedge-shaped horse of diorite between the folds. Between the top of the chimney vein at this point and the fissure vein on the crown of the spur the thickness of country rock is 85 feet, and this apparently forms the hanging wall of one vein and the footwall of the other. The third adit is 75 feet, on a course 10° south of the east, and has been stoped out overhead 27 feet; its mouth is at the end of the upper and middle folds of the vein, and is 100 feet east of the opening of the second adit. At the mouth of the fourth adit the chimney and fissure vein join, and the quartz at this point is rich in free gold. This adit has a course 5° south of east; it has been driven in a length of 75 feet, and by a cross-cutting at 60 feet the vein is shown to be $16\frac{1}{2}$ feet in thickness.

A record of operations.

Serious mining work was not undertaken upon the Ophir location until October of 1892. A number of shallow pits had been sunk upon the chimney vein, and at the lower end of it a shaft had been put down 10 feet. The owners had given an option on the property to a concern known as the International Development Company of Duluth, which also held options on several other properties in the district; but no work was done by it. A Chicago syndicate had been doing exploratory work on an adjoining property during the year, and it is stated that \$25,000 was expended in sinking test pits in the drift with the object of discovering an extension of the Ophir vein towards the northwest, in the fond belief that it connected with a vein discovered $3\frac{1}{2}$ miles distant, then called the Mudge property, but now called the Tiptop mine. Several pits were opened to a depth of 75 feet, but no vein was discovered

there; the course of the Ophir vein, as was afterwards proven by Colonel Wallace, was nearly due west. But the operations of the Chicago syndicate served to keep alive the interest in the locality, and the Development Company induced a Duluth syndicate with A. E. Humphreys of that city at its head, to look after the Ophir. Mr. Humphreys was a successful lumberman, with no experience of mining affairs, but having with his associates been fortunate enough to secure the service of an old and intelligent miner in the person of Col. W. R. Wallace—who had discovered for them a valuable iron ore property on the Mesabi range in Minnesota—they were encouraged to find out what the Ophir location was worth. Colonel Wallace was sent to examine it in September, and his report being favorable the Ophir Company was organized to purchase the property for \$100,000. Among those associated with Mr. Humphreys were George J. Atkins of Duluth, Frank Woodman of Charleston, W. Va., and George E. Milligan, then of Duluth but now of Chicago. On the 5th of October Colonel Wallace came to take charge of the development work as superintendent, when arrangements were made to clear off the land and erect the necessary buildings. Supplies were procured and mining operations commenced, the men boarding with farmers in the neighborhood until a boarding-house was completed on the 10th of November. Other buildings were constructed, including a dwelling for the superintendent; and as accommodations were increased additions were made to the force of miners and workmen. Nearly all the timber on the lot was cut down and cleared off, offices, dining hall, blacksmith's shop, etc., were built, and work on the fissure vein and chimney shafts was commenced and carried on throughout the winter. But when the spring thaw came on the shafts filled with water, and as no pumps were provided the superintendent set his men at work to open the higher section of the chimney vein by driving adits into it. In this way a large pile of ore was brought to the surface, and preparations were commenced for building a stamp mill.

The contract for the mill was let to Messrs. Fraser and Chalmers of Chicago; but the excavations were made under direction of the superintendent, who also procured all necessary supplies of timber and lumber. Excavation work was commenced about the 20th of July, and the mill was started on the 9th of October. The main building is 58 by 81 feet, five stories high, with a wing of 37 by 46 feet for engines and boilers. The vanners floor, upon which are eight Flue vanners, is 37 by 58 feet, and 13 feet high; the battery floor, upon which are four batteries of five stamps each, is 37 by 58 feet, and 11 feet high; and the ore-bin and rock-breaker floor is 7 by 58 feet. A tramway from the latter floor connects with the ore-pile at the mouth of the first adit of the mine, and the ore is conveyed over it in iron cars by gravitation. The engine is a Reynolds-Corlis, built by John Doty & Co. of Toronto, and is 75 h. p. Steam is supplied by two boilers of 120 h. p., which will also supply power for the mining machinery when required. The stamps weigh 850 lb. each; they are run at 85 per minute with a drop of only five inches, as the ore is easily crushed. The effective power of the four batteries is therefore $602,083\frac{1}{3}$ foot pounds per minute, or 433,500 foot tons per day of 24 hours; and as the stamping capacity of the mill is 40 tons of ore per day, the power required to

The stamp mill and its equipment.

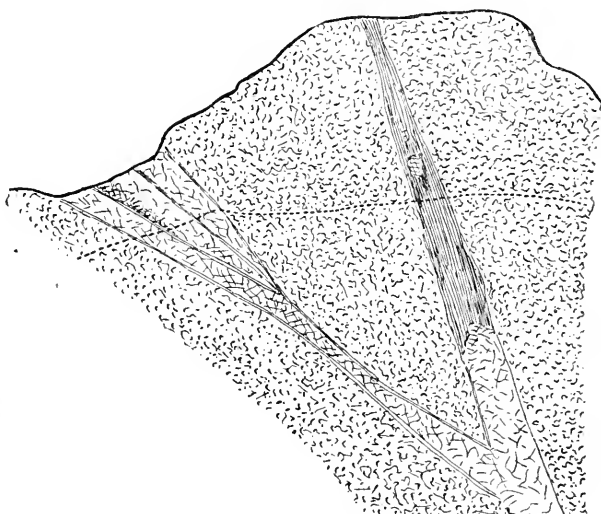
Its working capacity.

crush one ton to the required fineness for extracting the gold is 10,837½ foot tons, or the equivalent of 61,200 stamp blows. Quicksilver collects the free gold in the batteries, on the plates, and in riffles on the vanners; the sulphurets, which carry gold, are saved and concentrated by the vanners for subsequent treatment, and it is claimed that not more than 50 cents of gold per ton is lost in the tailings. One battery of stamps was started on 9th October, and by the 14th the mill was in full running order.

Water supply. Water for the boilers and batteries is supplied from Lake Iekta, through a four-inch pipe 1,100 feet long. A No. 4 Blake pump, driven by a 10 h.p. boiler, lifts the water from the lake over a bank 46 feet above its level, from which there is a fall of 164 feet to a tank at the mill. Here it is warmed by exhaust steam from the engine, and is therefore of suitable temperature for the batteries in the coldest weather. The main pipe also delivers an ample supply of water for domestic uses in the camp.

Condition of the mill and mine as regards safety and health.

My first visit to the Ophir mine was made early in the month of September, when the mill was in course of construction. I returned again in October, a week after the work had started. I found all parts of the mill to be in safe condition, as required by the Mining Regulations. The mine was also safe at that time; for although stoping work had been car-



7. Ideal cross section of the Ophir mine; showing fissure vein to the right, and chimney to the left. The dotted line indicates the base of the bluff.

ried on to some extent in each of the adits, the roof was well supported by pillars and masses of ore. It was pointed out to the superintendent however that as the roof was evidently cut off from the country rock behind it by the fissure vein, so that it hung like a V-shaped body over the worked-out portion of the mine (see fig. 7), it would be necessary to put in ample timber supports before the ore bodies between the several adits were stoped out. In this view the superintendent fully concurred; but his connection with the mine ceased at the end of October. The sanitary condition of the camp is excellent. It could hardly be otherwise without criminal carelessness, located as it is on a slope of gravel drift, and bountifully supplied with pure water from the lake. The surrounding scenery too is picturesque and cheerful.

The Ophir Company was organized under the laws of Illinois, with a capital of \$3,000,000, in 300,000 shares of \$10 each. The stock was eagerly

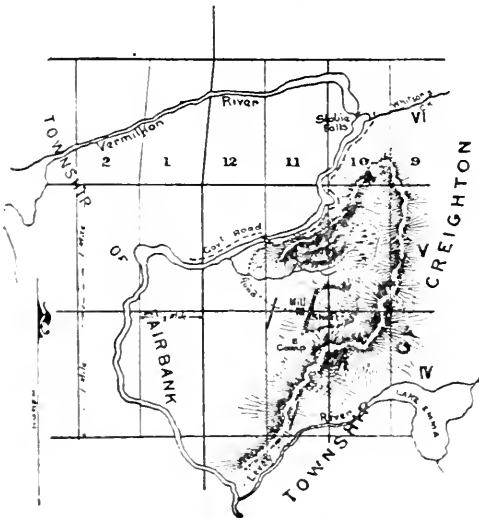
Sought after at first, and large blocks were subscribed for by Americans who visited the mine and carried away samples of the ore. Numerous assays of these samples showed it to be very rich; but having been selected for their richness, no prudent dealer in mining stocks would consider that they represented the average ore of the vein. A mill test made at the Houghton School of Mines however was regarded as much more reliable. Three lots treated there, aggregating 5,170 lb. were reported to yield 9.7 ozs of gold and 6.15 oz. of silver. On the strength of this report sales of stock were readily made in the spring of 1893, but the financial panic which swept the United States soon afterwards caused many of the purchases to be cancelled. For this and other reasons of an administrative nature, the Company has been working along under difficulties. The mine was absurdly overstocked, and this is a too common fault in Ontario, as well as elsewhere; yet there does not appear to be any sufficient reason for doubting that it is a good gold property.

How the mine was stocked.

THE CREIGHTON GOLD MINE.

The Creighton gold location occupies portions of 11 in the fourth and fifth concessions of the township of Creighton, in the district of Algoma East. It is reached by a colonization road which is intended to connect Larchwood station on the main line of the Canadian Pacific Railway with Whitefish station on the Sault Ste. Marie branch, through the townships of Balfour, Creighton and Denison, and which is completed to the bridge crossing the Vermilion river on lot 12 of the fifth concession of Creighton. The road in Balfour runs through a section of very good land in the valley of the Vermilion river, but at Whitson creek on the sixth concession of Creighton a range of Huronian schists comes into view which extends easterly and southerly for many miles. From the creek to the bridge over the Vermilion the road skirts the foot of the range of hills across lot 10 in the sixth concession

Location of the mine, and how to reach it.



8. Creighton gold location.

and lot 11 in the fifth, with the river flowing southward close to the right. From a point near the bridge the Creighton Gold Mining Company has opened a road southeastward around the rocky hills to the line between the fourth and fifth concessions and along that line to the mine, two-thirds of the way across lot 11. The hills form a semi-circle towards the north, enclosing a beaver meadow, and they sweep around eastward through lot 10 and south

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In a tract of Huronian schists.

Outcroppings
of quartz
veins on the
property.

Exploratory
work.

Sinking a
shaft.

The mill.

towards Lake Emma and the Levy river, throwing out low spurs over the southern portion of 11 in the fourth concession, two or three of which are gray with splashes of quartz. This conspicuous showing of quartz is nearly on a line with the north and south vein on which the Company's shaft has been put down, but the connection has not been traced. On the west side of the location are two outcroppings of quartz which have a northeast and southwest course through low ranges of schist; but although some openings have been made upon them there are no clearly defined walls to denote veins. Here as elsewhere on the lot where outcroppings occur the quartz and the hornblende schist are closely mixed, as if they had undergone partial fusion, presenting a mottled appearance with white as the prevailing color.

The location was prospected four years ago by J. R. Gordon, C.E., and exploration work was undertaken by him two years ago for a syndicate of Ottawa men which afterwards organized as the Creighton Gold Mining Company, with a nominal capital of \$1,000,000. The site selected for sinking a shaft on the north and south vein is where the line between the fourth and fifth concessions crosses. The country rock of black hornblende slate has a north and south course and dips eastward at an angle of about 45°. The vein has the same course and dip, and although much broken at the surface it is shown to be contained within well defined walls below. The shaft has been put down to 160 feet, keeping close to the foot wall, and without change of dip in the whole of that depth. A selvage of soft slate varying from six inches to two feet in thickness lines the foot wall; the hanging wall has not been exposed, but by borings the vein is found to have a width of 17 feet. At 80 feet there is a drift or level of 12 feet, and at 130 feet another of 25 feet. The bottom 30 feet of the shaft is used as a sump to hold water, a large flow having been struck at the first level which demands the constant working of a pump. About 200 tons of ore was on the pile at the date of my visit (October 13-15) and the mine was in a condition for raising about 20 tons per day with one shift of miners. The vein matter is chiefly a bluish colored quartz, with markings of flesh colored felspar, and banded in parts with hornblende schist. There is no appearance of free gold in the ore, but numerous assays have shown yields of \$4 to \$20 per ton; the gold is said to be in very minute particles, calling for extreme care in treatment to save it.

A mill was erected last year close to the shaft. The main part is 24 feet square and 54 feet to the plates, three stories high. An addition of 24 by 30 feet and one story high provides room for a hoisting engine and machinery to treat the ore. On the second floor is an automatic feeder, and on the third a Doge crusher manufactured by Fraser and Chalmers of Chicago with a capacity to crush 40 tons of ore to the size of nut coal per day. The ore is raised to this story direct from the bottom of the shaft by a friction drum made at the Baldwin Iron Works, Ottawa. Water to supply the mill is also raised to a tank in the third story by a pulsometer pump. The engine house is attached to the mill, and contains a boiler of 100 h.p. capacity to work the engine, drill and machinery for crushing and milling the ore.

The mill selected to treat the ore of the Creighton mine is one known as the Crawford Improved Gold Extractor. Many merits are claimed for it by

he inventor, and in Colorado it is said to be successful in saving a high percentage of the gold. But the one placed in the Creighton mill for some cause did not realize expectations. It was started on the last day of my visit to the location, under direction of Mr. Strickland of Peterborough, a representative of the inventor; but much difficulty was met with in trying to get it into smooth running order, due it was believed to faultiness in construction. The small quantity of ore treated was very finely milled, but stoppages owing to hot journals were too frequent for economic work. I learned afterwards that the trial was continued for a week without any improvement, when the mill was closed down pending the return to the country of the inventor, Mr. Middleton Crawford. ^{Testing the Crawford Improved mill.}

All work on the Creighton mine, including the putting down of the shaft, opening testpits and erecting the mill building, has been done under the superintendency of Mr. Gordon. A substantial boarding house has also been built on the location.

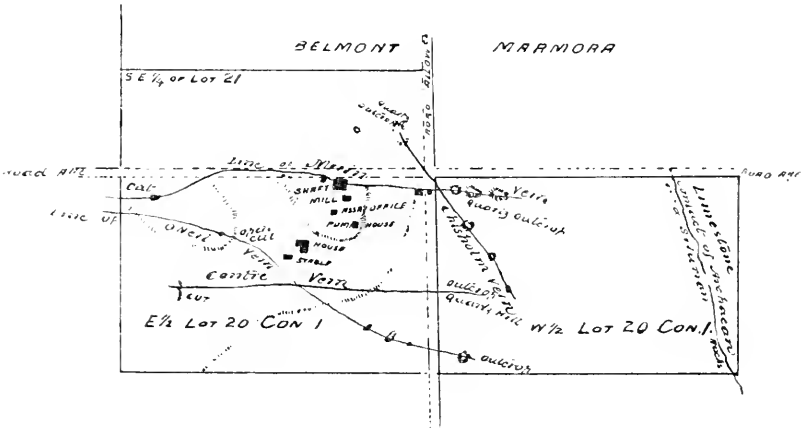
On lot 2 in the fourth concession of Fairbank, on the west side of the Vermillion river and about two miles southwest from the Creighton mine, there is a large exposure of a quartz vein. This was explored in the fall and early winter of 1891 by Mr. Gordon for an Ottawa syndicate, and an opening was made into a hillside to a length of 35 feet upon the vein. The property is known as the Gordon Lake gold mine. The formation and the quartz outcroppings are the same as at the Creighton mine. ^{Gordon Lake location.}

THE BELMONT MINE.

Belmont gold mine is in the township of that name in the county of Peterborough, and consists of the east half of lot 20 in the first concession. It is about ten miles northwest of the village of Marmora by the highway, from which place a railway track has been graded to an iron ore deposit upon an adjoining location owned by T. D. Ledyard of Toronto. An area of calc schist extends northward from the Silurian limestones to within a mile of Belmont mine, where it lies up against a wide band of diorite. The gold-bearing veins are in the diorite, and have been traced near to the line of contact. There are three veins crossing the lot, one close to the road allowance between it and lot 21 on an east and west course, a second parallel with it about the middle of the lot, and a third on a northwest and southeast course diagonally across the lot. The first of these is known as the Main vein, the second as the Centre, and the third as the O'Neill. Another vein, known as the Chisholm, is parallel with the O'Neill, and extends from the southeast quarter of 21 in the first concession of Belmont to the west half of 20 in the first of Marmora. The Main vein for a portion of its length underlies the road allowance between lots 20 and 21 of Belmont, but its course is very nearly due east and west. It is said that a party of the Geological Survey had camped upon it for a fortnight several years ago without suspecting that it possessed any value. The merit of discovery was reserved to H. T. Strickland of Peterborough, who while watering his horse by the roadside in 1890 ^{Location of the Belmont mine.} ^{The gold-bearing veins.} ^{Discovery.}

Exploration work on the property.

observed the vein, broke off some samples with his hammer, and found that they held free gold. The lot had some time before been located to a settler named Brown, whose widow was then in occupation. In July of the following year Mr. Strickland, with A. W. Carscallen, M.P., and Captain O'Neill visited the lot, took away some samples and had them assayed. The results were so good that terms were made with the occupant, the end of which was that Mrs. Brown took out the Crown patent and transferred all her interests to Mr. Carscallen. Exploration work was commenced upon the Main vein on 7th September, 1891, where a shaft was sunk, and open cuttings were afterwards made on the same vein at the eastern end of the lot, as well as on the O'Neill and Centre veins. At this time the location was held between Messrs. Carscallen, O'Neill, Strickland and Burnham, each having a fourth interest. Work was continued until 7th October, 1892, by which time 1,000 tons of ore had been raised, and the property was then let to Middleton Crawford for a year, at a rental of \$100 per month and a royalty. Mr. Craw-



9. Belmont gold location. 1

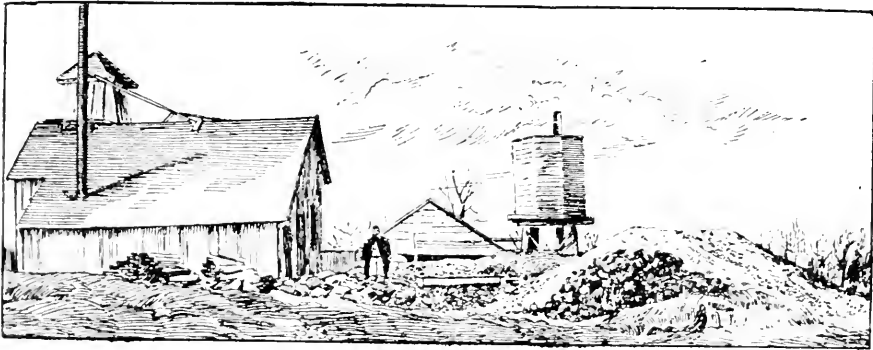
ford brought on one of his own gold mills, and 210 tons which the syndicate had mined was put through as a first test. I was told by Mr. Carscallen that this yielded \$9.53 per ton of free gold; and the concentrates, which were treated at Newark, N. J., yielded an additional \$2.95. The average therefore was \$10.93, and there is reason to believe that all the gold in the ore was not won. Mr. Crawford took out during his term about \$5,000 of gold, and doubtless he would have been allowed to continue operations but for the conviction of the owners of the mine that his mill was letting too much of the gold escape in the tailings.

The shaft on the Main vein was sunk to a depth of 132 feet. The gangue consists of white quartz with iron and copper pyrites. The iron pyrites occurs mostly in fine cubes, and in many places is enclosed with jaspery layers.

Prof. Chapman of Toronto, who made a careful report on the property when the shaft was down to 122 feet, says the Main vein consists of a gangue of white quartz carrying a considerable amount of iron pyrites and a little

Prof. Chapman's report on the location.

copper pyrites, and that for some depth from the surface it is decomposed into earthy brown iron oxide mixed with silicious matter and soil. The decomposed or oxidized matter, he states, runs richly throughout the course of the vein. "The width of this vein at the surface is about 3 or 4 feet, or less in places. On descending—as shown by the shaft, the only deep opening yet made in the vein—it widens to 12 and 13 feet; but suddenly, at a considerable depth, it becomes nipped or pinched to less than a foot. The pinch continues for about 20 feet, when the vein again opens, and at the present depth of the shaft, 122 feet, it measures at least 6 feet. Samples taken personally from this depth, and selected so as to present as fair an average as possible, have given me by fire assay \$16 per ton of 2,000 lb. of ore." Prof. Chapman's report was made under date of May 9th, 1893. Referring to the O'Neill vein, he mentions that a trial pit 28 feet deep had been opened near its southeastern extremity. "The vein consists of quartz and disseminated pyrites, and is thus practically identical in character with the Main vein, although apparently of greater width. A fair sample of unoxidized ore taken from this pit gave me by fire assay \$17 gold per ton of 2,000 lb. of ore. From its course or strike this O'Neill vein must cut the Main vein near or just beyond the northwestern edge of the location." Of the Centre vein, he says that a small



10. Shafthouse and mill of Belmont mine.

sample of oxidized earthy matter, mixed more or less with soil, taken from the exposure gave nearly \$5 per ton. "Although satisfactory as showing the actual presence of gold, this assay cannot be taken as an indication of the true yield of the vein, the ground at the spot being entirely unopened." In summing up his estimate of the property, the value of which he affirms that he has not attempted to exaggerate in any way, Prof. Chapman says: "It is undeniable therefore that the quartz veins upon the property, taking one ton with another, carry workable amounts of gold-bearing ore. But the great test after all is the mill test; and the result of the milling operations at the Belmont mine show an average yield of at least \$10 per ton of stuff passed through the mill."

In September of last year another report on this property was made by Messrs. Ricketts and Banks, a well-known firm of mining engineers and metallurgists of New York city, the former of whom is Prof. Ricketts of Columbia

Report of
Ricketts and
Banks of New
York.

College. The report was made to the Moira Gold Mining Company of New York, which had acquired an option on the property. In describing the ore deposits they say: "These consist of a system of quartz veins more or less decomposed near the surface and carrying sulphurets of iron and copper in depth; traces of galena were also observed. Four distinct veins were noticeable, two with a general east and west trend and a southerly dip, and two with a northwest and southeast trend and a southwest dip. The veins are contained in and interstratified with chloritic schist. The foot wall is schistose and as a rule generally well defined, but the hanging wall is less strongly marked, more or less undulating, harder and gneissoid in character. The sulphurets are scattered through the quartz gangue of the veins with occasional strings and bands near the walls or line of junction of the quartz and interstratified chloritic schist. The chloritic schist is persistent throughout the entire course of these veins, and is plainly observable where crosscuts and openings have been made; also wherever the quartz outcrops on the surface." In describing the Main vein where the shaft has been sunk upon it they say: "The vein shows distinctly the entire depth of the shaft, a distance of about 132 feet. It has a west-northwest and east-southeast strike, and an almost vertical dip. The width of the vein at the surface is about $3\frac{1}{2}$ feet, but on descending it widens to about 12 feet, pinching again to about $1\frac{1}{2}$ feet. This pinch continues for some distance, say 25 feet, when the vein again widens to about 6 feet at or near the bottom of the shaft. A spur was noticed at a depth of about 50 feet coming in from the north. Near the surface, and in the upper part of the shaft, the ore was found to be more or less oxidized in character, but below this the vein matter is a hard white quartz containing sulphurets in variable quantities, and interstratified with schistose rock. At the time of inspection water was coming into the shaft in quantity from a crevice or split in the vein on the east-northeast side, near the bottom. The foot wall of the vein seemed to be quite regular, but the hanging wall was of a harder character and less well defined." Samples were taken at various points on the location by chipping across the vein exposures, and from the ore piles, and fifteen of these gave an average of \$15.30 per ton. A sample of tailings from the Crawford mill was also tested, and gave \$3.51 per ton. This shows a high percentage of loss. But the most reliable result was obtained from a mill test of 12 tons of ore treated in the Crawford Improved mill, the clean-up of which was made at the time of the inspection. This gave a total of \$75.12 gold from the amalgam and \$29.83 from the concentrates, with a loss of \$14.88 in the tailings, or an average content of \$9.98 $\frac{1}{2}$ per ton. "The tailings from this test and from the previous runs made at the mine showed on panning much floured 'quick' and sulphurets; also some free gold."

Tests of the ore by assays and mill work.

My own visit to the Belmont mine was made on November 18, in the company of Mr. Carscallen; but the works had then been closed down for some time and the main shaft and nearly all the other openings were filled with water. I have therefore drawn upon the reports of Prof. Chapman and Messrs. Ricketts and Banks, who saw the works in progress, as furnishing a trustworthy account of the veins shown by the workings, as well as the

character and quality of the ores. Both reports concur in the opinion that the veins are true lodes, that the cost of mining and milling the ore should not exceed \$4 per ton, and that an average yield of \$10 per ton should realize a good profit.

In bonding the location to the Moira Gold Mining Company, all members of the old syndicate except Mr. Carscallen parted with their interest in it; but it is not yet certain that the deal will be carried through.

THE LEDYARD MINE.

The Ledyard mine adjoins the Belmont on the south, being upon the east half of lot 19 in the first concession of Belmont. There is an important out-cropping of magnetic iron ore in the northern portion of the lot, which has been leased to a company of New York capitalists. Exploration by borings seems to have satisfied the company that there was a large body of iron ore, of good quality, and a railway track has been graded from the line of the Central Ontario Railway near its junction with the Canadian Pacific to the ore deposit. In exploring the southern portion of his lot Mr. Ledyard discovered a quartz vein which upon examination was found to be auriferous, and some samples were rich in visible gold. The formation is diorite, and two parallel ranges cross the property in a northeast and southwest course for a length of about 300 yards, rising to a height of 25 or 30 feet. These ranges of diorite are cut by two or more veins of quartz having an east and west course, and in the bluff of the eastern range one of the veins outcrops, showing it to lie between selvages of talcose schist and to dip southward at an angle of 45°. About 30 yards west of this bluff a shaft of 8 by 12 feet has been sunk upon the vein to a depth of 45 feet. The vein varies in width from four to six feet, and shows free gold to 25 feet. At the bottom of the shaft it is divided by a horse, so that the walls are 12 feet apart. It is largely composed of a white cellular quartz with iron and copper pyrites in cavities, showing free gold, the decomposition products having leached out largely; but a portion of the quartz is stained with iron, holding iron pyrites decomposed in part into limonite. Some specimens are very pretty and rich. At the southern end of the westerly range, called the Burnt Knoll, there is a large overflow of quartz, and pits sunk upon it indicate the presence of two veins crossing each other below. The Burnt Knoll is 150 yards west of the shaft, and is apparently cut by the same vein. Numerous assays have been made of the ore from this property, nearly all of which show it to be rich; but it is never safe to compute the value of a gold mine from the data of samples. Seven lots of iron pyrites and quartz assayed by Elliot and Chambers of Toronto gave an average of \$326 per ton, and three lots of crystals of pyrites from the Burnt Knoll gave an average of \$90 per ton. One lot from the shaft, "about half a shot bag full of small pieces of ore from all over the ore pile, showing no visible gold," was assayed at the Orford Copper Company's works at Constable Hook, N. J., and gave 4.7 oz. or \$94 per ton. Another lot of 25 lb., mostly from the Burnt Knoll, and described as consisting of "a

The Ledyard location in Belmont.

Magnetic iron ore

Discovery of a gold-bearing vein.

Character and quality of the ore.

Testing the value of the ore.

white, sub-translucent, rust-stained quartz carrying a somewhat large quantity of iron pyrites," was assayed by Dr. Hoffman of the Geological Survey, and shown to contain gold at the rate of 4.608 oz. per ton. A mill test of three tons made by Ricketts and Banks of New York produced \$25.40 per ton, being 92 per cent. of the assay value.

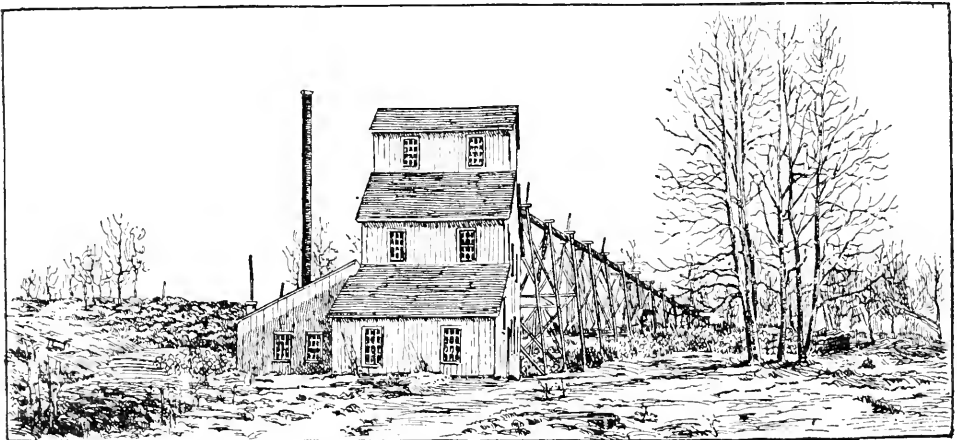
Exploratory work.

Exploratory work on the Ledyard mine was commenced in May of last year under the management of William Nichol, and when I visited it on 18th November nine men were employed. Mr. Ledyard has organized a company to carry on operations, and it is proposed to treat the ore with a Huntington mill.

THE CRESCENT MINE.

Reworking an old property at Malone.

The Crescent gold mine is on lots 16 and 17 in the eleventh concession of Marmora, near the hamlet of Malone. Portions of the property were worked during the period of gold excitement in Hastings over a quarter of a century ago; but though good shows of gold were obtained near the surface, the veins



11. Crescent gold mill, near Malone.

were not found to be continuous. The Crescent Company was organized in Montreal two or three years ago, and having acquired a right to work one of the old mines at Malone they proceeded to erect a stamp mill and to explore the several outcroppings for gold-bearing ore. The main building of the mill is a substantial frame structure 67 by 26½ feet and three stories high, with an engine room attached of 48½ by 21 feet. A boiler of 90 h.p. supplies the motive power. The mining machinery was furnished by Fraser and Chalmers of Chicago, and consists of a ten-stamp mill with Frue vanners, a Blake crusher, grizzly and self-feeders. The stamps have a drop of 6 to 7 inches, and strike 70 per minute. While in operation at intervals in 1892 and 1893 about 1,200 tons of ore was crushed, yielding 245 oz. of gold, or an average of about \$4 per ton.

A ten-stamp mill erected.

There are several veins on the property, having a north and south course and dipping west about 75°. Mispickel occurs in places in the veins, but

they are composed mostly of free-milling quartz. Many pits have been sunk, and there are two shafts, one of which has a depth of 90 feet. In the latter the vein is believed to have pinched out, but the mining work at first was very unskilfully directed and there is no certainty that the ore may not be continuous. It is very doubtful however if it is to be had in paying quantity. The country rock is composed of granite and calc schist, and is very rough and broken.

Mining operations.

THE PEARCE MINE.

The Pearce location is composed of 22 acres on lot 8 in the eighth concession of Marmora. The vein has an east and west course through a granitic formation on the east side of the Moira river, and at the surface is only one foot wide. An option upon it was secured by the Hastings Mining and Reduction Company, and early last year work was commenced upon it. This was discontinued in spring owing to high water in the river, and was not resumed until August. In November the shaft of 7 by 9 feet had reached a depth of 90 feet, and at 42 feet a level had been driven eastward 27 feet. At this point the vein widens to 3 feet 8 inches, but at the bottom of the shaft it narrows to 18 inches. At the surface it has a dip of 30° southward, which at 40 feet increases to 46°. Over 300 tons of mispickel ore had been taken out up to the middle of November with a force of seven men, which was treated at the Company's mill in Marmora. The average yield was about \$8 per ton, representing 85 to 90 per cent. of the assay value. It is understood that owing to financial disability the Company was unable to complete its purchase when the option expired at the end of the year, and that the property has reverted to Mr. Pearce.

A mispickel vein in Marmora, worked to supply the new reduction mill.

A PIONEER EXPLORER IN HASTINGS.

One of the earliest explorers for gold in the County of Hastings is Marcus Herbert Powell, clerk of the Division Court at Marmora. Although but little more than fifty years of age, he has the honor of being the discoverer of the Richardson mine in the township of Madoc, which was an exciting event in that region twenty-eight years ago. Mr. Powell retains his interest in prospecting work, and occasionally spends a few days in going over his old hunting ground. Four years ago he discovered gold on lot 24 in the fifth concession of Marmora, which is now known as the Demars mine. It is an arsenical ore, he says, cropping out over a width of 66 feet in a mixed country rock of quartzite and granite. "The ledge has been traced by me for 12 miles from Belmont, through Marmora, and I think it strikes the corner of Tudor." I was unable to see this property, but Mr. Powell shows very fine samples of free gold ore which have been taken from it. Two or three test pits have been sunk, but no actual mining work has yet been attempted.

Marcus Herbert Powell, of Marmora,

discovers the Demars location.

THE RICHARDSON MINE.

The following account of the discovery of the Richardson mine was given me by Mr. Powell, who is an intelligent but unassuming man. It is worthy of being put on record as perhaps the only narrative of the event ever given

His story of the discovery of the Richardson mine, and of

by the discoverer himself for publication. "I began prospecting in Madoc," Mr. Powell said, "in the spring of 1863, and explored Belmont, Elzevir and other townships in search of copper, having for associate a German copper miner named Nicholas Snider. He continued with me for two years and a half, but nothing of value was discovered and we separated. I kept on, taking with me as my new associate one William Berryman. On 15th August, 1866, I discovered gold on the John Richardson lot, the east half of 18 in the fifth concession of Madoc, containing 100 acres. I was following on a seam for copper, and at a depth of 15 feet I struck ore carrying free gold. The seam was six inches wide at the top and was decomposed for six feet; then it was solid rock to 15 feet, where it suddenly opened out into a cave 12 feet long, 6 feet wide and 6 feet high, so that I could stand upright in it. The hanging wall was quartzite and the foot wall granite, while the roof was composed of spar, talc and rocks of various kinds, and the floor of iron, talc, quartzite, black mica and other minerals. The gold was found in all these rocks in the forms of leaves and nuggets, and in the roof it ran through a foot thickness like knife blades. The largest nugget was about the size of a butternut. This was the first discovery of gold in the district. We sold the property to Lombard and Hardin of Chicago for \$36,000. I don't know how much gold was taken out; but I guess the miners got as much as the owners, for I have seen specimens of it all over the country. I remember very well the raid made upon this mine in the summer of 1867, under the leadership of 'Caribou' Cameron. I suppose there were a hundred men with him. The reason of the raid was, that they did not believe there was any gold in the mine. Ropes were thrown over the shaft house to pull it down—Hardin being in charge at the time as superintendent—but before any damage was done 'Caribou' Cameron and another man were allowed to enter the mine and examine it. By this time two or three men of the Mounted Police had come up from Madoc, six miles off, and the raiders quietly dispersed.^s Mining was continued until the spring of 1868; but although explora-

the raid
under
'Caribou
Cameron.

^s The following report by Alfred A. Campbell, Inspector for the Madoc Mining Division, made to the Commissioner of Crown Lands under date of May 6, 1867, gives some interesting particulars of the Richardson mine and the attack made upon it, as well as of the general state of gold mining in the district. It will be noticed that he fixes the occurrence of the raid on the Richardson mine more definitely than Mr. Powell, and at an earlier date:

"I have the honor to report for the information of the Honorable the Commissioner of Crown Lands that I have just returned from a tour through the gold region of Madoc; that I find, owing to the very unfavorable state of the weather, it having rained incessantly for the past three weeks, miners have been unable to continue work, the surface water filling up most of the excavations; and in my opinion nothing much can be done for the next three weeks. There have been however about one hundred shafts sunk in Madoc and adjoining townships, and every preparation is being made to continue the work as soon as the weather will permit.

⁴ Prospecting is going on to a large extent, there having been no less than from three to four thousand strangers who have visited Madoc during the last month, a large proportion of whom remain to prospect. Gold has been found to some extent on lot 29 in con. 4 of Madoc, at Downie's Rapids in Hungerford, and also in Tudor, but whether in paying quantities remains to be seen.

"There are at present four four-horse coaches and two covered stages, besides numerous private conveyances, leave Belleville for Madoc daily; also line from Brighton by way of Trenton and Stirling to Madoc. A daily express has also been established. The work of erecting a telegraph [line] is also being rapidly pushed forward.

"At El Dorado, where last fall there was only one solitary log shanty, there have been already erected some eighty buildings, with many more going up; in Madoc some eighteen new buildings are also being erected. Messrs. Gilbert and Turley are importing a steam

tion work has been undertaken at various times since, no gold has been found. There were 19 acres in the location, which I had under lease from Richardson for a consideration of one-half of the mineral won. In dividing the proceeds of the sale to Lombard and Hardin, Richardson got \$21,000 and Berryman \$1,500. I gave my old associate Snider \$3,500, and had \$10,000 left for my own share."

THE MARMORA GOLD MILL.

It is now more than a quarter of a century since gold was discovered in the county of Hastings. For several years mines were worked at various points in the townships of Marmora and Madoc, and a number of mines gave good promise to their owners. Several mills for treating the ores were built, and excitement at times was raised to a fever heat as new discoveries were made. But in almost every case it was found that when a shaft had been sunk to the water-line the ore ceased to be free milling, and no process then known made the economic treatment of it possible. The mispickel, although still rich in gold as shown by assays, was too refractory to yield the precious metal in paying quantities; and notwithstanding that various methods were tried and large sums were wasted on new experiments, conviction slowly settled down on the minds of capitalists, miners and metallurgists alike that there was no money to be made in mining or milling the mispickel ores of Hastings. But the disaster which a short time ago overtook silver mining has led to a re-awakening of interest in gold mining, and once more attention has been directed to the old Hastings field and to improved methods of treating its mispickel ores,—for the genius of the inventor has not been dismayed by the failure of former methods. The most successful of these has been put to the proof of a mill test for the first time in the village of Marmora, and the results it has given are such as to merit a detailed description.

Early gold mining in Hastings.

quartz crushing machine, to be put up either at El Dorado or Bannockburn, which they expect to have in active operation in the course of a fortnight or three weeks.

"I have issued some thirty mining licenses, and as soon as the weather will permit the whole country will be thoroughly explored, when I hope to be able to report more fully and satisfactorily that gold exists in paying quantities in localities other than the Richardson mine. This latter promises to be one of the richest mines as yet discovered in any country. Messrs. Lombard and Hardin commenced operations at the mine on Friday the 26th ultimo, but on Wednesday were served with an order from the Court of Chancery, in consequence of which they have suspended all further work.

"I have also to report an unlawful organized attempt on the part of some one hundred miners and others to effect an entrance into the Richardson mine at present in possession of Messrs. Lombard and Hardin, not for the purpose of plunder but merely to satisfy themselves that gold existed in paying quantities, and that the whole affair was not a humbug. Two of the party were allowed to examine the mine, and were quite satisfied with the result. This sort of organized intimidation is much to be regretted, as it may lead others less scrupulous to follow the same precedence, and may lead to acts of injustice and robbery; happily however in this instance, owing entirely to the good sense of Mr. Hardin, bloodshed has been averted and quiet restored. The police were sent for and they together with myself were promptly on the spot; their services however were not required, as matters had been amicably arranged before their arrival. I have however thought it prudent to station a force at El Dorado. This I think has proved the necessity that exists for the organized police force which has been established for this Division."

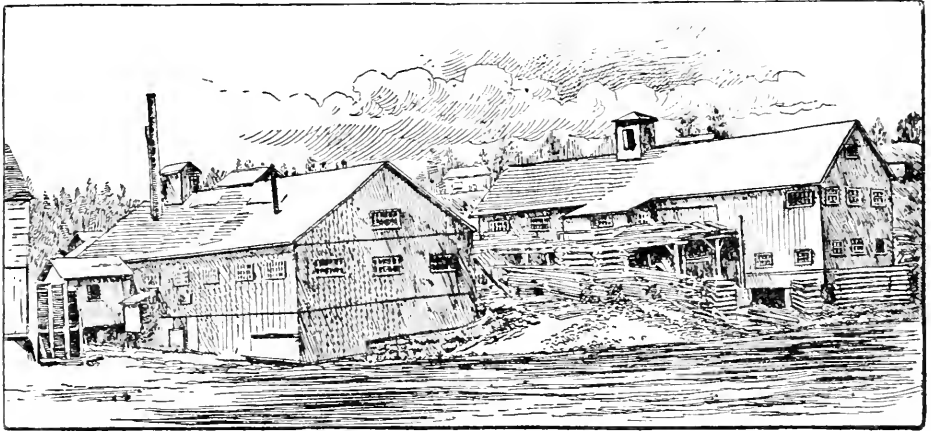
Referring to the police force, the Report of the Commissioner of Crown Lands (Hon. Alexander Campbell, the late Sir Alexander) for 1867 says: "As it was anticipated that a large number of persons would resort to the district for the purpose of prospecting and working for gold, a considerable number of whom would probably be men of violent character and habits, it was deemed necessary for the maintenance of order and the rights of property that a police force should be placed at the disposal of the Gold Mining Inspector, and a troop of twenty-five mounted police was organized under the authority of an Order in Council of the 22nd March, 1867. They were discharged on the 30th September, 1867."

THE WALKER-CARTER PROCESS TESTED.

Testing the Walker-Carter process upon mispickel ore.

The original inventor of the Walker-Carter process for treating refractory gold ores is an American named Bancroft, who is said to have spent fifteen years in perfecting it. Patents were taken out in the United States and Canada, the holders of which are Messrs. Walker and Carter of Philadelphia. Through Mr. Arthur Kitson of that city it was made known to Mr. Alexander Keith of Toronto, and by him to Mr. F. B. Allan of the same city. After some negotiations Messrs. Keith, Allan, Kitson and John Scott of Philadelphia acquired the right to use the patent in Canada, and in 1892 the Hastings Mining and Reduction Company was organized to test the utility of the invention on a business scale; as hitherto its success had only been demonstrated in the laboratory. A site and waterpower privilege on Crow river in Marmora were secured from Mr. T. P. Pearce, and a mill was erected on a small granite island in the river, just below the dam. The northern portion of the mill rests on solid rock, while the southern end is supported by cribwork. It is a frame structure of one story, and as first planned was 40 feet by 70; but an addition of 24 feet has been made to the length to provide accommodation

The mill at Marmora.



12. Marmora gold mill to the left; sawmill to the right.

for a subliming furnace to refine arsenic, so that the building is now 40 feet by 94. Work upon it was commenced in November, 1892, and the first run was made in April, 1893, but owing to high water steady work did not begin until June. From that time to the end of the year it ran continuously night and day, saving a few days when it was closed down for additional improvements or slight repairs, or for want of ore supplies.

First stage in the process—

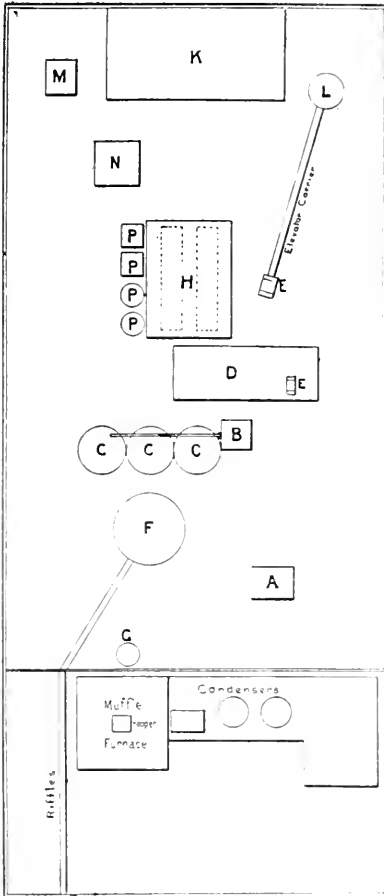
Crushing and grinding the ore.

In the process of treating the mispickel ore the first step is to run it through a Blake crusher, in which it is broken to the size of nut coal. As delivered from the crusher it is spread over a drying floor or platform of cast iron plates, resting on brickwork and heated by flues underneath. This floor is $9\frac{3}{4}$ feet by $18\frac{3}{4}$, equal to an area of 183 square feet, and the ore may be spread over it to a depth of six inches. When sufficiently dried, which requires only a few hours, the ore is fed into a Griffin mill and reduced to the fineness of flour (or say a 50-mesh screen) at the rate of 7 to 8 tons per day. Thence it is conveyed through a tube by the action of a screw rake to an elevator and lifted to a hopper of 10 tons capacity under the roof of the mill, 24

feet above the ground floor. From this hopper the ore descends through an automatic feed-valve to a muffle furnace, where it is roasted to drive off the arsenic and sulphur and liberate the gold.

The roasting furnace stands near the centre of the main room of the mill. Its walls are built of brick, upon a stone foundation, and are $8\frac{3}{4}$ feet wide by $12\frac{1}{2}$ long and 12 high, lined inside with firebrick. Its ends are iron plates $6\frac{3}{4}$ feet wide by $9\frac{1}{2}$ high. The fire chamber holds two sets of retorts for roasting the ore, each set composed of four sections with end connections, and built one under another in such a way that the ore at no point in its downward pro-

Second stage
in the pro-
cess—



13. GROUND PLAN OF THE MARMORA MILL.

- A. Mercury retort.
- B. Amalgamator.
- C. Collecting pans.
- D. Cooling floor.
- E. Elevators.
- F. Settling pan.
- G. Clean-up pan.
- H. $\frac{1}{2}$ Roasting furnace.
- K. $\frac{3}{4}$ Drying furnace for ore.
- L. Griffin mill.
- M. $\frac{1}{2}$ Blake Crusher.
- N. Chimney shaft.
- P. Arsenic chambers.

gress through them comes into contact with the flame or smoke. The two uppermost sections of the retorts, which receive the charge of ore cold from the hopper, are made of half-inch iron, with internal diameter of 16 inches and length of 9 feet. The others, which are subject to a stronger heat, are built of fireclay, having a shell of three inches thickness. They are ellipsoidal, with internal diameters of 16 and 21 inches and length of 9 feet. From centre to centre of the sections is vertically $2\frac{1}{4}$ feet and horizontally $2\frac{1}{2}$ feet, thus leaving an intervening space of three to five inches for their full length through which the smoke and heat rise from the fire box to the chim-

Treating the ore in retorts to eliminate arsenic and sulphur.

ney shaft. Each section of a retort is equipped with a rake, the teeth of which are arranged spirally on a shaft of gas pipe to move the charge of ore from one end to the other in the operation of roasting. The termini of the shaft rest in the end-plates of the furnace, and it is driven by a wheel and its toggle-jointed arm so as to move the rake to and fro within an arc of 120° ,—the same motion being conveyed simultaneously to the rakes in all sections of the retorts. To protect the rakes from the heat of the furnace they have been given four coats of asbestos cement, each coat followed by a wrapping of fine wire to prevent scaling, while by hose connections a continuous flow of cold water is kept up through the shafts. Pine slabs from a neighboring sawmill furnish the fuel of the furnace, and are well adapted for the purpose by the flames and heat they yield.

The operation
of the retorts.

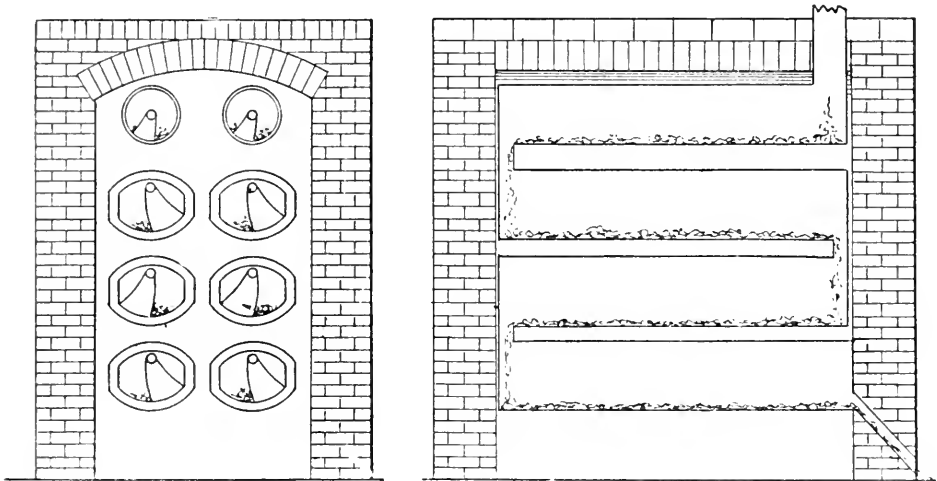
When the plant is in operation the ore is fed in fixed and regular quantities into the uppermost sections of the retorts, at the ends opposite the fire box, and is carried forward by the regular movement of the rakes to fall through slides at the other side into the second pair of sections, and so on into the third and fourth sections, to be finally discharged after traversing a length of 36 feet into a cooling bin on the floor. During its progress the charge continues to be stirred by the action of the rakes, so that every particle is uniformly heated, and as the temperature increases in each successive section the highest roasting capacity of the furnace would appear to be attained. But the thoroughness of the process will depend on conditions. The ore may not be ground to the proper fineness, or the feed-valves may deliver in too large quantities, or the charge may be driven too fast, or the furnace may be maintained at too low a temperature. What is required is the application of enough heat to break up the affinities of the arsenic, sulphur and iron in the whole charge before it reaches the vent, and a knowledge of proper conditions can only be gained by experience. But the Walker-Carter plant has the merit of being readily controlled when what is required is rightly understood, and once it is got into running order the only matter that demands human labor and intelligence is supplying fuel to the furnace; all the rest goes on automatically. The ore is ground to a certain fineness, it is fed into the retorts in definite quantity and makes uniform progress through them, and if an even and sufficient temperature is kept up the oxidizing of the charge will be complete. The iron, gold and earthy material of the ore are deposited in the cooling bin, and the arsenic and sulphur ascend in fumes through the retorts to be held and condensed in outside chambers if provision is made therefor, or otherwise to escape into the air. At the Marmora mill the arsenic only is saved.

Third stage in
the process—

In the state in which the ore comes from the furnace the gold may be separated from it by the old and simple operation of panning; but the Walker-Carter process includes an amalgamator of ingenious device which as nearly as possible makes the treatment exactly mechanical and automatic. Simply stated it consists of four parts, viz: (1) Iron hoppers with feed-valves for ore and mercury; (2) Upright iron tube to receive charge; (3) Brick furnace enclosing upright tube; and (4) Water-jacketed horizontal pipe to discharge into collecting vats. The furnace is a brick chamber 3 feet 2 inches square and 9 feet high, with a fire-grate at the base and flues rising to six

The amalga
tor

inches of the top, which is covered over. Built into this chamber and resting on supports $3\frac{1}{2}$ feet from its base is the upright iron tube, which is $9\frac{1}{2}$ feet high, and 10 inches diameter. A section of 5 feet of it is exposed to the heat of the furnace, and about 4 feet is unenclosed, connecting at the top with a chute from the ore and mercury hoppers. Near the bottom of the upright tube, which is bulb-shaped, is an intercepting pipe in horizontal position which extends outward over the collecting vats. It is about 5 inches diameter, has a length of 12 feet, is water-jacketed two-thirds of its length, and discharges at the outer end by means of a revolving screw rake. The iron hoppers are on a floor over the cooling bin, a small one to hold mercury attached to the side of a much larger one to hold roasted ore. The bottom of the smaller hopper is an axle that in motion revolves at a rate of seven per minute, driven by cogged gearing. A hole of one-quarter inch diameter



14. Transverse and longitudinal sections of the Marjora Mill furnace.

bored in the axle allows a measure of mercury to drop through with each half revolution, to mix with a measure of ore dropped at the same time from the feed-valve of the larger hopper and fall through a short chute into the upright tube.

After the roasted ore has cooled sufficiently in the cooling bin on the ground floor, it is lifted by elevators to a storage hopper of two tons capacity, from which it is delivered as required to the iron hopper below it. Thence it is fed by measured quantities into the upright tube over the furnace, and its work. receiving in the passage, as has been explained, the necessary proportion of mercury. No change takes place in the upper portion of the upright tube, but when the section within the furnace is reached the mercury becomes volatilized by heat and permeates the whole body. It cannot ascend in the tube, for the cold ore which is steadily coming down from the ore hopper would at once recondense it; but as it descends and the heat of the furnace increases it is subtilized to a very high degree, and in that state comes into contact with every particle of the mass. The most perfect diffusion is of course in the bulb, where it is nearest the fire. There is no amalgamation up to this point, but everything is ready for it, and as the burthen is conveyed

The alloying
of mercury
and gold.

out into the cooling water-jacketed section of the discharge pipe in the arms of the revolving rake, we are to conceive a scene of amazing activity. It is not a case of seven women taking hold of one man; the infinitesimal atoms of the vapor of mercury seize upon the nearest dust or grain of free gold in countless numbers, increasing as the temperature falls, and by the time the point of exit is reached there is possibly not an atom of gold in the charge that is not in the embrace of many atoms of mercury. While the panning of roasted ore at the cooling bin will show many colors, samples taken as it discharges into the collecting vats exhibit many globules of amalgam, most of them no larger than pin points, but rarely if ever a color of gold. It does not follow however that all the mercury fed into the amalgamator alloys with gold. That depends upon whether there is much, little or any gold in the ore charge, and how evenly it is distributed through it. The volatilized mercury must recondense as soon as the proper degree of coldness is attained—gold or no gold within reach of its affinity.

Fourth stage
in the pro-
cess—

Collecting the
amalgam.

Three collecting vats (5 feet diameter and 3 feet deep) arranged on a sloping floor under the discharge pipe and a large settling tank (8 feet diameter and 3 feet deep) on a lower level are provided to catch the amalgam. A steady stream of lukewarm water flows from the highest to the lowest, carrying along with it the treated ore mass, worked up into slime by revolving wings in the vats. Silver plates on the wings and copper plates on wall sections of the vats take up the amalgam, and should any particles float over they are saved in the settling pan. This operation is very carefully watched, as it always must be with any system of gold-milling where plates are used. But the loss of quicksilver is very small. At first it was half an ounce for every ton of ore put through the amalgamator, but this rate was reduced as experience was gained. In one run of the mill in which 498½ lb. of quicksilver was used, 496½ lb. was recovered, or an average of 99.6 per cent.

The tailings from the settling tank are carried by a discharge spout over iron riffles a length of 36 feet to the river at the farther end of the mill; but it has not been found that anything of value has been saved on them, except a very small quantity of floured mercury.

Collecting and
refining the
arsenic.

In saving the arsenic the fumes from the retorts are let into a series of dust and cooling chambers where it condenses in the form of gray arsenic, and further treatment is required to refine it. For this purpose a subliming furnace has been erected in the smaller room of the mill. It consists of a muffle furnace and two iron condensers, and the operation produces a white arsenic of fine quality.⁹

Claims made
for the process
as evidenced
by the Mar-
mora mill test.

This mill test of the Walker-Carter process proves, it is claimed, that 90 to 95 per cent. of the gold in mispickel ore is saved, that almost all the mercury used for amalgamation has been recovered, and that the work can be

⁹ As showing the English method of collecting and refining arsenic at one operation, the following extract from an article on Arsenic Mining on the Tamar is quoted from *Industries and Iron* for November 24, 1893:

"The famous mine known as the Devon Great Consols is the principal source of arsenic in England. Early in this century the mountainous spurs flanking the Tamar attracted the attention of mining speculators. We have the authority of the Rev. S. Baring-Gould for the statement that, in spite of large expenditure, no result accrued until in 1844 a fresh attempt on the part of a new company was made with success, as nine feet below the point at which the mine had been abandoned a very rich lode of copper ore, thirty feet wide and one

carried on at a profit with ore yielding \$8 of gold per ton.¹⁰ With arsenic and oxide of iron also saved as by-products, it would appear that the process has solved the problem of treating auriferous mispickel. But the strange part of the matter is, that the owners of mispickel gold mines in the Marmora district do not show any desire to further the enterprise by working their mines and supplying ore to the mill. If not wholly misrepresented, their chief aim and object is to sell their properties for a large sum of money, and leave to some one else the risk and the business of opening and working them.

The Marmora plant is small, because it is experimental; but if it does good work mills may be erected of any desired capacity. It has been run night and day for about six months with five men, three on the day and two on the night shift; and it is but fair to say that for the success attained the credit is largely due to the skill, intelligence and judgment of the president of the company, Mr. F. B. Allan, and its superintendent, Mr. W. H. Wylie.

mile in length, was struck. So successful did the operations prove that at the end of ten months the company divided £70,000. The lode was worked for twenty-eight years, and then gave out, although it would have been abandoned before this had not the waste thrown out as worthless when copper was sought proved rich in arsenic. The Devon Great Consols is now resolved into arsenic works. Copper is still raised, but in a comparatively small amount, and is despatched to South Wales, there to be smelted. As it takes four tons of coal to smelt one ton of copper, it is obviously advisable to carry the ore to the coals and not bring the coals to the ore. Besides copper ore, the mine had yielded vast quantities of mundic or iron pyrites. The arsenical pyrites consists of 25 to 30 per cent. of iron, 12½ to 14 per cent. of arsenic and the rest earthy matter. This goes through several crushing and sorting operations, the latter being carried on by girls from thirteen to sixteen years of age. After washing and jigging—that is, sifting—the arsenical pyrites is conveyed to the first calciner, where it is burnt with low class coal and produces 'arsenic soot'—that is, arsenic so mixed with smoke-soot from the coal as to be of a gray colour. The arsenic and soot are deposited combined in the chimney, or condenser. This is scraped out and taken to the second calciners to be purified. These calciners consist of revolving iron drums through which a fire of anthracite coal is carried on rotating iron furnaces kept red-hot to which the arsenical soot is fed, the arsenic being sublimed and condensed. The calcining of the arsenic is let out to the workmen. Three men in four weeks will make 100 tons of arsenic; if they make more they receive extra premium; if they burn the arsenic badly, so that it is wasted, they are fined, and the fine has been known to amount to 30s. Some years ago arsenic soot fetched from 2s. 6d. to 15s. a ton; it is now worth from £7 to £7 10s. The chimney in which the arsenic is condensed is a mile long, carried on an incline up the hill, with iron doors in the side. As the hot blast passes up the chimney, it deposits a crust of arsenic crystals on the brick work all round to a depth of from two to three inches, and it deposits minute dust of crystals on the floor. Before the smoke passes into the upright chimney, the height of which is 125 feet, it has to traverse a shower of water, which catches what remains of the arsenic, nothing but sulphurous acid being allowed to escape. The crystals of arsenic are scraped out of the flue or condenser whilst still warm, and are ground in a mill to flour of arsenic, after which it is packed in small barrels containing a little over three cwt. The men who work the arsenic, either raking up the arsenic soot or scraping out the condensers or grinding it in the mill, are obliged to wear mufflers over their mouths and noses to prevent inhalation of the particles. The arsenic workers are obliged to wash themselves thoroughly every day on returning from work, as the arsenic is liable to produce sores if permitted to lodge in wrinkles or folds of the flesh, or about the mouth and nostrils. As a rule it only does this when the worker is careless about his or her personal cleanliness. Otherwise the work is healthy; it prevents all eczema; and the fumes of sulphurous acids, as well as the arsenical dust, are fatal to the germs of disease. Eventually the workmen may come to suffer from chronic arsenical poisoning, indicated by loss of appetite, nausea, frontal headache and anaemia. When this is the case they have to give up the work entirely, but many remain at the works for a great many years without any suffering. The vapor of the burning pyrites contains not only arsenic, but sulphur as well, the iron cinder is cast away, the arsenic is condensed, by the time the upright shaft is reached the vapor is reduced almost entirely to sulphurous acid. The water flowing away from the chimney is like soapy water, so charged is it with sulphur, and the fume blasts the vegetation for some distance round, making Blanch Down an eyecore in the landscape. When the upright shaft has to be entered for any purpose the effect on the eyes is most painful. The men wear linen garments lined with flannel, and the sulphuric acid fumes completely destroy the linen in a few moments, leaving the flannel intact, so that the men go into the shaft in linen and come out clad in wool. Fortunately the necessity for entering the shaft is not of frequent occurrence, or great loss of sight would ensue."

¹⁰ The percentage of gold lost by the process depends on the roasting. If the arsenic and sulphur are not wholly driven off, the gold contained in them will not be recovered; and small quantities will probably be found in the most carefully roasted ore.

III.

COPPER AT POINT MAMAINSE.

David
Thompson's
description of
Lake Super-
rior.

“The River St. Lawrence is too well known to need any description from me. I shall confine myself to remarks on the great Lakes, of which it is the drain. Lake Superior may be said to be it's head water; this Lake lies in a deep hollow of the west part of the stoney region, it is every where surrounded by rocky hills, it's northern side rises on an average 850 feet above the Lake, in places much higher, the east side is much the same; almost all of different shades of granitic rock: it's heights are not many miles from the Lake, full of Ponds and Brooks, among moss and Forests of small woods of Pines, Birch and Aspin. The whole is a poor country not fit for cultivation. The south side is still higher, but the heights at many miles from the Lake. The sides of the Lake are mostly of sand or lime stone. The land on the south is much better than on the north side; but not very promising for cultivation. On the north side the Lake receives 30 Rivers from 20 to 100 yards in width, three of which, the St. Louis River at the south west end of the Lake, the Neepego near the middle and the Mishipacoton in the north east corner of the Lake are considerable Streams, and 28 Brooks all of them with many Rapids, Falls and carrying places. On the south side are forty Rivers from 20 yards wide and upwards. Two are 120 yards in width with 41 Brooks, all of them have many Rapids and Falls, but have more water than those on the north side. The evaporation from this great Lake seems confined within it's hills, is condensed before it can ascend above the hills, and returned to the Lake from frequent rains in numerous streams. It is sometimes agitated without any apparent cause. As I was surveying this Lake in 1822, the day was fine and calm (July) about 50 miles from the south west end of the Lake, at noon, the Lake became much agitated, and the waves rolled on the shore as in a breeze of wind; I had to stop for about three hours. On looking at the Lake, about two miles from me, I saw a space of about 300 yards filled with a dark mist which came from the depths below in a rude column of about twenty feet in height, from whence it extended itself horizontally and was lost. As soon as this ceased the waves subsided, and I proceeded on my journey. Lake Superior lies between Latitude 46.27 N. and 48.58 N., and Longitude 84.15 W. and 92.16 W., its greatest length is 386 miles, it's breadth 179 miles; it's circuit is 1617 miles, it's area exclusive of Islands 25,057 miles, it's level above the sea 625 feet. In the north east quarter there is much basalt; Pye Island is wholly of it; close to this Island the Lake has been sounded with 350 fathoms of line, no bottom; on the north side is Thunder Point, of Basalt, it rises perpendicular from the Lake 1120 feet, a great part in appearance is of a fluted form. Here also a line of 350 fathoms

Extent of the
lake.

found no bottom ; hence this Point of Basalt must be at least 3225 in height from the bottom. Here then we have a certainty that the bottom of the Lake is at least 1475 feet below the surface of the sea, but it is very probable that parts of the Lake are 600 fathoms in depth, if so, the bottom is 3000 feet below the surface of the Ocean. At the average depth of 200 fathoms, a low average, this Lake contains about 6000 cubic miles of fresh water. In the severest winters, only it's Bays are frozen over, which every gale of wind breaks up, and causes much floating ice. When in 1798 as I was surveying this Lake I went up the Ontonoggan River (by the U. States called the Eagle River) to a mass of native copper, but with my small axe I could not get a piece of it. It lay below a cliff on the lime stone shore of the River, and was much rounded by water. I have lately been informed that it weighs 3000 lbs., and has been taken to Washington at the expense of 5000 dollars. The same year on the survey, about 52 miles northward of the Falls of St. Maries, near Mahmaize, there were five, or six canoes of Indians, who informed me they were then at the old path of their grandfathers, who used to come here for pure copper for heads to their Lances, arrows, axes, knives, and other necessaries ; by their description the place was about five miles in the interior. I requested to be shown the place, but they said they did not exactly know it, and dreaded the Musquitoes. It appears that in those days, the first settlement of this country, the ornaments of the Churches of Rome came from these two mines, in pieces of pure copper. In the survey of 1822 at the north east end of the great Point, now called Keewenaw, I found a small secure harbor, from which I took specimens of copper ore, which I named Copperas Harbor. This place has since been worked with profit, as has also a considerable tract of country by the people of the United States, who by treaty have about three-fourths of this great Lake by Lord Ashburton's capitulation. On the British side eastward of Thunder Point towards Mishipacoton River, there is an Archipelago of Islands, lying from west to east, of about 100 miles in length, in this direction ; for these two years past (1845-46) they have been closely examined, and the greatest part of this Archipelago of Islands are found to be rich in copper ore, as also parts of the main shore. Companies are now formed to work these extensive copper mines, with what success is yet to be known ; but let us hope that several ships may be loaded with rich copper ore for the ports of England. There are scarcely any hopes this Lake will ever be examined by scientific Men. They have too many hardships to encounter ; they must carry their Provisions with them, live in tents exposed to the Rains and Storms of the Lake, and the worst of all, myriads of Musquitoes. Hopes of profit may cause localities to be explored, but that is all."

¹ David Thompson's Journals and Surveys in the Crown Lands Department, Appendix pp. 7-10. The extract given above is a literal transcription from the MS. The Journals and Surveys are recorded in thirty-eight books. Thompson's spelling of Mamainse accords very nearly with the modern pronunciation. In Keating's Narrative of an Expedition to the Source of St. Peter's River (1823) it is called Point de Memens, described by him as "a corruption of the Indian word Marmoaze, which signifies an assemblage of rocks." Keating further says: "We there met with trap rock in place, but the beach is strewed with water-worn fragments of conglomerates or sandstones." Vol. II, p. 196. Dawson's spelling of the word in 1857 was "Maimanse"; while on the Geological Survey map of 1863, and more recently by Dr. Robert Bell, the word is "Namainse" (Little Sturgeon). Geo. Sur. Report 1876 7, p. 213.

EXPLORATION WORK OF THE MONTREAL MINING CO.

Locations taken up on the Mamainse headland by the Montreal Mining Company.

The existence of copper on the south shore of Lake Superior was known to Jesuit missionaries and others two centuries ago, but Mr. Thompson appears to have been the first white man to learn of native copper being found on the east shore of the lake. Ten or twelve years after the Appendix to his Journals was written the Montreal Mining Company acquired two extensive locations on the Point by purchase from the Crown, and began to explore them for copper and other minerals. The results of operations there are recorded in the twelfth Annual Report of the Directors, under date of 17th February, 1858, for a copy of which I am indebted to their old manager, Mr. E. B. Borron, now of Toronto.² In his report to President Cross of the Company, under date of 31st December, 1857, Mr. Borron gave the following account of the exploratory work carried on at Point Mamainse :

BORRON'S REPORT ON PROSPECTING OPERATIONS.

Sanguine expectations not realized,

"The operations on this Location have not realized the sanguine expectations so generally entertained in reference to it.

The surface show of Native Copper, of Grey and Yellow Ores of Copper, Lead Ore and Silver was such as to warrant a well grounded belief that some of these valuable Metals (but particularly Copper) existed in large quantity somewhere in the vicinity.

In the course of our search many Lodes have been discovered, even on that limited portion of the Location which can alone be said to have been at all explored. The tract in question is situated at the North West corner of the Location, and embraced about one mile in front and a mile and a half in depth, or little more than one-seventh part of the whole.

As we recede from the Lake Shore the ranges of Trap Rock are covered with a considerable depth of soil, which effectually conceals from view all traces of the Lodes which traverse such ranges. There is nothing for it but costeaning or uncovering the rock, by means of trenches at right angles to the supposed general bearing of the Lodes. This was done to a considerable extent last year, and resulted in the discovery of several Lodes.

Two of these, one of which contained Native Copper and the other Yellow Ore, were partially tested by Shafts No. 4 and 5. Three other Lodes which were found by the same means on a Trap range further into the interior than any previously explored, presented a favorable appearance at the surface, but nothing has yet been done to prove them.

and work discontinued.

In the absence of any prospect of *immediate* returns from Mamainse and the probability of a considerable capital being required to develop its resources and constitute it a paying Mine, it was thought advisable in the present state

² Mr. Borron was manager of the Company's mines and works for five years, but resigned his position in 1857. The following reference is made to him in the Director's Report: "From ill health Mr. Borron last autumn announced his determination to resign his office of Manager. He left 1st December last, and has since been unable to proceed further than Sault Ste. Marie. Had it been possible, it was his intention to have met the Stockholders at the present Annual Meeting. The loss of the scientific head of the adventure, and one with whom the Directors worked with so much harmony, and in whom so great confidence was reposed, has occasioned them much concern: they have however doubted whether the now circumscribed limits of their operations warranted the expense of a Manager of Mr. Borron's attainments, and the staff hitherto employed by the Company."

of the Company's affairs to Lease the Mine should a favorable opportunity of doing so present itself, and in the meantime to recall Capt. Hodge and the party under him at Mamainse. The party returned therefore about the latter end of September.

The following is a brief description of the appearance of the Lodes as shown in the various Shafts at the time of their suspension. Appearance of the lodes as shown by workings.

No. 1—This Shaft is situated on the Vein where the first Indian Digging was found, and from it the 600 lbs. mass of Native Copper sent below was taken, as well as 800 lbs. more in smaller pieces.

This Vein was from the very first small and insignificant in appearance, and became even more so as the Shaft descended. It carried no regular walls, and presents anything but good indications at the bottom of the Shaft, which is 59 feet 3 inches in depth. Last price for sinking the Shaft, £45 per fathom.

In No. 2 Shaft the Lode looked tolerably well according to Captain Hodge's account at the time it was suspended. The size of the Lode is from $1\frac{1}{2}$ to 2 feet big, carrying a mixture of yellow and grey ore in quartz and calcareous Spar. The depth of this Shaft is 57 feet 6 inches, and price paid per fathom for sinking from £24 to £27 Cy.

No. 3—In this Shaft nothing has been done since February last, when it was abandoned at the depth of 50 feet 5 inches, principally on account of the water, which was heavy. There was no striking improvement or change in the Lode at the bottom of the Shaft. Last price for sinking, £22 per fathom.

No. 4 Shaft was commenced last Summer on a run of yellow Copper Ore on the same Trap Range as that on which Lodes No. 1 and No. 2 are situated, and some distance North of No. 2. I examined it when I was there in the month of July, and was rather pleased with its appearance on the surface. Capt. Hodge subsequently sunk about fourteen feet on it, and informs me that when stopped the Lode was 5 feet in width, with regular walls, and produced stuff well worth dressing, had there been Machinery and Apparatus on the spot suitable for that purpose. Price per fathom for sinking, £25.

No. 5—Shortly before my last visit to Mamainse a Native Copper Vein had been discovered on a range of Trap, some 150 fathoms east of that on which Shafts Nos. 1, 2, 3 and 4 are situated, a strong bed of conglomerate being interposed between the two ranges. On inspecting this Lode, I was favourably impressed with its appearance, and requested Capt. Hodge to put some men to sink on it immediately. Before I left good specimens were taken out within a few feet of the surface, a small box of which I sent down to Montreal on my return. Subsequently however the native copper disappeared from the Lode almost entirely. The lode itself continued about 10 inches wide, and carried to the last very promising spars and mineral soils. This Shaft is 25 ft. 2 in. in depth. The prices paid for sinking, £18 and £20 per fathom.

In concluding my remarks under this head, I have to observe that although the Company have been disappointed in their hopes of speedy returns from this Mine, the operations carried on at Mamainse have tended

Confidence in
the value of
location.

to impress every practical man who has visited the Location with a favourable feeling in reference to the value and prospects of the property in a Mineral point of view, and I am firmly convinced that at no distant period parties will be found willing to embark further capital in the search for richer deposits of Copper than any we have yet been fortunate enough to find. I am equally certain that such richer Lodes exist on the Location.

Everything that was moveable in the way of Stores, Materials and Tools has been brought away, and the houses were left in charge of Charles Rousseau, [Roussain?], who carries on a Fishing business at Mamainse, and contemplates occupying them during the Winter.

The balance at the debit of the Lake Superior Exploration Account is £1009 8s. 5d.³

Opinion of the
Directors

In their own Report (p. 5) the Directors say: "The explorations at Mamainse were discontinued in September last—their expense continued to exceed the anticipations of the Directors; and although new indications of a favourable character were discovered, sufficient mineral was not procured to guarantee a return for the expense of working, and the Directors did not think the finances of the Company warranted them in further outlay for experimental purposes. The remarks in Mr. Borron's report in regard to this location are deserving the attention of the Shareholders. The location enjoys a high reputation among explorers and others, and in case of a lease being made of the Bruce Mines the Company might be expected again to turn their attention to this locality. It is possible that enough of its resources have already been developed to induce capitalists to give it consideration."⁴ But thirty-five years passed by before capitalists were found with courage to work the Mamainse properties again, and meantime the Montreal Mining Company had met with many reverses of fortune. The following notes of a brief visit to the Point last year will suffice to describe the situation.

NOTES OF A VISIT TO POINT MAMAINSE.

On board the
Telegram.

On the 29th of August I left Sault Ste. Marie by the steamer Telegram on one of her semi-weekly trips to the fishing stations on the east shore of the lake as far north as Otter Head. This boat was formerly in the same business on Lake Erie, collecting catches of fish along the shores of Kent and Essex and around Pelee and the Bass islands for a large curing establishment at Sandusky. She is a staunch craft, as indeed she needs to be with a stiff breeze blowing the whole length of Lake Superior, from west to east, as pretty often happens in the autumn of the year. No other boat is regularly employed on the route, and so whatever freight or passenger business is to be done along the east shore the Telegram gets it.

Among the passengers were two or three men for the lumber woods, and a party of four or five who were going to examine a granite location near

³ Report of the Directors of the Montreal Mining Company to the Shareholders at the Annual General Meeting, 17th February, 1858, p. 12-14.

⁴ The cost of mining copper, including the expenses of management, is given by Mr. Borron on the quantity raised, dressed and shipped at Bruce Mines for the year 1857. The total quantity was 467 tons 13 cwt. 2 qr. 3 lb., estimated by analysis to produce 20.28 per cent. of metal; and the average cost on board at the mine was £17 6s. 3d., or say \$69.25. This was equal to \$3.41½ per unit, while the selling price was about \$4 per unit.

Cape Gargantua. One of the owners of the property is Mr. Joseph Cozens of Sault Ste. Marie. He had shown samples of the stone to Messrs. Cartwright Bros. of Detroit, who have large stone-cutting works in that city, and Mr. O. E. Cartwright was the leader of the party going up to prospect the location. Mr. Cartwright is an amateur astronomer as well as a stone-cutter, and claims to have had precedence of Mr. Andrew Elvins of Toronto in the observations which led to the discovery of the fifth moon of Jupiter. Like Mr. Elvins too he has an opinion on the selfishness of Dr. Barnard of the Lick Observatory, who was enabled by the suggestions he had received to locate the fifth moon through the great telescope at his command⁶. Mr. Cartwright was greatly pleased with the samples of granite which Mr. Cozens had shown him, and informed me that if the stone was to be had in quantity his firm was pretty certain to purchase the property. As to working it, that might depend on the tariff. "If cut-stone was on the free list we would have \$25,000 of machinery there before snow lies." I have learned from Mr. Cartwright since that he was well satisfied with the location, and his firm had made prompt arrangements to buy it, but another party interested in the property with Mr. Cozens demanded a price so far above its value that the negotiations were abruptly ended. Mr. Cartwright does not regret his fortune however, as he has learned enough of the region to satisfy himself that locations of equal if not greater value are to be had on the public domain. He has obtained very fine samples of granite in colors of gray, red and white.

A granite location near Cape Gargantua.

Going up Whitefish bay we met a heavy sea, the wind blowing strong from the northwest, and the Telegram pitched and rolled in a most uncomfortable way for landsmen. But she kept steadily on, taking a northerly course around Gros Cap, and getting in the lee of Isle Parisienne, and again of the Sand islands beyond it. Goulais bay lies to the eastward beyond Gros Cap, and beyond a second headland is Batchawana bay, which extends inland about twelve miles. A low island of the same name occupies a large area on this bay, while lying to the west is a gravelly headland which serves to shelter the bay from the prevailing west winds, the southern extremity of which is known as Point Corbeau. We reached the landing at "Caribou" Cam-

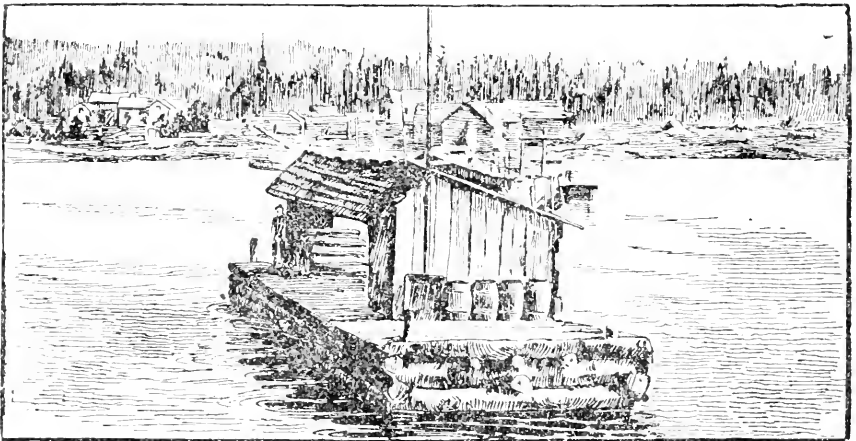
Northward to Batchawana bay.

⁶ In justice however to Mr. Elvins it is only proper that his title to rank as a discoverer should be stated, although it is not a matter strictly pertinent to this Report. Mr. Elvins bases his claim to priority upon the following documentary evidence: 1. A series of letters on the Origin of the Solar System printed during 1872-3 in the Toronto Leader, and articles in various English publications, in which he enunciated the view that Jupiter and other planets have been and are throwing off matter which has, or will become, satellites,—a view long held by him, and revived by the interest being taken in the great Red Spot on Jupiter, then a very prominent feature on that planet. 2. A special paper on the subject read on the 10th of March, 1891, before the Astronomical and Physical Society of Toronto and published in its Transactions for that year. 3. A letter written in December, 1891, by Mr. Elvins to Dr. Barnard, to whom was also sent a little later a copy of the Transactions. This letter was due to some lantern-slides made from drawings of Jupiter by Dr. Barnard when he was in Tennessee, and exhibited before the Society by Mrs. Proctor in November. After disclosing his theory Mr. Elvins suggested that during the approaching opposition of the planet careful search be made for new satellites. 4. A letter dated 2nd January, 1892, in which Dr. Barnard acknowledged the receipt of Mr. Elvins' communication and referred both to Jupiter and to the Red Spot. 5. Newspaper paragraphs originating in California to the effect that on the resignation of Dr. Crewe, one of the Lick observers, in the summer of 1892, and after a struggle with the authorities, Dr. Barnard had succeeded in obtaining more frequent use of the great telescope. 6. After the discovery of the fifth satellite in September, Mr. Elvins wrote to Dr. Barnard a letter in which, after alluding to various matters connected with the discovery, he heartily felicitated the discoverer, and expressed the hope that as time passed and still better telescopic facilities became available the Doctor would discover other moons, of the existence of which Mr. Elvins had no doubt,—a cordial and manly letter which to this day has gone unnoticed.

Good land at
the head of
the bay.

From Perry's
Landing to
Sand bay.

eron's old mill site at 8.30 p.m., after a run of six hours from Sault Ste. Marie, and tied up for the night. Next morning at 5.30 we steamed up to the head of the bay, past the Batchawana and Harmony rivers, and unloaded a cargo of supplies for Perry's lumber camp. The bay is surrounded by high ranges of hills, which in places recede a mile or more from the shore and in places overhang the water's edge, but everywhere they are thickly covered with small timber. While the boat was unloading I walked with Mr. Cozens some distance out on the lumberman's road, and noticed that the soil was a rich black mould on which the grass grew luxuriantly. The timber is small, being apparently a second growth, but it is very dense. The pine forest is some distance back from the shore. The waters of Batchawana bay north of the island are shallow, and there is great risk of running on shoals. We left Perry's Landing at 9 o'clock and reached Sand bay at noon, a distance of 37 miles. The round headland west of Batchawana bay is composed of gravelly drift, but beyond it is what appears from the steamer to be an outcropping of sandstone, with a beach of yellowish sand extending northwestward several miles into Pancake bay (Anse aux Crepes)—the southern boundary of the Pancake mining location. Several high ranges of hills run parallel with the shore, covered to their summits with



15. Roussainville, on the Mamainse headland.

timber. At the highest point, about 1,300 feet above the lake, surveyors in the employ of the United States Government have planted a station for triangulation work. We took on board the officer in charge of this party near the Sand islands on the return trip.

Roussain-
ville.

Pancake Point, on the west side of Pancake bay, is the most southerly part of the Mamainse headland, the shore line of which runs northwestward and northward by Whiskey Point to Point Mamainse, above Sand bay. One mile north of Whiskey Point is Roussainville, a fishing station, which is headquarters for Captain John Roussain, who holds a license to fish from the Point to the northern boundary of Sand bay location.

Sand bay.

Sand bay is a beautiful half-circle sheet of water on the south side of the mining location of that name, half a mile wide from Copper Point on the

south to Mineral Point on the north, having a shore of yellow sand, and densely timbered on the east and south. Its waters are shallow, and boats of the capacity of the Telegram cannot get nearer the shore than 400 yards. On the north side, near a wide sand beach, are the office and warehouse, a large boarding house and the mining manager's residence, all built of squared timber, behind which rise a succession of nearly parallel ranges of rocky hills.

The Pancake and Sand Bay locations have a shore line of nine miles—the former with five and a half miles and an area of 4,800 acres, and the latter with three and a half miles and an area of 6,400 acres. They were acquired from the Crown by the Montreal Mining Company in 1856, at forty cents per acre. On the 13th November, 1871, the Montreal Company sold these and sixteen other locations for \$225,000 to the Ontario Mineral Lands Company, afterwards merged into the Silver Islet Consolidated Mining and Lands company. This company in the course of time became disabled by lack of means, and its property was taken over by the bondholders, who in their turn, in April, 1890, sold it to a syndicate known as the Canada Lands Purchase, the manager of which is Mr. Sibley of Detroit.

THE MAMAINSE HEADLAND.

The Mamainse peninsula or headland lies between Sand bay and Pancake bay. The Canadian geologists have distinguished the rocks composing it as the Upper Copper-bearing series, while the later American geologists have adopted the term Keweenaw series, from their conspicuous occurrence on Keweenaw Point on the south shore of Lake Superior—the locality of the famous Michigan copper mines. The American geologists also divide the series into Upper and Lower divisions, copper ore being confined almost wholly to the latter. The Keweenaw peninsula, as well as Michipicoten island and the Mamainse headland, are in the lower division. Indeed the only important difference between the north and south shores at these points is, that while the beds on the Ontario side dip towards the south and southwest, those on the Michigan side dip towards the north and northeast, forming as they do the ends of a great synclinal trough in which lie the waters of Lake Superior. Captain Trethewey has found the eastern end on Mamainse to rest on the Huronian schists, whose outcropping is four and a half miles east from the camp on Sand bay. On the Pancake location there is an outcropping of sandstone along the eastern side, but it is uncertain whether it belongs to the Keweenaw series or to the overlying Potsdam which extends northward from Stult Ste. Marie and Whitefish Point. From Roussainville to Copper Point on Sand bay, along the lake shore, the successive beds of trap and conglomerate are clearly exposed, lying in a course of northwest and southeast and dipping towards the southwest at an angle of about 30°. No change of level takes place in the first mile from Roussainville, but 300 yards back of the camp at Sand bay a bald bluff of trap extends across the location from northwest to southeast. It rises gradually towards the east, where it is overlaid by a bed of what appears to be altered sandstone, but in reality is a felsite or quartz porphyry, reaching at its high-

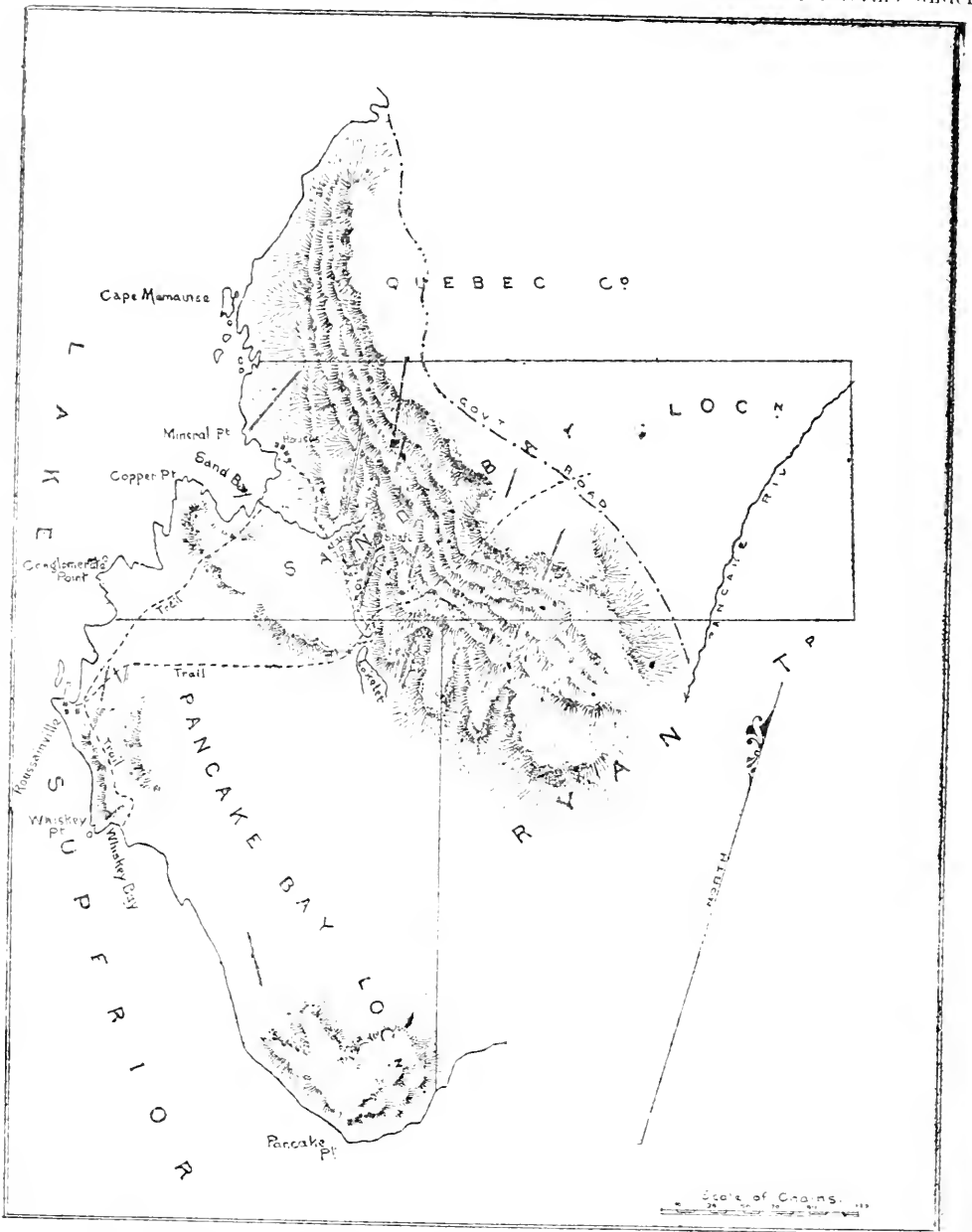
Proprietor
ship of Pan-
cake and
Sand Bay
mining
locations.

Keweenaw or
Copper-bear-
ing rocks
constitute the
headland.

Exposed
sections of
eruptive and
sedimentary
rocks compos-
ing the series

Traps, con-
glomerates,
felsites, etc.

est point 250 feet above the waters of the bay. Here it is of a light red or brick color, hard, fine-grained and marked with what appear to be lines of lamination, twisted and curved into a variety of beautiful forms under



16. Map of Maminuse headland. The parallel lines show location of mineral veins.

pressure, but which more probably is due to flowage in a molten state.⁶ Dr. Coleman has furnished me with the following description of it :

⁶ In the Geology of Canada (p. 81) Logan describes similar beds which befound on narrow islands on the south side of Michipicoten. The beds are sixty to seventy feet thick and dip southward at an angle of 20°. " They are of a general red color, spotted and

"Macroscopically this rock appears to be made up of a series of thin layers of brick-red and yellowish material thrown into gnarled and corrugated forms. The rock as a whole has felspar hardness, though the yellowish layers are somewhat softer than the rest. Under the microscope quartz is distinctly present, sometimes as minute grains, at other times as porphyritic blebs or crystals. A few greenish portions of chlorite occur also; but the mass of the rock consists apparently of a mixture of quartz and kaolinized felspar, greatly charged with particles of iron oxide. The yellowish layers consist almost wholly of the decomposing felspar. The rock, which has a superficial resemblance to some jaspers, is apparently a felsite or quartz porphyry which has been crushed and rolled out, or a very siliceous volcanic sediment. It corresponds fairly well with the rock described by German and Scandinavian writers as *hallelinta*."⁷

The trap at the line of contact with the felsite rises in a bluff about twenty five feet above it, and thence slopes gradually upward to a height of not less than seventy-five feet. The felsite is apparently very susceptible to the influences of the weather, for where exposed it lies on the face of the acclivity like a mass of shingle. It is overlaid as well as overlaid with trap, and farther down the slope is a bed of somewhat similar rock of colors varying from purple to yellowish white, but essentially different. Dr. Coleman describes it as "a compact, wavyly stratified greenish rock, soft enough to be easily scratched with a knife. Under the microscope a few small particles of quartz show themselves, but the rock is seen to consist chiefly of turbid grains, apparently of dolomite, and tiny scales of talc. It is evidently greatly weathered, and may represent a metamorphosed basic

patched with yellowish white, and wherever a crack exists the rock is blanched to a small distance on each side of it. The surfaces are uneven, and peculiarly marked with festooned and finely wrinkled forms, composed of very thin close-fitting laminae with a ligneous aspect, having a thickness sometimes exceeding one or two inches. The rock scarcely resembles a trap, nor does it bear the character of indurated shale; but it may perhaps be an indurated mixture of volcanic mud and ashes, in which the wrinkles result from a partial flow." Mr. Macfarlane examined the same beds in 1865, and describes the rock as trachytic phonolite (Report of 1866-9, p. 142); while Irving in his monograph on the Copper-bearing Rocks of Lake Superior (p. 343) found it to be "a highly siliceous felsite, closely resembling and plainly belonging with the red rock of which Mount Houghton on Keweenaw Point is formed, which makes up much of the central mass of the Porcupine Mountains, and which forms so many of the red cliffs of the Minnesota coast of Lake Superior. The resemblance is both macroscopic and microscopic; while the peculiar 'festooned and wrinkled' markings, 'composed of very thin, close fitting laminae with a ligneous aspect,' noticed by Logan, are precisely what I have repeatedly described in the foregoing pages as characterizing similar rocks in so many places in the western half of the Lake Superior basin. These markings are doubtless due to a viscous flow, and are much the same as are found to characterize the modern rhyolites." For further description of the lithological character of rocks of the Keweenaw series Van Hise deserves to be quoted. "The felsites, quartz-porphyrries and other acid rocks—in the earlier reports frequently called jaspers—and amygdaloids were by many of the earlier authors supposed to be metamorphosed sandstones. This position is, I believe, for the acid rocks, held by no writer at the present time, with perhaps one exception, and for the amygdaloids by none. The work of Wadsworth, Punpelly and Irving has demonstrated beyond all doubt that these rocks are original eruptives. The Keweenaw is now generally recognized as a series many thousands of feet thick, consisting of interbedded lava flows and water deposited detrital material, derived chiefly from the contemporaneous igneous rocks. The volcanics are predominant in the lower part of the series, the interstratifications of the two are most frequent in the middle portion, and the upper part of the series is free from volcanics." Bulletin No. 86, U. S. Geological Survey, p. 161.

⁷ "Felsstone or felsite (aurite and petrosilex of continental geologists), an intimate mixture of felspar and silica, forming a compact rock, chiefly of dull, opaque yellow, gray, red or green colors. It might at times be mistaken for a metamorphic quartzose rock, but is readily distinguished by its easy fusibility, relative hardness, and its weathered, bleached surfaces. Common among the Silurian rocks of Wales and Cumberland; the Pyrenees; the Alps. *Hallelinta* is a flinty, fissile or laminated variety of felsstone." Prestwich's Geology, vol. 1, p. 40.

volcanic ash. It might be called a talcose dolomite or a dolomitic soapstone." This band outcrops for 80 or 100 yards along the road which leads to Copper Creek mine. From the bay to this point is a little more than half a mile. The road continues to rise, crossing alternating beds of conglomerate, amygdaloidal trap and common traps of various colors, until the mine on Copper creek is reached at an elevation of 275 feet above the bay.

A medley of
traps.

The whole front of the location on the lake side northward of Mineral Point is a mottled trap, in places of a greenish and in others of a dark reddish or purplish color: but at a small lake near the upper boundary line, which is separated from Lake Superior by a wall of rock 25 yards wide, the trap changes to green and is of an amygdaloidal character. A well beaten path leads from this lake direct to the camp on Sand bay, crossing on the way a low ridge of trap of considerable breadth. A point of trap which runs down to the bay to the west of the camp is in its upper portion of black or dark green color and of uniform crystallization, but at a depth of about ten feet the color changes to purple and it is filled with amygdules of calcite. On the eastern side of the bay the trap is of the same character as that on the lake side, both in color and lustrous mottling. The mottled appearance suggests that the rock is a species of conglomerate, there being dark pebble-like bodies of hard substance imbedded in a matrix of green. The latter from its comparative softness wears more readily away, leaving the harder nodules to stand out like small mamillations over the face of the rock.

A DIFFICULT REGION TO EXPLORE.

An arduous
task for the
prospector,

The southern part of the Sand Bay location it is said was burnt over about 37 years ago, when the Montreal Mining Company was prospecting it, but it is now clothed with a very thick growth of spruce and poplar. Farther back it is densely timbered with cedar, spruce, pine, tamarac, black birch and lard maple, so that with difficulty an explorer can enter it without cutting his way as he goes. The ground too is covered with a tangle of roots, fallen timber and branches, as well as with moss and leaves, and none but the most experienced prospectors can venture to explore it with any hope of success. Captain Trethewey however has found that by conducting operations in the winter, on snowshoes, and carefully noting the notches and depressions in the ranges of hills, he is able to accomplish much more than is possible in summer, when the deciduous trees are covered with foliage. The veins have nearly all a north and south course, crossing the formations, and the country rock along their line having been disturbed and washed down at many points the whereabouts of a vein is often clearly defined. Especially is this the case on the crowns of ranges, the line being so distinct as to suggest its having been cut out by the hand of man. Almost all of the thirteen or fourteen veins discovered by Captain Trethewey, he states, have been indicated to him in this way, and in almost every instance his discoveries have been made in the winter season. In spring or early summer he goes over the ground, sinking pits and cutting trenches to verify the winter exploration, and cutting out paths to make future traverse easy.

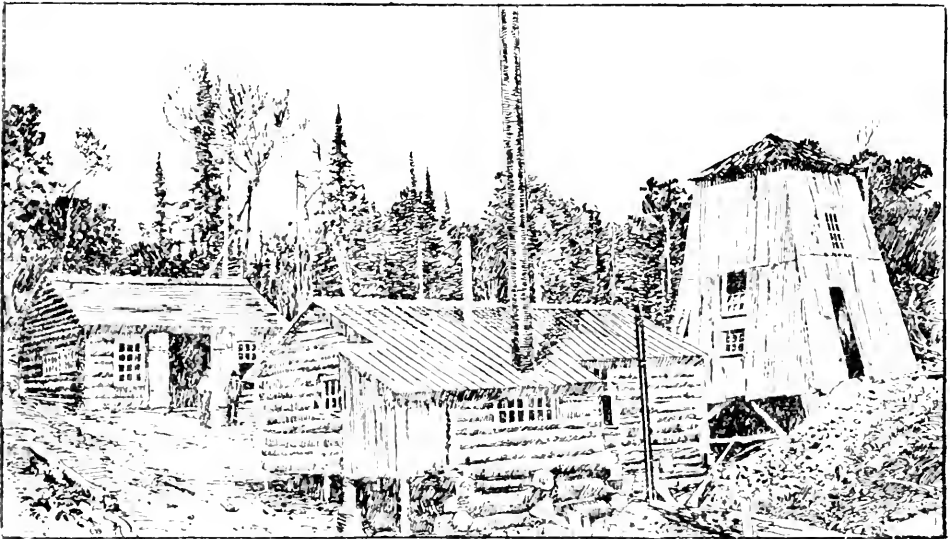
and how he
accomplishes
it.

PROGRESS OF DEVELOPMENT.

The first improvement of the Mamainse locations was undertaken by the Montreal Mining Company, under the direction of Mr. Barron, when five shafts were sunk on different veins on the range a quarter of a mile north-east of the bay. The particulars of this work and the reason for stopping it are given in the extracts from the Company's Report for 1857. The properties were not touched again for a period of seventeen or eighteen years, when a small gang of men was sent down from Silver Islet to explore the Pancake location, but no discovery appears to have been made by them. In the spring of 1882 however the Silver Islet Company entrusted the task of examining the properties to Captain Thomas Henry Trethewey, and with the help of five to ten men he continued exploration work till the spring of 1884. A number of mineral veins were discovered by him, but most of the time was wasted in searching for silver, owing to a small discovery of that metal having been made. Two shafts were sunk on a conglomerate bed at Roussainville to depths of 65 and 87 feet respectively, but the copper ore taken out yielded less than one per cent. An opening upon

Early operations on the properties.

Time wasted in a vain search for silver.



17. Copper Creek Mine, on Sand Bay location.

No. 11 vein on Sand Bay location discovered samples of ore which by analysis yielded many thousands of dollars of silver per ton, yet the aggregate was very small; some samples of copper glance however were found to run 70 per cent. in copper. From this time no further work was attempted until December, 1891, when the new proprietors employed Captain Trethewey to explore Sand Bay location with a diamond drill. Operations were carried on for ten months, during which time borings were made on four veins and five mineral beds ranging in depth from 60 to 365 feet and attaining an aggregate of 3,665 feet.³ The beds were amygdaloidal trap and conglomerate, all of which

Enterprise of the new proprietors.

³ The average cost of the drilling was \$2.86 per foot, including plant, roads, buildings, expert examination and travelling expenses of Detroit officials: in short, every expense in connection with the work. The diameter of the core is about one inch.

Diamond drill exploration.

Sinking a shaft on the Copper Creek vein.

gave cores yielding more or less copper. The results were so promising that the syndicate decided to undertake development work on a larger and more satisfactory scale. Accordingly an outfit consisting of a 40 h. p. boiler, a 30 h. p. hoisting machine, a four-drill air compressor, car, pumps and a full mining equipment, together with camp supplies for the winter, were purchased and shipped to Sand Bay in November, 1892. The boat delivered its cargo on the 18th of the month, and on the 16th of January the work of sinking a shaft was commenced—an engine house, a shaft house, blacksmith's shop and two boarding houses having been erected in the interval. The site of the shaft is on vein No. 10, or the Copper Creek vein, about a mile and a half from the bay. The vein has a north and south course, cutting across the beds of country rock which have a strike of southeast and northwest. Two small streams join near the shaft house, to run southerly along the vein, upon which a channel several feet deep has been cut. The conglomerate bed forms the hanging wall at the mouth of the shaft, and a cross-cutting eastward shows it to have a thickness of 45 feet, with underlying trap beyond it. The footwall is amygdaloid. Near the junction of the streams the exposure appears to show a thrust or fault in the formations of about 50 feet, but the overlying drift hides the actual position. The vein dips toward the east at an angle of 45°, and is continuous at that angle to the depth (on 31st August) of 295 feet. The width too is equally uniform, being at the surface 6½ feet and at the bottom 6 feet 2 inches. At 80 feet, where a level has been driven southward on the vein 49 feet and northward 20 feet, the vein has passed into the underlying bed of trap, but the walls are well defined on both sides. Here a sump has been sunk in the north level, and a steam pump lifts the water draining into it to the surface. The shaft is dry from the 80 foot level down to 270 feet, but there the water pours in so fast as to make the placing of another pump necessary. The perpendicular depth from the surface at 295 feet, as indicated by an aneroid barometer is 200 feet; by calculation, assuming the accurate dip of the vein to be 45°, it would be 208 feet. The vein matter consists of traps, amygdaloids, conglomerates, quartz and calc spar, holding metallic copper and copper sulphides; but the rich ore occurs only in pockets, and the extent of it is uncertain. This can only be shown when levels are driven in and stoping begins. There is however a good sized pile of rich ore on the surface, and much of the vein matter thrown out on the dump contains ore of greater or less richness.⁹ The shaft is 6 feet by 14 feet, and work had been carried on in it without interruption by day and night shifts from the 16th of January to the time of my visit, or 194 working days. This would give an average progress of a little more than one foot and a half per day, or the raising of 128 cubic feet; but it was somewhat more, as the work done during the period included

⁹ Mr. Sibley informs me that later explorations have demonstrated the fact that the mineral-bearing parts of the veins have an oblique course downward, and nearly parallel to each other. If this is the case it may account for the apparent failure of the lodes in depth, noted in Mr. Borron's report on the explorations of the Montreal Mining Company, as well as for the alternating barren and enriched sections of the vein as shown by the deep Copper Creek shaft.

the level of 49 feet and the sump for collecting water, putting in pumps, etc.¹⁰ The air compressor was worked during the day shift, drilling ten holes an average depth of five feet. The charges were fired at the end of the day's work from an electric battery, when enough rock or vein matter was displaced to keep the night shift employed in hoisting to the surface. All the machinery of the mine was in good running order, and its operations were well controlled for the prevention of accidents,—the best evidence of which is furnished by the fact that no accident had occurred in or about the mine down to the 31st of August: nor has any been reported since.

The Copper Creek or No. 10 vein has been traced north from the shaft house about $1\frac{1}{4}$ mile, and south 1,700 feet by pits and trenches, and at various points it shows fine ores. About three-quarters of a mile north of the shaft another vein has been discovered upon which openings have been made that show good ore for 1,000 feet. Some samples taken from the pits are copper glance yielding as high as 70 per cent., and there are also showings of metallic copper near the surface. The vein runs so close to No. 10 or Copper Creek vein that the two are supposed to unite at a point beyond which the explorations have been made, or possibly they are only parts of the same vein separated by a horse of the country rock.

All fissure veins on the location have a north and south course except No. 4, and two or three have been traced across the boundaries either into Pancake location or into territory not yet taken up in the township of Ryan. No. 4 vein, which comes out on the lake at Mineral Point, runs west of south and east of north, across the stratification. The gangue is trap and conglomerate and is fully 20 feet wide, dipping southeast, and carries native copper and sulphide. A shaft has been sunk upon it to a depth of 40 feet, at a cost of \$8 per foot. At the extremity of the Point, where a section of a vein about 15 inches wide assumes a whitish color, it is said to carry a small percentage of strontium. The bedded veins of course run with the stratification, and as already stated some of them have been shown by the diamond drill to carry copper. On a small island in the lake out from Roussainville, I was told by the captain of the Telegram that he had discovered a lump of native copper in place.

THE LAKE SUPERIOR BASIN.

Concerning the structure of the Lake Superior basin, as well as the order and identification of its rocks, there has been wide division of opinion among geologists. Between Irving and Macfarlane, for instance, there are constant differences as to determination of the copper-bearing rocks: due no doubt to the latter's method of identification by chemical analysis, and the former's by the microscope. The fact is however that the science of petrology has almost been created since the investigation of Lake Superior rocks by Mac-

¹⁰ The shaft has been sunk to a total depth of 308 feet, the average cost of which is reported by Mr. Trethewey to be \$8.50 per foot. The five exploratory shafts put down by the Montreal Company, ranging in depth from 14 to 59 feet and aggregating 206 feet, cost an average of \$17.50 per foot. As cost increases with the depth, the advantage of improved modern methods in mining is obvious.

farlane nearly thirty years ago ; certainly very great advance has been made in it with the help of the microscope. In the relation of the Animikie to the Keweenaw or Upper Copper-bearing rocks there have also been wide differences, but they do not need to be touched upon here. The late Mr. Irving of the U. S. Geological Survey was frank enough to confess that his own opinions on the structure of the Lake Superior basin had undergone several changes from the time when his studies of them first began in 1873 down to the completion of his memoir in 1882, and possibly had he lived a few years longer his views might have undergone further modification. His matured opinion, which does not differ much except as regards details from the opinion formed by Logan in 1847, is contained in the following extracts from his monograph on the Copper-bearing Rocks :

Irving's final conclusions.

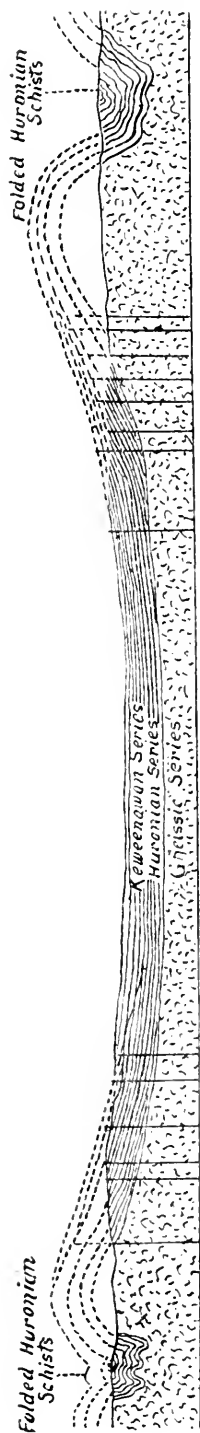
A synclinal depression throughout the entire extent of the Keweenawan rocks.

“ At the beginning of my study for the present memoir, North Wisconsin had been shown to be traversed by a broad synclinal in the Keweenawan rocks, possibly also in the Huronian, which was presumably the continuation of the Isle Royale-Keweenaw Point depression. The exact nature and position of the western termination of the synclinal, the relation to the synclinal of the rocks of the Minnesota coast, and of the Porcupine mountains, and the behavior of the depression to the eastward of Isle Royale, were all points left in doubt, though it appeared exceedingly probable that the entire western half of the Lake Superior basin is a synclinal depression affecting both Huronian and Keweenawan rocks.

which also affects the underlying Huronian rocks.

Now however I feel able to announce with confidence that the entire lake basin, including not only the western half, but the eastern half as well, is a synclinal depression ; that this depression certainly affects the Keweenawan rocks throughout their entire extent ; that it as certainly affects in very large measure the underlying Huronian rocks, which, while they are greatly folded where extending without the limits of the depression, within its limits form without folds its bottom layers ; that the axis of the depression has, like the lake itself, at first a northwesterly and then a southwesterly direction, with minor bends corresponding to the several bends in the axis of the lake ; that the eastern terminus of the depression is buried beneath the newer formations in the vicinity of the Sault Ste. Marie ; that the western extension passes on to the south shore of Lake Superior with a course curving more and more to the southwest until at the termination in the St. Croix valley, and therefore without the present hydrographic basin of Lake Superior, it becomes nearly due south, the exact termination here again being buried beneath the newer horizontal Cambrian formations ; and that in the region of the Porcupine mountains of Michigan and the Douglas County Copper Range of Wisconsin, there are minor folds superinduced upon the grand synclinal, accompanied in the former case at least by further complications, due to faulting.

The evidence upon which these conclusions are based is to be found in (1) the nearly constant dip inwards of the Keweenawan strata towards the middle of the basin ; (2) in the frequently similar dip of the Huronian ; (3) in the constant order of Upper Keweenawan, Lower Keweenawan, Huronian and



18. Hypothetical section of Lake Superior basin.

gneiss with granite and folded crystalline schists, met with on all sides on going from within the supposed trough outwards; and (4) in the parallelism between the courses of the Keweenawan belts of the north and south shores and of the shore line within these belts.”¹¹

And referring more particularly to the Huronian formation, Irving says:

“The relation of the Huronian to the synclinal is a point of great interest. Beyond question, in the western half of the Lake Superior basin, it bottoms the great trough, for its beds are found dipping inwards on both sides; on the north shore at a low angle, and on the south generally at a high one. It appears highly probable that the eastern part of the trough is similarly bottomed by the Huronian. The Huronian beds are however here found, just without the rim of the synclinal, folded in a complicated manner; for instance, beyond the western end of the trough in Minnesota, in the iron regions of Michigan, on the east shore of Lake Superior, and about the head of Lake Huron. Other folded schists, which possibly belong with the Huronian, occur in Canada north of Lake Superior. The connection of these folded beds with the unfolded is a structural problem still needing investigation.”¹²

Relation of the Huronian to the synclinal.

To illustrate more clearly his idea of the Lake Superior basin, Mr. Irving presents a generalized hypothetical section of it which may be looked on as taken across from Pigeon River region of the north shore, through Ontonagan, the South Range, and the Menominee region of Michigan and Wisconsin, but not on a straight line, and not drawn to any scale, in which he has attempted to bring out the following points: “(1) The synclinal structure of the lake basin; (2) the partial unconformity of the Keweenawan to the unfolded Huronian; (3) the supposed relations of the folded and unfolded Huronian; (4) the limitation of the Keweenawan outwards by the higher Huronian land; and (5) the origin of the Keweenawan eruptive rocks through fissures arranged around the rim of the trough. If this sketch represents actual conditions, then the downward bowing of the great trough, which subsequently

Hypothetical section of the Superior basin.

¹¹ Copper-bearing Rocks of Lake Superior, pp. 412-413.
¹² Ibid p. 417.

was filled with the Keweenawan accumulations, was begun in the Huronian and continued through the Keweenawan. Accompanying this downward bowing was a crumpling of the Huronian to either side of the broader bow—and this crumpling, so far as this sketch is concerned, may have taken place in large measure before the Keweenawan—and an extravasation of molten matter around the rim of the trough.”¹³

SIR WM. DAWSON'S EARLY VIEWS ON MAMAINSE.

Professor (now Sir William) Dawson visited Point Maimainse in 1856, and wrote a very interesting paper upon it for the Natural History Society of Montreal. The following extract deals with the geology of the promontory, and the mode in which native copper was deposited in the veins:

Geology of the east shore to the Maimainse headland.

“The promontory of Maimainse is high and rugged in its interior, and in approaching from the east its outline presents a series of abrupt protuberances. This appearance is caused by the outcropping edges of thick beds of trap and conglomerate, which have, better than the associated tufa and sandstone, resisted the denuding agencies, which in this region appear to have most thoroughly swept all the elevated tracts, scooping out the soft beds and carrying off all the finer materials, as if the forces of breakers and strong currents had been combined in the operation, along with the drifting agency of ice.

At Pancake bay.

In a point at the west side of Anse aux Crepes [Pancake bay], the beds of sandstone and trap are seen in a less disturbed state than in the bay itself. Two very thick beds of amygdaloidal trap are here exposed, and between them are bands of brown ripple-marked sandstone and volcanic tufa. The whole dip west at an angle of 15°. The amygdaloids are evidently superficial lava currents, presenting in some places those pipe-like cavities described by Sir W. E. Logan in his account of this place, and which must have been caused by air bubbles rising through the superficial molten mass. The amygdaloid is much more vesicular above than below, and its cavities and veins are filled with agate, crystalline quartz, calc spar, and flesh colored laumontite.

The shore for some distance follows the strike of these beds, in which the waves, acting on the tufa and mineral veins, have excavated many small caverns and ravines. Some of these excavations are at a little higher level than that of the waters of the lake at present: and they are very instructive in the explanations which they afford of erosions observed even on the summits of the hills.

At Maimainse or Sand bay.

Five miles westward of Anse aux Crepes the ledges of the coast are broken across, probably along the line of a transverse fracture of the beds, to form the little bay of Maimainse [Sand bay]. On the east side of this bay we find another section of trappean and sedimentary rocks, apparently a little lower in the series than those of Anse aux Crepes. The highest bed of trap is amygdaloidal above, and more compact below, where it rests upon a brown conglomerate with syenitic pebbles, and thin layers of brown sandstone. The

¹³ Copper-bearing Rocks of Lake Superior, p. 418.

latter consists of grains, often rounded, of quartz, felspar and hard black slate, stained by peroxide of iron, and cemented by carbonate of lime. which also enters into the cement of the conglomerate. The conglomerate rests upon another bed of trap, which in its upper part is largely amygdaloidal, and contains small agates. It also holds syenitic fragments, probably mixed with the scoriaceous matter of its surface, at the time when the conglomerate was deposited above, so that, as is often seen in such cases, the upper part of the trap passes into the conglomerate. These rocks present no appearance of igneous alteration subsequent to their deposition, and dip s. 70° w. 35°.

At the head of the bay, and at its western side, the sections show alternations of compact and amygdaloidal trap and hardened volcanic ash, in very regular layers : and holding numerous veins of calc spar, laumontite and quartz, with small quantities of epidote, prehnite, sulphurets and carbonates of copper, native copper, native silver and galena ; the mode of occurrence of which will be noticed hereafter. The numerous alternations of thin sheets of trap and tufa that appear in the low ground around this bay indicate a long continued series of submarine volcanic overflows, while the rounded pebbles in the conglomerate point to a rocky Laurentian shore at no great distance. Much remains to be done in this region in separating those igneous beds which have consisted of volcanic ash and scoriae from those which are properly trappean : but this is rendered very difficult by the consolidation of the fragmentary beds by zeolitic matter, and by the resemblance which hardened volcanic mud and beds of vesicular scoriae bear to true overflows of amygdaloidal trap, as well as by the changes induced in true igneous rocks by the percolation of water.

At the head of the bay the ground rises rapidly to a height of 300 feet, in a succession of steep ridges, representing the outcrops of the beds which succeed each other in descending order. The section from the N.-w. extremity of the bay inland is as follows, the measurements being taken from a plan prepared by Mr. Coatsworth of the Bruce Mines for the Montreal Mining Company, who are now carrying on works of exploration at this place. The dips are to the westward, the general strike being N. 10° to 20° W., and the angle of dip varying from 25° to 35°. The rocks are, as usual with such materials, very unevenly bedded.

Section of
rocks from
Sand bay
inland.

1. Alternations of trap and tufa, with a bed of conglomerate, which appears to run out a little to the westward of the line of section, in which it does not appear. Large veins of calc spar, quartz and laumontite occur in the trap, and some of them contain small quantities of native copper, native silver and galena. Native copper also occurs in the vesicles of one of the amygdaloids, and one thin bed has its vesicles filled with a steatitic mineral. These rocks occupy a breadth of 500 yards.

2. Argillo-arenaceous beds, in places baked into a compact jaspery rock of a fawn color, with red dendritic stains, in other parts a mottled argillaceous sandstone, similar to that of Anse aux Crepes. Breadth 220 yards.

3. Crystalline and amygdaloidal trap, with a bed of conglomerate. These rocks occupy a breadth of 440 yards, and rise to an elevation of 300

feet. The old Indian workings and the excavations of the present mine are on the summit of this ridge. The lowest rocks of this band are probably tuffaceous, and have been excavated into the ravine of a small brook.

4. Very coarse syenitic conglomerate, forming a second ridge. Some masses of stone two feet in diameter were observed in this bed. It occupies a breadth of 160 yards.

The thickness represented by these measurements may be about 2,000 feet; but this by no means includes the whole thickness of similar rocks developed at Maimanse, and which extend both above and below the beds above described. The total thickness seen at Maimanse is estimated by Sir W. E. Logan at 10,000 feet.¹⁴

Occurrences of
copper in
ranges of trap.

The beds included in No. 3 of the above section are those in which the principal indications of copper have been observed. On the summit of the ridge the hard semi-crystalline trap is traversed by a narrow fissure, running nearly with the strike of the beds, or north and south. Its greatest thickness is about six inches, but in some places this has been found to be nearly filled with native copper. One mass weighing 600 pounds has been extracted, and the whole yield of a shaft 27 feet deep and without galleries has been about three tons. The veinstones here are principally calc spar and quartz.

Indian dig-
gings.

At a short distance westward of the shaft the vein is divided into two branches. The course of this vein, as well as of most others in these hills, is marked by surface trenches, usually called 'Indian diggings,' though they are evidently erosions similar to those which run along the veins seen on the present beach, and excavated when the surface was undergoing denudation under water. These trenches however afford excellent guides in tracing the veins, and they have served this purpose to the ancient Indian miners, in whose time it is likely that plates of metallic copper, exposed by the removal of less resisting materials, may in places have projected from the bottom of these furrows. The real Indian diggings are shallow holes, sunk at intervals along the courses of the veins, and surrounded by broken pieces of veinstone, along with which are occasionally found stone hammers. These hammers are merely beach pebbles, usually of trap, and having shallow grooves worked around them, to receive withes or thongs used as handles. Most of them are 5 or 6 inches in their longest diameter, but one now in the collection of the Geological Survey, is about a foot in length.

About one hundred yards northward of the shaft just mentioned excavations have been made at the intersection of two veins, one running N. W. and S. E., and the other N. and S. The former is unproductive; but the latter, which is six inches in width, contains small bunches of purple copper, in a veinstone of quartz and calc spar. A few small crystals of copper pyrites have also been observed in it. About 30 yards eastward from the second opening is another vein, running E. 20° N., and wider than either of the others. Its principal mineral contents are green carbonate of copper, with a little

¹⁴ Dr. Robert Bell estimates the thickness at 22,400 feet. Geo. Sur. Report, 1876-7, p. 214.

vitreous copper and copper pyrites. A few minute specks only of native copper have been observed in it. It appears to be very irregular in its width, and at the place where it has been opened the wall on one side consists of amygdaloid, and that on the other of compact trap, probably in consequence of a fault.

It would appear that this ridge is traversed by a multitude of fissures, containing copper and copper ores, and as is generally the case with such veins in trap, very irregular in course and dimensions. Those above described are the most considerable yet discovered. Their value as deposits of copper is not yet determined; but the indications are of sufficient promise to warrant works of exploration. The quality of the veins will no doubt change as they penetrate the underlying tuff and conglomerate, though whether in the direction of greater or less value is uncertain.

MODE OF DEPOSITION OF NATIVE COPPER.

"As the mode of deposition of native copper has been a subject of much controversy, I examined with care, with the aid of Mr. Borron of the Bruce mine, the veins exposed at Maimanse, and shall state the results at which I have arrived for that locality, with the facts on which they are based, without meaning to assert that the mode of occurrence and formation of native copper must in all cases have been of similar character. The veins traversing the trap of Maimanse have been filled with successive deposits of mineral matter on their sides, in the manner of ordinary mineral veins. In the larger veins these are alternate layers of quartz and calc spar, the latter often moulded on the crystalline surfaces of the former, and *vice versa*. In several cases the first deposit of quartz is of an agatiform character, and stained by peroxide of iron, but the greater part both of the quartz and calc spar is crystalline and colorless.

The deposition of the native copper has evidently been contemporaneous with or subsequent to that of the quartz and calc spar. The larger masses are imbedded in calc spar, occupying the cavities left in the wider parts of the vein, after its sides had been coated by that mineral. Smaller masses occur in a similar relation to the quartz. In one of the beds of amygdaloid are kernels of copper impressed by crystals of zeolite, which had lined the vesicles previously to the deposition of the metal. In one small vein plates of copper cut across the veinstone of quartz. Such examples indicate deposition of copper after that of the veinstone. In other specimens delicate arborescent crystals of copper penetrate calc spar crystals in such a manner as to give them a general red color, indicating contemporaneous deposition.

"Native silver occurs on the shore in small quantity, in similar dendritic forms, in a vein containing calc spar, zeolites and fragments of trap. The sulphurets of copper occur in precisely the same relations with the native metal. The carbonate is probably a product of oxidation of vitreous copper and native copper near the surface of the rock.

Probably a result of electro-chemical agencies.

The whole of the appearances indicate that the deposition of copper belongs to the period of aqueous infiltration, by which the veins and vesicles were filled after the consolidation of the trap; and the copper, like the calc spar and zeolites, occurs both in true veins and in the cavities of beds of vesicular trap and tuff. Its deposition must therefore be explained, not by igneous causes, but by electro-chemical agencies, decomposing some soluble salt, most probably the sulphate, of copper. Such changes may have been aided by the remaining heat of portions of the volcanic masses, by the presence in them of large quantities of iron in low states of oxidation, and by the further oxidation of that metal evidenced in the red jasper and red laumontite of the veins, and the red conglomerate and sandstone associated with the trap.

One great difficulty in supposing the electro-chemical deposition of copper in these veins is the want of a conducting surface, and one not likely to be acted on by copper salts, for the commencement of the process. Much of the copper however, even when not exposed to atmospheric action, is coated with suboxide of the metal; and I have in several instances observed the crystals of calc spar in these veins varnished with a thin coat of peroxide of iron, or of suboxide of copper, which has been precipitated on their surfaces, and might have formed a better basis for copper deposition than the naked surface of the calc spar. In the delicate dendritic forms the crystallization has evidently commenced from minute points; and this may have been the case also with some of the larger masses, which often have thin plates of fibres connecting them with the wall of the vein. Such connecting threads, if first deposited may have served as conductors.

Such attempts at explanation must however in the meantime be regarded as merely conjectural; and it must be confessed that we can have little accurate conception of the processes that may go on in fissures extending from the bottom of the sea far downward into volcanic masses, and in which a great variety of substances are subjected in different degrees to the combined influences of heat, pressure, and aqueous solution. The main fact in relation to the origin of the metallic copper is that it is a product, not of the fusion of the trap, but of subsequent processes, by which the fissures of that rock were filled by materials regarded as of aqueous origin.²¹⁵

IRVING ON COPPER DEPOSITS OF THE KEWEENAW SERIES.

In his memoir on the Copper-bearing Rocks of Lake Superior, published by the United States Geological Survey, the late Roland D. Irving has devoted a very interesting chapter to the occurrence of copper in formations of the Keweenaw series, which will be found invaluable to prospectors and explorers in the search for and development of copper deposits in the Lake Superior region. The information contained in the following extract will be as instructive to Canadians as to Americans:

CLASSES OF WORKABLE DEPOSITS.

"All the workable deposits of copper heretofore discovered in the Lake Superior region fall into one or other of two classes, which we may term belt

²¹⁵ From the Canadian Naturalist and Geologist, March, 1857, pp. 3-9.

or bed deposits and transverse vein deposits. The first class includes the cupriferous conglomerates and sandstones, the cupriferous amygdaloids, and most, Bed deposits and transverse vein deposits if not all, of the so called veins carrying much epidote and coinciding with the bearing of the formation: the second class includes those veins which traverse the formation in a direction more or less nearly at right angles to the bedding. No copper has ever been observed in connection with the acid eruptives of the series, nor have any workable deposits been discovered in the massive non-vesicular diabase beds, except as distinctly subordinate to, and directly connected with, the amygdaloid deposits or epidote courses, and always accompanied with an extreme degree of alteration.

The conglomerate and sandstone deposits are simply portions of the Cupriferous conglomerates and sandstones beds of these rocks, in all respects of the ordinary character, save that they are impregnated with the native copper. Cupriferous deposits of this character are for the most part confined to the thin conglomerate beds which are interstratified with the ordinary diabase flows; but one cupriferous bed of sandstone is known within the upper or purely detrital division of the Keweenaw series, and separated from the nearest trapezoidal flow beneath it by a thickness of many hundred feet of sandstone layers. This is the belt of dark colored sandstone and shale in which occurs the Nonesuch copper bed of the Porcupine mountains. This belt has been traced from Keweenaw Point to Bad river, a distance of about 150 miles: and has been found to contain copper at a number of points in the vicinity of the Porcupine mountains, and again on the Montreal river, the boundary line between Michigan and Wisconsin.

In the cupriferous conglomerates and sandstones the copper occurs in which the copper occurs as a cementing material. as a cementing material, and as a replacer of the constituent grains, being in all cases plainly of secondary origin, and a result of deposition from an aqueous solution. Moreover, the cementing copper itself, *i. e.* that which is to be seen in the thin section between the constituent grains moulding itself sharply around their contours, is often also plainly a replacer of still smaller constituent particles. In the case of the Nonesuch sandstone of the Porcupine Mountain region a large proportion of the particles of cementing copper have within them a core of magnetite. It is indeed not improbable that in all cases the cementing copper is not a deposit in the original interspaces of the fragmental particles, but is always a replacer.

In the thin sections of these cupriferous conglomerates the larger particles of porphyry matrix and fragments of the felspars are found to be replaced by copper in varying degrees, the metal in the case of the felspar fragments tending to follow the cleavage directions. In the famous conglomerate of Copper in the Calumet and Hecla mines. the Calumet and Hecla mine in the Portage Lake region the copper has not only saturated the matrix, but has also entered into and more or less completely replaced large sized pebbles and even boulders several inches to a foot or more in diameter. Hundreds of such boulders are picked each day from the heaps of rock before it is taken to the stamps. In these boulders the copper has replaced both the matrix and the porphyritic felspars, occurring in the latter, when the replacement has not been carried very far, often along

the cleavage lines only. Pumpelly has shown that the deposition of this copper has always followed other great changes in the condition of the porphyry fragments, and notably the replacement of both matrix and feldspars by chlorite and epidote; these minerals having in turn been replaced by the copper. This relation between copper, epidote and chlorite is one which exists also in the altered amygdaloids; and the source of the constituents of these minerals may be found either in the particles of amygdaloid matrix and other basic materials which not unfrequently occur in the conglomerates themselves—in the Nonesuch sandstone forming a predominating quantity—or in the overlying trappan beds, from which they may have descended along with the infiltrating carbonated waters.

SOURCE OF THE COPPER.

The cupriferous amygdaloids.

“The ordinary cupriferous amygdaloids, such as those which are so largely mined about Portage lake, are, as Pumpelly was the first to show, simply the more or less completely altered and copper-saturated upper vesicular portions of the old lava flows, and are neither independent layers, nor ‘veins’ parallel with the formation. The copper has been introduced into these amygdaloids during one of the later stages of a long chain of replacements, whose history has already been briefly outlined, as worked out by Pumpelly on a previous page. Several paragraphs of his descriptions may appropriately be quoted again in the present connection.

“Considerable portions of the bed have lost every semblance of an amygdaloid, and consist now of chlorite, epidote, calcite and quartz, more or less intimately associated or forming larger masses of the most indefinite shapes, and merging into each other. Sometimes portions of partially altered prehnite occur. In places, considerable masses of rich brown and green fresh prehnite filled with copper occur; but as a rule this mineral has given way to its products.

“To this process the copper-bearing beds of Portage lake—wrongly called lodes—owe their origin. Considerable portions of these beds are but partially altered amygdaloids, containing amygdules of prehnite, chlorite, calcite, or quartz, with more or less copper; other portions are in the condition described above.

“In the still amygdaloidal portions the copper was deposited in the cavities and in cleavage planes of some minerals, and replaced calcite amygdules, etc. But in the confused and highly altered parts of the bed it crystallized free where it had a chance; more generally it replaced other minerals on a considerable scale. It formed in calcite bodies those irregular, solid, branching forms that are locally known as horn-copper, often many hundred pounds in weight; in the epidote, quartz and prehnite bodies it occurs as thread and flake-like impregnations; in the foliaceous lenticular chloritic bodies it forms flakes between the cleavage planes and oblique joints, or in places—and this is more particularly true of the fissure veins which we are not now considering—it replaces the chloritic, selvage-like substance till it forms literally pseudomorphs, sometimes several hundred tons in weight.”

The copper in these deposits is not restricted to that portion of the bed which was originally vesicular, but runs from it downward irregularly into the originally compact portions, following always a great alteration of the rock. The copper however tends always to be very irregular in distribution, and even in the longest worked and most reliable amygdaloids has frequently

and the irregular distribution of copper in them.

to be searched for through many feet of barren rock. In this search the diamond drill is now extensively used, the miners being guided in its use by the occurrence of seams of calcite and epidote, and other alteration forms, which when followed up with the drill are often found to lead to pockets containing much copper.

In one class of amygdaloids, those of the ashed type,—which I agree with Wadsworth in regarding as merely very highly scorificaceous and open lava flows, into whose interstices the intermingled detrital material has subsequently been washed—the distribution of the copper is sometimes more uniform than in the ordinary cupriferous amygdaloids, so that the whole of the bed may be broken down and taken to the stamps, as is done for instance at the Atlantic mine.

The copper deposits of the Ontonagon region have not had the study given to them that has of late years been devoted to those of the Keweenaw Point and Portage lake districts: so that it is not possible to be quite so positive in our statements in regard to them. The copper of this region never occurs in transverse fissures, but either lies in irregular accumulations—often solid masses many tons in weight—associated with much epidote and calcite, distributed along the course of diabase beds, or else occurs with more persistent and vein-like aggregations of epidote and calcite. The latter coincide always with the bearing of the formation, and commonly also with its dip, but in some cases, as for instance in the once famous Minnesota mine, dip at a higher angle than that of the formation, which they consequently slowly traverse in depth. According to Foster and Whitney deposits like that of the Minnesota mine show another indication of a vein-like character in the shape of slickensided and generally sharply defined walls. The 'vein' at the National mine is also peculiar in lying at the base of one of the great lava flows, and immediately above a conglomerate bed, while coinciding with them in both bearing and dip.

It is evident, even with our present knowledge of the deposits of the Ontonagon district, that their history has been essentially the same as that of the Portage lake deposits. In the case of that copper which occurs irregularly distributed, along with epidote and calcite, throughout certain of the trappean beds, the process of replacement has gone on irregularly because of some irregularity of texture in the original rock. Deposits like that of the Minnesota mine may have resulted from the deflection of the altering waters along the course of a pre-existing but not open fissure; the 'vein' being in this case, as before, a replacement at least in large measure of original rock substance.

The transverse veins have been mined for copper on Keweenaw Point only, where they are found varying in width from mere seams to 10 and even 20 and 30 feet. For the most part however they do not exceed one to three feet in width, the expanded portions being met with where they traverse the amygdaloidal or otherwise open textured portions of the flows. The same veins which in the amygdaloid and looser textured diabases are expanded and often rich in copper, will when in the more compact and massive beds, such as the well-known greenstone, contract to mere seams without metallic contents; and

the same is in large measure true of their intersections with the sandstone belts. The veins lie always very nearly at right angles to the trend of the beds which they traverse, standing always very nearly the perpendicular. Quartz, calcite and prehnite make up the common veinstone, but they are mingled with more or less of the wall rock of the vein, which frequently predominates greatly over any true veinstone. The veins are in fact for the most part not sharply defined from the surrounding rock, but consist in each case of a network of smaller seams traversing the shattered wall rock. Veins composed almost wholly of calcite are not unknown, but they are never productive of copper. The copper in these veins occurs both in smaller fragments and minute particles intimately mixed with veinstone, and again in masses many tons in weight. The larger masses frequently are found to contain within them portions of the wall rock.

pinch out in
the greenstone
belt.

Nearly all of the productive mines based on these transverse veins are working directly beneath the greenstone, the layer which is described in a previous chapter as constituting so prominent a feature in the geology or topography of Keweenaw Point. This position of the mines is one not due to the non-occurrence of copper elsewhere on the course of these veins, but results from the fact that further south they become buried beneath a heavy coating of drift, while to the northward they pinch out and become barren in the broad greenstone belt.

Phenomena of
the transverse
veins.

These veins, on account of their transverse position to the bedding of the formation, of their often slickensided walls, and from their carrying often a true veinstone, have commonly been regarded as 'true fissures.' That they are on the lines of pre-existing fissures or transverse cracks in the formation there can, I think, be no doubt; but they are not true fissure veins in the sense that the veinstone and metallic matter occupy, along with wall-rock fragments, original fissure space. I see in them simply the results of a rock alteration entirely analogous to that which has brought about the deposition of copper and its associated veinstone minerals within the cupriferous amygdaloids. They are alteration zones which traverse, instead of following the bedding, simply because the drainage of the altering waters has been given this direction by the pre-existing fissures. All of the phenomena of these veins coincide completely with this view: the common occurrence of wall rock within the vein, or rather the embracing of the wall rock masses by the vein; the replacement of wall rock by copper masses; the occurrence of wall rock within these masses; the expansion of the veins and their greater richness where traversing the more readily alterable amygdaloids and looser textured diabases; their contraction and barrenness within the compact and less readily changeable greenstone; and the coincidence of the paragenesis of the vein minerals with that of the cupriferous amygdaloids, are all facts better explicable on this view than on any other.

No striking
differences in
origin of the
several classes
of veins.

Thus the differences in origin of the several classes of copper deposits—conglomerate beds, cupriferous amygdaloids, epidote veins parallel to the bedding and 'fissure' veins transverse to it—which at first sight seem to be great, on closer inspection for the most part disappear. They are all the result of the percolation of carbonated waters, which in the lines of fissure,

the open textured amygdaloids, and the nearly equally open conglomerates, found the least resistance to their passage, and at the same time the greatest susceptibility to their altering power. This susceptibility depended partly upon the very openness of these different rocks, but also, in the case of the amygdaloids, in the presence of a large proportion of glass basis, the most readily alterable substance among rock constituents.

CAUSE OF PRECIPITATION OF THE COPPER.

“The source and the cause of the arrest of the copper which was carried in with the altering waters are other and more different questions. Its home has commonly been regarded as being within the mass of the trappean flows themselves, with which it is supposed to come to the surface. Another view is that it was originally deposited in a sulphuretted form along with the detrital members of the series from which it was subsequently leached, partly in the shape of a sulphate, but principally as a carbonate and silicate. The latter is the view which Pumpelly has elaborated^{ab}; to whom also is due the credit of having advanced the only satisfactory view as to the cause of arrest of the copper in the places where it is now found. He has shown the existence of an intimate relation between the precipitation of the copper and the peroxidation of the ferrous oxide of the augitic constituent of the basic rocks; a relation so constant as to render irresistible the conclusion that in this ferrous oxide is to be found the precipitating agent of the copper. To this I would add that the ferrous oxide of the magnetite, and of the unindividualized magma of the vesicular layers, has also been concerned in this re-action.

While this explanation of the precipitation of the copper seems satisfactory, we have too little to go upon in deciding between the two views above referred to as to the source of the metal. Too few signs have been observed of the existence of copper in the upper sandstones of the series, such as would be expected were this its home, to allow of an easy acquiescence in Pumpelly's view. On the other hand, the trappean rocks themselves are for the most part devoid of copper, except such as is plainly secondary. Copper in a sulphuretted form I have however observed in the coarse gabbros of Duluth, in the green uralitic gabbro of Mount Bohemia, and in similar coarse rocks in one or two places on the north shore of Lake Superior. It is commonly said that copper occurs in the conglomerates and sandstones only where it could have leached directly downwards from an overlying trappean mass: and with one exception the statement is undoubtedly correct. The exception is that of the Nonesuch cupriferous sandstone, which is however a very important exception, since this rock not only has no overlying diabase, but is separated from the nearest trappean flow beneath it by many hundred feet of detrital material. As previously shown, this sandstone is unusual for its large proportion of basic detritus. Its copper can only be connected with a trappean source by supposing it to have formed part of this detritus in the sulphuretted condition, and afterwards to have been dissolved and re-deposited in a native state. This is a supposition which would seem on the whole however to be rather more violent than to regard the copper as having come from the

The home or source of the copper, and the cause of arrest in veins or beds.

Theories of precipitation,

and objections to them.

overlying sandstones, and as having been arrested in its descent on meeting a layer so rich in basic detritus as to be able to furnish the requisite supply of precipitating agent.

RULES TO GUIDE THE EXPLORER.

Rules for the explorer in rocks of the Keweenaw Series.

Transverse veins.

Cupriferous belts.

Sandstone and conglomerate deposits.

“From the facts and theoretical considerations thus given may be formulated a few simple rules to guide the explorer for copper in the regions traversed by the Keweenaw Series. Thus the explorer, should he be searching for transverse veins, should bear in mind that epidote, prehnite and chlorite are the favorite associates of the copper; that veins carrying a greatly predominating quantity of calcite are not likely to be cupriferous; that laumontitic veins have hitherto not proved to be sufficiently rich for exploitation; that a vein which may be very rich and wide in the amygdaloidal or other soft and easily decomposed rocks will pinch to a mere seam and become barren within the massive and more compact layers; that hence the intersection of a vein with such amygdaloidal or other soft beds should always be searched for; that the copper occurs in these veins with extreme irregularity; and finally, that a vein found traversing decomposed amygdaloid beds with the favorable veinstone, even though it show only a little copper at surface, is worthy of examination.

Should our explorer be looking for cupriferous belts, he should see that they are well defined; that they present evidence of much alteration such as is above indicated, and that one or more of the favorite associate minerals of the copper are present. These favorable indications, along with a more or less well-preserved amygdaloidal character to the rock, and the presence of some copper at surface, are sufficient to warrant further examination. In searching for these belts care should be taken not to be misled by the occurrence of seams of native copper without veinstone along the joint cracks of an unaltered massive diabase, and of isolated pockets of epidotic and calcitic material carrying some copper.

In the case of sandstone and conglomerate deposits the explorer is to bear in mind that thus far they have been found only where a thin seam of conglomerate is directly overlain by a trappean mass; or if away altogether from the trappean beds, only in sandstone which is very rich in basic detritus. Beyond this, there is nothing to guide him except the finding of the copper itself. Any one of the numerous conglomerate seams which from Keweenaw Point to Minnesota are everywhere interbedded with the prevailing basic flow might become cupriferous at any point along its course.¹⁵

¹⁵ The Copper-bearing Rocks of Lake Superior, pp. 419-27.

IV.

ACTINOLITE, ASBESTOS AND TALC.

In one of the earliest records we have of the generations of the heaven and the earth, we are told that every living creature was brought unto the man to see what he would call them, and that he gave names to all cattle, to the fowl of the air and to the beast of the field: "Whatsoever the man called every living creature, that was the name thereof." The first step of wisdom, Linnaeus says, is to know natural bodies, and to be able by those marks imprinted on them by nature to distinguish them from each other, and to affix to every object its proper name. "These," he wrote, "are the elements of all science: this is the great alphabet of nature: for if the name be lost, the knowledge of the object is lost also: and without these the student will seek in vain for the means to investigate the hidden treasures of nature." But however it may have been with the first man, all of us will agree that the knowing of things so as to name them is no simple or modest acquirement. "All things are not within the immediate reach of human capacity," to quote Linnaeus again. "Many have been made known to us, of which those who went before us were ignorant; many we have heard of, but know not what they are; and many must remain for the diligence of future ages." How true this is one has only to study the great Swede's own System of Nature in the light of modern science. We smile at the doctrine that the water of the ocean teems with a double offspring, a saline male and a terrene female; that nitre, muria, natrum and alum are the fathers, and that clay, sand, soil and calx are the mothers of stones; that clay is the earth of marine water, and sand the earth of rain water. We might smile also at the theory that clay, "after remaining a long time dry and compressed is hardened into rasile talc, which by resolution is often regenerated into fibrous asbestos, but when minutely resolved is in a wonderful manner reproduced into scaly mica"; but I fear we know as little of the genesis of these minerals as did Linnaeus himself. Of their exact composition and structure we know much more, for chemical analysis and the microscope have added largely to our knowledge of rocks and minerals during the last fifty years. We know also that, under conditions, changes go on within rocks almost as complex and delicate as in a living organism, begetting little interchanges in the chemical composition and molecular arrangement of the component minerals which may introduce entirely new qualities, or may alter completely their structural form as it appears to the eye. Limestone, chalk and lithographic stone are each of them almost pure carbonate of lime; yet their natural qualities are widely different, and they look as unlike as three distinct races of men. But we have a more striking illustration in the minerals which are the subject of this paper. Actinolite, asbestos and talc are very largely made up of the same elementary substances, and the first and second very nearly in the same combinations. A fourth mineral, chrysotile, is so like asbestos as to be commonly

Identity by classification and name.

Constituents of actinolite, asbestos, chrysotile and talc.

mistaken for it ; so commonly indeed that in commerce and the arts the bulk of what is sold and used as asbestos is chrysotile, or perhaps it would be more correct to say chrysotile with adulterants of actinolite and talc. To show how closely related these four minerals are, I subjoin a table of average constituents computed from Dana :

ANALYSES OF MINERALS.

	Actino- lite.	Asbestos.	Chryso- tile.	Talc.
Silica	57.13	57.82	43.56	61.95
Alumina	1.15	.43	.52	.98
Ferrous oxide	6.39	5.23	1.60	1.91
Manganese oxide .....	.65	.66		
Magnesia	20.65	21.86	41.36	30.87
Lime	13.28	13.98		
Water	1.57	.77	13.79	4.08
Totals	100.83	100.75	100.83	99.79

Similarities
and diversities
in component
parts and
crystalliza-
tion.

The composition of actinolite in this table is an average of eleven analyses, asbestos of six, chrysotile of five, and talc of forty ; and the constituents of each may be therefore taken as standard. Actinolite and asbestos, it will be seen, contain two minerals which are wanting in chrysotile and talc. These are lime and manganese oxide, the former of which is nearly fourteen per cent. of the whole and the latter only little over half of one per cent. Between actinolite and asbestos also the average combinations are so nearly similar that less diversity occurs between them than between individual specimens of each other. It is only in the protoxides of iron and manganese that the differences are more than one per cent.—actinolite having 1.16 more of the ferrous oxide than asbestos, and asbestos 1.20 more of the manganese oxide than actinolite. Both indeed are but different forms of amphibole or hornblende, or that variety of it which contains little or no alumina. When the crystals of the mineral are in radiating masses or long slender prisms we call it actinolite, and when in long, fine, flexible fibres, easily separable by the fingers, we call it asbestos ; but other forms are known as tremolite, nephrite, antholite, richterite, cummingtonite, dannemorite and grunerite, each of which graduates more or less towards asbestos, showing fibrous structure. Chrysotile, which is so like asbestos, is widely different in composition, having 14.26 per cent. less silica and 3.63 per cent. less ferrous oxide, but 19.4 per cent. more magnesia and 13 per cent. more water. It belongs to the serpentine group of rocks, and like all these it contains a high percentage of water. This it is which makes chrysotile less capable of resisting the action of fire than true asbestos, for when the water of crystallization is driven off by heat the fibre becomes hard and brittle. The true fibre, it is claimed, will easily stand a temperature of 2,000 to 3,000 degrees F., and on the best qualities a temperature of 5,000 degrees will produce no visible effect. Talc contains four per cent. more silica than asbestos and nine per cent. more magnesia, but not one-third as much water as chry-

sotile. Like these minerals it is low in alumina, and in ferrous oxide it is about the same as chrysotile. It is found foliated, fibrous and massive, and in some of its forms it can hardly be distinguished from corresponding forms of actinolite, asbestos and serpentine.

With these general observations, I pass on to notice some particulars of the three minerals with which I am dealing, where they are found in Ontario, and what uses are made of them.

ACTINOLITE.

A section of country in the counties of Hastings and Addington, embracing the townships of Hungerford, Elzevir, Kaladar and Grimsthorpe, is traversed for many miles by a band of serpentine or magnesite in which are found at frequent intervals bodies or veins of actinolite, and perhaps also of talc. Fibrous serpentine occurs too, as well as fibrous hornblende, although the name actinolite is used generally to describe fibrous or non-fibrous mineral possessing refractory qualities. No deep mining has yet been attempted in this district, the practice pursued being to sink pits to a depth of twenty-five or thirty feet where the mineral outcrops at the surface, and when it cannot be raised without the help of costly machinery the pit is abandoned and a new opening made. This work is carried on for the most part by farmers on their own lots, and in the winter or whenever a favorable opportunity offers loads of the mineral are drawn to the mill at Bridgewater. This mill was built in 1883, and the owners of it have also carried on mining upon their own account. Last year two properties were worked in Elzevir, about three miles from Bridgewater, but not having seen these I am unable to describe either the mineral itself or the formation which contains it.

PROPERTIES IN ELZEVIR

In November I visited three properties about ten miles north-east of Bridgewater, near the line of the old Clinton road. This road follows close to the Scootamata river, and for half its way crosses and re-crosses a band of gray gneiss which traverses the country in an east-northeast and west-southwest direction. At lots 7 and 8 in the eleventh concession of Elzevir the gneiss is succeeded by a band of conglomerate, and this in its turn by one of serpentine, parallel to the gneiss. The serpentine forms a series of ridges with narrow valleys between, running with the course of the formation. On the northern side it is cut by two dykes of felspar or pegmatite fifteen to twenty feet in thickness, while about 200 yards towards the south parallel dykes appear. The second of the dykes on the western side, which is the best exposed, dips southeast at an angle of 80°. Beyond it the serpentine is in alternate bands of red and green, and holding small starlike crystals of actinolite. Much of this serpentine is of a fibrous character, and several openings made on the property prove the existence of one or more veins of a distinctly fibrous mineral, the characteristics of which will be described farther on. A quantity of mineral was raised on these lots several years ago and taken to the mill at Bridgewater. They are now owned by The Standard Asbestos Company of New York, of which ex-Governor Campbell of Ohio is

Areas of actinolite in Hastings and Addington.

Geological formation.

Standard Asbestos Company's exploratory work.

president, and last year development work of a promising character was carried on under the management of Mr. J. E. Harrison of Bridgewater. A shaft of eleven feet square was sunk on lot 8 to a depth of forty feet, and about 175 tons of fibrous mineral raised. The vein at the surface was only four feet in width, but it widened gradually as the work of deepening proceeded until at about ten feet it was the full width of the shaft. No cross-cutting has been made to ascertain its width at the bottom, and one side of the shaft having followed the hanging wall (which is beautifully slickensided), the opposite side is in the mineral. Reddish colored bands cut across the vein horizontally at intervals of three or four feet, caused probably by infiltrations of iron through seams in the mineral, but which do not appear to have altered its character in any other respect. The quality has continued to improve with the depth, fibres at the bottom of the shaft being about three-quarters of an inch in length. In color the mineral in place is dark green, but after exposure to the air it becomes white, or a pale greenish white.

PROPERTIES IN KALADAR.

Exploratory work by a Gouverneur syndicate.

On the adjoining lot in Kaladar, 8 in the first concession, a syndicate of capitalists in Gouverneur, N. Y., who have had large experience in mining and milling talc at that place, have been doing some prospecting work. They have obtained a lease of the mining rights from the owner of the farm, Mr. D. H. Smith, and have opened several pits upon it. The formation is the same as in Elzevir, and no doubt is a continuation of the same band of serpentine. The stellar crystals of actinolite are distinctly seen in the walls of the openings, gradually thinning out on both sides. The pits however were filled with water, so that I could not observe the character of the mineral at the bottom: but I was informed by the manager of the syndicate, Mr. Whitney, that it opens on a vein twenty feet wide. Mr. Whitney claims that there are three parallel veins on this property. He has also secured for the syndicate several other good locations in Elzevir and Kaladar, and it is proposed to continue development work throughout the present year, or until the extent of mineral on the locations is fully proven.

A large out-cropping on Stony creek.

I visited also lot 12 in the second concession of Kaladar, the farm of Mr. George Peebles, where there is a fine and large outcropping of actinolite. It appears to be on a continuation of the same serpentine belt, which here pursues a north-easterly course, and beside it on the west is a band of conglomerate similar to the one which crosses lot 8 in the eleventh of Elzevir. A long and high dyke of pegmatite lies parallel with the vein of actinolite on the east, but separated from it by a narrow band of serpentine. The width of the vein is about twenty five feet, and for some distance it forms the left bank of Stony creek, which here flows swiftly down through a gorge whose walls of rock are fifty feet high and almost perpendicular. No mining has been done on this property, although the situation is favorable for taking out mineral at very low cost. The discovery was made about twenty years ago by Mr. J. E. Harrison, who holds a half interest in it.

THE BRIDGEWATER MILL.

The mill at Bridgewater for grinding actinolite and other fibrous minerals was built in 1883, and for six or seven years the value of its product was about \$6,000 per annum. A dispute between the owners however caused it to lie idle for four years; but their rights having at last been settled in the courts, work was resumed last year. The rock is first crushed in a breaker and then reduced to dust in a pulverizer, but not so fine as to destroy the fibre. Most of the product is shipped in a dry state, but some of it is prepared for roofing material by mixing it with tar. The proportion is eleven gallons of tar to 100 lb. of ground mineral, but pitch or asphalt may be used instead of tar. It is claimed for this roofing that it never gets hard, that heat or cold does not affect it, and that it is fire-proof. The same composition is also used for sidewalks and the foundations of buildings.

ASBESTOS.

In offering any remarks on asbestos, one is perplexed with the doubt if the thing itself exists as the authorities have defined and described it for us. We have fibrous pyroxene, fibrous hornblende, fibrous serpentine and fibrous talc, and by one person or another each of these has been called asbestos.

DEFINITIONS OF THE MINERAL.

Sterry Hunt wrote: "Amphibole assumes fibrous forms as in tremolite, and is often radiated as in actinolite, passing into the soft, flexible, silky variety which constitutes true asbestos or amianthus."¹

Dana says: "Pliny supposed it a vegetable product, although good for making incombustible cloth, as he states. The amianthus of the Greeks and Latins was the same thing: the word meaning undetiled, and alluding to the ease of cleaning the cloth by throwing it into the fire. The colors vary from white to green and wood-brown. The name amianthus is now applied usually to the finer and more silky kinds. Much that is so called is chrysotile, or fibrous serpentine, it containing 12 to 14 p. c. of water."²

Professor Chapman, in describing amphibole, says: "The greenish white and colorless or pale gray varieties of this mineral are usually known as tremolite; the bright green, or dark green, acicular and fibrous varieties as actinolite; and the green massive varieties, as well as those in green, brown or black, thick crystals, are commonly termed hornblende, a name applied by many authors to the species generally. A soft silky variety in fibrous masses, belonging however partly to pyroxene, is also known as asbestos or amianthus, but this variety does not appear to occur in Canada, our so-called asbestos being a fibrous serpentine, containing about 12 or 14 per cent. of water."³

Rutley says: "Asbestos or amianthus is a fibrous variety of pyroxene occurring in white silky fibres, which are matted together, but are easily separable. Byssolite is more compact in aggregation, the fibres are coarser as a

¹Systematic Mineralogy, p. 250.²System of Mineralogy, sixth ed., p. 234.³The Minerals and Geology of Central Canada, third ed., p. 102.

rule and are not easily separated, the structure more resembling that of wood, while the color is usually dark green or greenish gray. It may be regarded as an iron-magnese amphibole."⁴

Day. Dr. Day of Washington says: "The fibres of asbestos are short and brittle, while those of chrysotile are flexible, slightly elastic, and of great tensile strength."⁵

Ells. Dr. Ells of the Canadian Geological Survey says: "What is known as the Quebec asbestos of commerce and the true asbestos are two distinct substances, and belong to two distinct groups of minerals. Thus asbestos proper belongs to what is known as the pyroxene or hornblende group, while that obtained from the Quebec mines belongs to the talc or serpentine group. The former is classed among the igneous rocks proper, such as syenites, granites, porphyries, etc., and embraces among other varieties augite, diallage, hornblende, etc. Some asbestiform minerals are augitic, but the greater number belong to the hornblende family, and are known by several names, such as amianthus, asbestos, byssolite, tremolite, actinolite."⁶ Dr. Ells also says that among the most important of the properties of asbestos is its non-conductivity, or power of resisting the action of heat, in which respect it possesses some of the properties of wood, but does not, like wood, char or ignite under friction, no matter how long it may be applied. "This property of non-conductivity," he says, "or of resistance to fire or heat, is one of the principal reasons for its extensive application in certain lines at the present day."

Klein. Mr. Klein, M. E., of Black Lake, Q., says: "Asbestos is a fibrous variety of serpentine, and is, chemically speaking, a hydrous silicate of magnesia. From several analyses of a number of specimens all over the world, which I had at my disposal, the percentage of silica is from a little over 40 to 40½ per cent., while magnesia is from 41½ to 43 per cent.; other more prominent admixtures were ferrous oxide and alumina in quantities of from 1 to 3 per cent., and further, traces of lime, potash, soda, chlorine and sulphuric acid. This composition is completed by water, to which we have to attach the most importance from a business point of view. This of course is not water in the form of a moisture, but water intimately associated with the silicate of magnesia. The importance of this water has been shown by the fact that good and fine asbestos fibre, may it be from the Italian variety or from the Cambrian rocks of the Eastern Townships, or the Laurentians from the north of the St. Lawrence, contains from 13½ to 14 per cent. of this water, while some very harsh and brittle specimens of asbestos have shown considerably below 12 per cent. Experiments have further shown that it is comparatively easy to dissociate a part of this water from a fine and silky specimen of asbestos fibre, and to render the same hard and brittle by heating it to a certain extent."⁷

⁴ The Study of Rocks, p. 131.

⁵ Mineral Resources of the United States, 1889-90, p. 514.

⁶ Asbestos, its History, Mode of Occurrence and Uses, p. 5.

⁷ Journal of the General Mining Association of the Province of Quebec, vol. 1, p. 145.

Professor Donald of Montreal argues that, because the Province of Quebec produces about 85 per cent. of the world's supply, with the balance chiefly from Italy, it is reasonable that these two countries should be allowed to appropriate the name of products which are known all over the world as asbestos, "even though they be of other composition than the mineral to which mineralogists originally applied the term, and that other minerals, if such there be, used for similar purposes be otherwise designated." Concerning its power of resisting the action of fire, he says: "It is true that asbestos is infusible, except at very high temperatures, but it is equally true that only a very moderate degree of heat, heating to low redness in a platinum crucible, for instance, is required to entirely destroy the flexibility of the fibre and render it so brittle that it may be crumbled between thumb and finger as readily as a piece of biscuit. In this connection one is reminded that the ancients are said to have possessed asbestos napkins which they cleansed by means of fire, and that Charlemagne in like manner cleansed his tablecloth, to the delight of his warrior guests. It is not improbable that these statements are to a large extent mythical: certainly, if true, the articles in question were not made of asbestos, the hydrated magnesian silicate." And on the non-conductive property of the mineral he says: "The truth is that asbestos itself is a very poor non-conductor, as anyone may prove by placing a vessel of water on a sheet of asbestos cardboard and applying heat from below, or more simply still by placing a piece of wood on a sheet of asbestos millboard on a hot stove. . . . The use of asbestos in the manufacture of non-conducting coverings for boilers, etc., is due to its fibrous texture and its infusibility. The latter property gives it a decided advantage over hair and other fibrous materials, which char under continued exposure to heat, while the exceeding flexibility of its fibres gives it a like decided advantage over mineral wool and other fibrous but brittle mineral substances."⁸ And replying to criticisms on his views at a later date, Prof. Donald says: "I am quite willing to admit that a napkin, if made of fibrous hornblende, is practically uninjured by fire; my scepticism is as to these ancient napkins being made of fibrous hornblende. I wish to know where hornblende, having fibres so fine and flexible that they may be spun and woven, is to be found."⁹

And J. Lanson Wills of Ottawa says: "The chemical qualities and physical properties of the respective amphibole group and serpentine group of asbestiform minerals are well marked and characteristic, affording a positive basis for nomenclature and classification, and allowing no arbitrary liberty as regards its correct mineralogical appellation. Let us by all means conserve the name of asbestos as originally applied to the amphibole variety, and if employed generically, the attributes of serpentinous and hornblendic, or simply serpentine-asbestos and hornblende-asbestos might be adopted. If a chemical analysis shows a product cannot thus be classified, then we are in presence of a new mineral, requiring investigation."¹⁰

⁸ The Engineering and Mining Journal, March 18, 1893.

⁹ Ibid., April 1, 1893.

¹⁰ Ibid., July 22, 1893.

Asbestos of
the ancients.

This last observation of Mr. Wills is well taken, and I am not sure but we may have at least one new mineral of the fibrous variety to investigate and name. But perhaps if we knew more about the asbestos of the ancients, and the actual tests to which it was subjected by them, there might be no sufficient ground for the differences of our modern doctors. We do not believe everything that we read in Greek story, and the amianthus shroud may be only one of the many Greek myths. The asbestos of the ancients may have been nothing else than fibrous serpentine, like that of Italy or Quebec. If it was fibrous hornblende, which could be woven into shrouds and napkins, why cannot it be produced at the present day? I do not know of its being found in any country of Europe, and I do not believe that it has yet been discovered in America. Fibrous hornblende we have, but the fibre is neither long, nor silky, nor flexible. How then can it be spun into thread, or woven into cloth? It may be used as a filling with the serpentine fibre, and I have no doubt that it is so used, and to good purpose; for the quality of the goods is likely to be improved by the addition of material which further enables it to withstand the effects of heat. But there are uses of asbestos where strength is the first requirement, and in the manufacture of this class of goods all long fibre would seem to be indispensable.¹¹

¹¹ In 1886 a paper was read before the Society of Arts in London, Eng., by Mr. James Boyd of the United Asbestos Co., which elicited warm praise from Sir Frederick Abel, Prof. Warrington Smythe and other members of the Society. Mr. Boyd had spent much time in the asbestos mines of Italy, where his Company owned valuable properties, and he was able to give many interesting particulars of the occurrence of the mineral and the mode of mining it, as well as of the subsequent treatment. There are three distinct varieties found in that country, viz., the gray, which has a long, strong fibre, and is saponaceous to the touch; the flossy, which has a smooth, silky appearance, but is dry to the touch; and asbestos powder, which, while possessing all the heat resisting properties of the preceding, crumbles into powder when crushed. The first of these is found principally in two Alpine valleys, the Valtellina and the Valley of Aosta, and the mines are at elevations ranging from 5,000 to 8,000 feet above sea level. Mining operations are expensive, owing not only to the situation, but also to the thin and irregular nature of the seams, which makes necessary the doing of a large amount of dead-work. As the result of long observation on his own part and on that of the Company's Italian employes, Mr. Boyd presented in his paper the following conclusions:

"1. That asbestos of good quality is only to be found in the serpentine formation. A fine seam of asbestos was found four years ago in a quartz formation which seemed to upset this conclusion, but it proved just as we suspected, that the quartz was only superficial, and before six feet of rock had been blasted away the serpentine began to crop through.

"2. That if asbestos be found on the face of a rock exposed either to the south or west, the product is generally fairly abundant and of good quality. If exposed to the east, there is fine quality but very small quantity, whilst if exposed to the north the quantity is plentiful but dry and hard, and on entering into the rock all traces of it are lost."

Another statement made by Mr. Boyd, which may be useful to prospectors, relates to the signs of the mineral where there is no proper exposure of it. "When asbestos is first found in any new place, generally the only superficial indication is that the cracks in the rocks are filled with a white powdery substance. When the surface is broken up this usually changes into a leathery-looking substance, and entering still further the true asbestos fibre may be found." But sometimes even in Italy the practice of "salting" is resorted to, which consists in "driving in fine asbestos fibre into the cracks of the rock, and trying to make it look like real formation." Mr. Boyd appears to think that this is a peculiarly American practice, and he has also discovered that Canadian fibre imported from America in the carded state by his firm was found to be a mixture of asbestos and cotton. Like the chairman of his Company—who stated in the discussion upon the paper that the Italian asbestos was superior to the Canadian in every respect, especially in its capability of being woven into cloth—Mr. Boyd expressed a strong and natural preference for the article produced from his Company's mines. "Each have their advocates and partisans," he said, "but I do not consider the present a fitting occasion to deal with this question, and I therefore limit myself to saying that whilst for certain uses the one may be as suitable as the other, it is not so in all cases. As an examination of the samples will show, the Italian is long and strong in its fibre, and is saponaceous to the touch, whilst the Canadian is short, and to the touch is as dry as chalk; and therefore it seems to me that the properties of Italian indicate it as better suited for the engineer's use, especially in the form of packing or jointing." Mr. Boyd confessed that with the formation and working of Canadian asbestos he had no practical experience, and that his remarks were based upon data furnished by Mr. Irwin of the Anglo-Can-

THE SOURCES OF SUPPLY.

The sources of supply are not numerous, and at present they are almost wholly confined to Quebec and Italy. The Quebec mines at Thetford and Black Lake, in the Eastern Townships, yield an excellent article which finds a market in Great Britain and the United States. About \$3,500,000 are invested in the industry, which employs about 2,000 men. In 1880 the output of the mines was 380 tons, valued at \$24,700; but in 1890 this was increased to 9,860 tons, valued at \$1,200,240. The following table, showing the comparison of Canadian with Italian asbestos, is taken from a paper by Prof. Donald, read at a meeting of the Quebec Mining Association;¹² but for further comparison I have added the average computed from Dana:

Constituents.	Italian.	Broughton.	Templeton.	Dana.
Silica	40.30	40.57	40.52	43.56
Magnesia	43.37	41.50	42.05	41.36
Ferrous oxide	87	2.81	1.97	1.60
Alumina	2.27	.90	2.10	.52
Water	13.72	13.55	13.46	13.79
Total	100.53	99.33	100.16	100.83

Analyses of
Italian and
Quebec
asbestos.

The chief difference is that the Quebec asbestos is higher in iron, but lower in alumina, than the Italian; and compared with Dana's average it is three per cent. lower in silica, but higher in ferrous oxide and alumina.

In Ontario fine samples are sometimes shown by prospectors, but most of them are believed to have been brought from Quebec. There is however one genuine location in the township of Marmora, upon which a little work has been done by the present owners, the North American Stone and Asbestos Company of New York. It is the chrysotile variety, and the fibres are very short, not exceeding one-third of an inch. Possibly longer fibre may be found when the vein is properly opened. Another location I have described already, the one on lots 7 and 8 in the eleventh concession of Elzevir, owned by the Standard Asbestos Company. But I hesitate to call the mineral asbestos. I think it might puzzle the doctors to find the right classification, and possibly they may have to get a new name for it. I have submitted a sample to Prof. Coleman, of the School of Practical Science, who has fur-

Ontario
samples.

Mineral of the
Standard
Asbestos
Company.

dian Asbestos Company. Mr. Irwin himself at a meeting of the Mining Association of Quebec in April, 1891, stated that there is very little difference between the Canadian and Italian asbestos as to their composition, but there is a very great difference in their formation. "The Italian asbestos is exceedingly long in fibre, but it is in such a shape that it is almost impossible to handle it properly with machinery, while Canadian asbestos costs so much less to manipulate, and allows it to be placed in the market in its manufactured shape at a price that will enable it to compete with any other asbestos material." And Prof. Donald in remarking upon the attempts which had been made to decry the Canadian article, and to prejudice users by the statement that chemical analysis showed the latter to be inferior to the Italian, was able to show by analysis that the "Canadian fibre is in no wise inferior to its European rival." As to harshness, he pointed out that it was due to a lower percentage of water. "In fibre of very fine quality from Black Lake, analysis showed 14.38 per cent of water, whilst a harsh-fibred sample gave only 11.70 per cent." See Journal of the Society of Arts, April 16, 1886, and Journal of the General Mining Association of Quebec, vol. 1, pp. 27-29.

¹² Journal of the Association, vol. v, p. 27.

nished me with an analysis. But as for the name, he is discreet and describes it by the phrase "asbestiform mineral." That is good so far, but doubtless the Professor will follow it farther and find a name or make one¹³ The analysis shows it to consist of 61.82 silica, 23.98 magnesia, 6.55 ferrous oxide, 1.63 lime, 1.12 alumina, and 5.45 water. Compared with the Dana average of hornblende asbestos, it has 4 per cent. more silica, 2.12 more of magnesia, 1.32 of ferrous oxide, 4.68 of water, and .69 of alumina; but 12.35 less lime and no manganese oxide. Compared with the average of serpentine asbestos, it has 18.26 more silica, 4.95 of ferrous oxide, and .60 of alumina; but 17.38 less of magnesia, and 8.34 of water, with lime additional. Compared with the average of talc it has almost exactly the same proportion of silica and alumina, but 4.64 more of ferrous oxide, and 1.37 of water, with lime additional. The fact that calcite is found mixed with the serpentine which forms the walls of the vein will doubtless account for the presence of lime in the mineral. Some of the fibre is nearly an inch long, and is white and strong, but harsh to the touch. The crystals however are so crossed and interwoven that it will be difficult to separate the fibre from the matrix without a large percentage of loss; it is large in Quebec, where in crushing with stone the long and most valuable fibre is partially destroyed; but a suitable treatment may be found. A shipment of 100 tons has been made to the Company's mill at Elizabeth, N.J., to be tested by a new plant which has been put in for the purpose. A smaller shipment has also been made to one of the talc mills at Gouverneur.

Production of
asbestos in
the United
States.

In the United States the production of asbestos has shown a constant decrease since 1882. The product of that year was 1,200 tons, but in 1885 it fell to 300 tons, and in 1889 the only asbestos mined in the country was 30 tons raised in California. In 1892 it had increased to 104 tons, whereof California again produced 30 tons. This is a curious commentary on the accounts of mineral wealth which occasionally find their way into scientific periodicals. A wonderful discovery of asbestos in California was reported in the Journal of the Society of Arts five years ago. "The vein is about twenty-five feet in thickness, and has been proved to extend for a distance of 1,500

¹³ Dr. Coleman has made a further study of this mineral, which he describes as consisting chiefly of irregular bundles of a strong, fibrous mineral resembling chrysotile mixed with a dull green one like serpentine, the two passing into one another. "The serpentine mineral has evidently been formed from enstatite, since it encloses at one or two places remnants of that mineral on which it has encroached. Small amounts of pale green fibrous talc are mixed with the tough fibrous mineral, and the talc sometimes occurs in small masses by itself. In addition, one finds portions of carbonates, partly effervescing with cold dilute acid, and hence calcite; partly dolomite, or perhaps a related carbonate." And commenting upon the chemical composition of the mineral he says: "The results of the analyses correspond quite closely with the composition of enstatite, supposing its constituents to be rearranged and hydrated. They come less close to the orthorhombic amphiboles, such as anthophyllite, showing too little silica and iron, and too much magnesia and water; and they differ widely from chrysotile, having far too much silica and far too little combined water and magnesia. In physical characters however the resemblance between this fibrous mineral and chrysotile is very close. They are indistinguishable under the microscope, having the same silky fibres and parallel or almost parallel extinction. . . . It seems to correspond most nearly in chemical composition to some of the fibrous forms of monoclinic amphibole, e. g. antholite or kuppferite. The analyses given of the latter mineral differ but little from those made by the writer; but the last edition of Dana's Mineralogy drops the name entirely, and gives antholite only a very brief reference. Probably if it is to be referred to any species beyond the broad one of 'fibrous amphibole containing little or no alumina,' the name antholite is the most appropriate. The amount of combined water, which varies however in different samples, seems the only objection to such a reference."

feet, and is traceable for nearly three-quarters of a mile by croppings that occasionally come to the surface. Unlike many other asbestos deposits, this vein is almost unmixed with hornblende and tremolite. The fibres are long, silky and of a beautiful pearly lustre. The fibres are as tough as flax, and are capable of being spun into a fine thread. . . . In the same vein there appears to be an inexhaustible quantity of ordinary asbestos, such as is used for covering steam pipes, etc. The true amianthus is found in veins from one to four feet in thickness, and can be pulled out with the naked hands in tufts upwards of three feet in length.¹⁴ And yet with this wonderful vein to draw upon, the manufacturers of asbestos goods in the United States continue to get almost all their raw material from the Province of Quebec. But this is not the only instance in which British scientific periodicals have been used to boom properties in the United States and elsewhere. It is now said that development work is being carried on in Wyoming, where veins and pockets are reported to be numerous, varying in width from a few inches to four feet. Some of the fibres too are claimed to be over forty inches in length.¹⁵

MANUFACTURE OF ASBESTOS GOODS.

The manufacture of asbestos goods has developed into an important industry within the last ten years, and large establishments are employed in Great Britain and the United States. It might be interesting to describe the process by which the raw material is rolled and stirred and boiled to separate the fibre from its matrix, and how the short and long fibres are sorted; but this must be passed over. The goods into which the fibre is made up are various, and of important uses. Among these are building and lining papers, waterproof sheetings, fireproof papers, steam packing, steam pump and boiler coverings, firemen's clothing, blacksmiths' aprons, theatre curtains, lamp wicks, etc., for all of which it combines in a high degree the qualities of durability and safety. One factory at Erie, Pennsylvania, consumes 80 tons of asbestos per day.

British and
American
manufactures.

TALC.

I come now to talc, of which there are several varieties; but the principal ones are the fibrous, the foliated and the massive. These three are found in Ontario, but the largest known veins are in the counties of Hastings and Addington. Massive talc or steatite occurs in various parts of Kaladar and Elzevir, and no doubt the fibrous is found there also. The foliated has been discovered in Grimsthorpe, where there are some veins of large size. Talc has also been found in East Algoma, near the Sault branch of the Canadian Pacific Railway.

Varieties of
talc.

PROPERTIES IN ELZEVIR AND KALADAR.

Mr. D. J. Whitney of Gouverneur, N.Y., who carried on an extensive marble business in that place for twenty-five years, and who five years ago opened up marble properties at Madoc, is now interesting himself in develop-

¹⁴ Journal of the Society of Arts, December 21, 1888.

¹⁵ Mineral Industries of the United States, 11th Census, p. 730.

The talc industry at Gouverneur, New York.

ing fibrous talc properties in the townships of Elzevir and Kaladar. In the course of a conversation he gave me many interesting particulars of the talc industry as carried on at Gouverneur, and outlined a project on the part of himself and associates to utilize properties recently acquired by them in the townships above named. Until a short time ago there were six firms or companies engaged in the business at Gouverneur, but four of these have sold their interests to a syndicate composed principally of New York Central men, including William Walter Webb and Chauncey Depew. It is also believed that the Vanderbilts hold a large block of the stock. The price paid for the properties was about \$1,000,000, but the syndicate has organized with a capital of \$2,000,000 preferred and \$3,000,000 ordinary stock—the latter to get no share of earnings until the former has been paid ten per cent. Since this syndicate has entered into possession, the New York Central has secured control of the Rome, Watertown and Ogdensburg road, and branches have been built to all the mines and mills, thus greatly facilitating the working of the mines, but at the cost of displacing \$100,000 of labor for teaming every year. The two other concerns refused to accept the terms offered them, and to the extent of their ability to compete with the stronger corporation, monopoly is held in check.

The rock formations at Gouverneur are similar to those of Elzevir and Kaladar, but as they are extensively covered with drift the task of prospecting them is one of much greater difficulty. Rocky ranges outcrop in places, but exploring has sometimes to be carried on by pits and cross-cuttings through the drift. As a consequence, when mineral is discovered and a shaft sunk upon it, tunnels are carried on for long distances—from a quarter to half a mile. Some of the shafts have been put down to a depth of 300 feet or over, but it does not appear that even at this depth bottom has been reached.

The mineral occurs in large pockets or lenses, which thin out at the edges to the vanishing point, but by following on the show new bodies of similar form are almost always discovered. It is either soapstone or talc, some portions of which are slightly fibrous and nearly all of it white; but according to Mr. Whitney none of it contains the long, fibrous crystals which constitute the chief portion of the Ontario mineral.

The rock is ground either in a cyclone pulverizer, or in cylinders holding flint nodules, which by attrition reduce a charge of 1,500 lb. to the consistency of flour in a few hours.

Uses of the mineral.

The foliated talc, which is found in some places, is in little request, but it is quite suitable as filling for wall paper. The fibrous and non-fibrous or massive varieties are about equally valuable as filling for printing paper, to which it gives weight and strength, especially the fibrous material. Formerly French clay was chiefly used for this purpose, but not more than thirty per cent. of it is retained in the pulp, whereas seventy-five or eighty per cent. of the talc is so retained. The foliated talc, no matter how finely it may be

ground, maintains its scalelike form, and it is found that printing paper containing it scales off in the press and fills up the face of the type, so that a clear impression cannot be got.¹⁶

The ground talc is used as an adulterant in many ways, such as in the manufacture of paint and asbestos, and sometimes it is even added to flour; but, as in the case of all other adulterants, the users of it are careful to conceal the fact. One asbestos manufacturing concern receives three or four car loads per week of ground fibrous talc from the Gouverneur mills, and no doubt it is used in the production of asbestos goods. Mr. Whitney also says that twenty-five tons per week of the finer grade is shipped to Canada as French clay and sold to the paper mills; but this statement does not appear to be confirmed by the Government trade tables.¹⁷

The fibrous mineral of Ontario may be utilized for all the purposes of the Gouverneur article, but the long fibre will be much more valuable for the asbestos trade. By sifting, the several grades may be easily separated—the finer qualities to be sold to the paper, and the coarser or more fibrous to the asbestos manufacturers. The Gouverneur product is in part exported to Europe, but the Canadian will have an advantage in furnishing a better article, and possibly in securing cheaper rates of delivery to the seaboard. It may also find favor in the United States, owing to its wider range of qualities.

The four concerns which have sold out to the New York Central syndicate, along with Mr. Whitney and his brother, purpose to engage in the industry in Ontario. They have been taking up properties during the past summer, and some development work has already been done upon them, especially on lot 8 in the first concession of Kaladar, adjoining the property of the Standard Asbestos Company in Elzevir, but they are anxious to prove that the mineral is procurable in sufficient quantity before undertaking the erection of mills to treat it. A plant of suitable capacity will cost about \$100,000, and they are careful not to go into so large an undertaking before knowing that they can depend on the source of supply of the raw material. Fibrous hornblende is also valuable for the same purposes as talc, and Mr. Whitney believes that there are large bodies of it in the district, as well as talc and actinolite.

A New York syndicate exploring in Ontario.

¹⁶ Since this section of the Report was put in type the Berlin School Supply Company has found a new use for talc, viz., as material for the manufacture of school crayons. A suitable variety for this purpose is obtained in the eastern part of the Province, and when cut with saws into convenient size and form it is a superior crayon for the blackboard. It makes a clean white mark on board or slate, does not easily break or crumble into dust, and will out-wear half a dozen of the crayons in common use in the schools. It is being used for the same purpose also in North Carolina.

¹⁷ A peculiarity of the Grimsthorpe foliated talc is that it contains nickel; but it has not yet been discovered that this metal is present in workable quantity. The following analysis of a sample from the property of the Kent Brothers, Kingston, has been furnished to the Bureau by Prof. Nicol, of the Kingston Mining School:

Silica	62.95
Ferrous oxide	2.57
Alumina .....	.85
Magnesia	27.87
Nickel oxide .....	.17
Water	4.75
Total	99.16

THE TALC BELT OF NEW YORK.

Growth of the
talc industry
of New York
State.

In a paper on the Talc Industry of the Gouverneur district, contributed by Axel Sahlin, M.E., of New York, to the Schuylkill Valley meeting of the American Institute of Mining Engineers in October, 1892, that authority describes the talc belt as having a length of eight miles by a width of one mile. "Since 1879," he says, "ten distinct mines have been opened, and some of these have reached a depth of 400 feet or more on the slope. The present output from these ten mines amounts, according to a close estimate, to 51,000 tons per annum, which figure however could be readily doubled if the reducing mills had the capacity to handle the larger quantity. The cost of mining varies from 60 cents to \$1.25 per ton, to which must be added the royalty charged by the land owners, amounting to from 50 cents to \$1.00 per ton of talc raised. The transportation of the rock to the mills by wagon or sleigh, over wretched country roads, costs from \$1.35 to \$1.50 per ton. The total cost of talc rock deposited at the different mills therefore varies from \$2.25 to \$3.75 per ton. . . . About thirteen years ago the first talc mill was started on a modest scale at Gouverneur. Now eight efficient mills produce yearly 50,000 tons of talc, all of which so far has found ready sale without even being advertised. . . . As yet," he concludes, "the talc industry is in its infancy, and hardly known beyond a few localities. When once the fibrous mineral pulp shall have become familiar to the paper trade of the world, it will not be the want of a market, but the scarcity of talc that will regulate and limit the development of the peculiar industry of Gouverneur."¹⁸

With such a promise for the talc industry in a small district of the State of New York, is it not worthy also of receiving a measure of attention in Ontario, where the raw material is believed to exist over a much larger area and in far greater quantity? To know the names of minerals has its value, and our doctors and professors cannot study names too carefully. But what the country most cares for is the minerals themselves, and the best way to win them and convert them from a mere natural resource or possession into tangible and potential wealth.

¹⁸ Trans. Am. Inst. Mining Engineers, vol. XXI, pp. 585-7.

V.

VITRIFIED BRICK FOR STREET PAVEMENTS.

It is often said that the condition of a country's highways is the measure of its progress, yet in this America of ours, where there are many other social and economic anomalies, we have a high degree of civilization existing contemporaneously with very bad roads. The common country road of this continent is as inferior to the ordinary road of Great Britain or of almost any of the countries of continental Europe as are the bridlepaths and mud-filled lanes of China to our own highways. There is a reason for everything, and we may find some compensating advantages in the absence of those military considerations which make good roads a matter of prime importance to the nations of Europe. But the loss to the country at large, and particularly to the farmer, through the bad condition of our country roads, which amounts at certain seasons of the year to absolute impassability, can hardly be estimated.

Roadways of Europe and America.

What good roads are to the rural population, good streets are to the dwellers in towns and cities, but in a higher degree. They are the arteries through which flows the tide of urban life, and it is of the very first consequence that they be made of suitable material and properly constructed.

The problem of life is how to get the greatest possible return for the least possible outlay; and this is true in the realm of mechanics as well as in that of finance. The drawing of a load along a city street is an example of the expenditure of force. The motive power is the horse or other animal, the weight to be moved is the vehicle and its contents, and the roadway supplies the plane in which the motion takes place. The energy exerted by the horse is absorbed in the work of starting the load and keeping it in motion, and this involves the overcoming of what may be called the internal friction of the wagon, viz., the pressure of the axles on the hubs, as well as the inertia of the load itself and the resistance offered to the forward motion of the wheels by the pavement. In proportion to the size and number of the obstacles interposed by the pavement—in other words, in proportion to its roughness—will be the difficulty of moving the load and the amount of resulting wear and tear. It is obvious that this wear and tear will not fall upon the pavement alone. The heavier the task, the greater the strain upon the motive power, viz. the horse. Extra exertion will make him prematurely old and reduce his value. The vehicle, too, comes in for its share. Tires are worn out, spokes and axles are broken, bolts are shaken loose, and the life of the vehicle as well as of the horse is shortened. The effects of the friction are seen in decrepit horses, worn harness and broken wagons, and not alone in ruts and holes in the pavement. Indeed, if a perfectly indestructible material could be got of which to construct our roadways, even at moderate cost, it might

The problem of greatest return for least outlay.

Cost of wear and tear.

be found that such a material would be extremely expensive, were it to present a surface of unusual roughness. From the fact however that the adverse effect upon horses and vehicles is distributed over a large number of private individuals, it is very difficult to estimate this factor in any particular case, or relatively as to the various kinds of pavement. The cost of pavements themselves can be calculated to the last cent, but only an approximation can be made to the expense entailed by wear and tear on horses and wagons. The former is generally defrayed out of the public purse, while the latter falls upon individuals; hence cheapness and durability are usually the particulars most prominently considered when a new pavement is in contemplation. It is plain that the ratio of effect on horses and vehicles must be very much larger in the case of the rougher pavements, such as those made of wooden blocks, granite, and even macadam, than in that of asphalt or brick, which present a surface of so much greater smoothness. Other things being equal, the smoother the pavement the better it is. The question of wear upon horses and carriages in relation to the various kinds of pavement has probably not yet received the attention which it deserves, although it is a very important factor in determining the superiority of one sort over another.

The axiom of good pavements.

THE QUALITY OF ROAD MATERIALS.

Materials of road-making

To the maker of roads and streets a wide choice of materials is open; and accordingly we find him making his selection from the mineral, vegetable and even the animal kingdom. In some of the southern States, for instance, the shells of the oyster are pulverized and spread out in a glistening pavement; and wood of various sorts and in many forms invites use by its cheapness and adaptability. The corduroy of the bush settlements, whose spring-breaking joltiness is preferable only to the mud of the swamps through which it is laid; the plank roads, once common in certain parts of rural Ontario; the cedar blocks of our towns and cities, not to speak of the cubes of real mahogany with which the fastidious rulers of Paris are now said to be ornamenting the streets of that luxurious city at a cost of £2 per square yard,—all testify to the utility of wood for paving purposes.

in rural districts.

But it is naturally to the mineral constituents of the earth's crust, either in raw or manufactured form, that the road builder looks when it is determined that art must be called to the aid of nature. The mud road of the country is tolerable, even comfortable, in summer when the dust does not ride on the wings of the wind; but when the spring or fall rains have converted the clay or soil into a glutinous mass of varying depth, or when the pathmaster has just finished laying on his annual contribution of loose gravel or soft earth, travel becomes difficult and hauling of heavy loads impossible. Gravel roads, such as are found in some parts of western Ontario, when well made and kept in repair afford an agreeable contrast to the ordinary mud roads, and really add largely to the value of the farms in front of which they pass. Broken stone is a step in advance of round gravel, but in this country Macadam numbers few followers outside of towns and cities, and in the latter, macadamized surfaces, though suitable for light traffic,

are falling into disfavor because of their uncleanness and the expense entailed by constant repairs.

For city streets, stone or granite sets, asphalt and vitrified brick are all in use, and each one of these several materials possesses excellent qualities for paving purposes. As compared with wooden blocks, each of them is preferable in almost every particular, except in the important one of cost. and in the cities and towns.

The vast stretches of cedar block pavement which have been laid down in the city of Toronto, for instance, cannot fairly be said to have been successful. On side or residential streets, where the butcher, the baker, the grocer and the milkman provide the bulk of travel, cedar blocks do tolerably well. They are not expensive to lay, repairs are easily made, and where the traffic is light they preserve an even surface for a considerable length of time. But where heavy loads are numerous and travel constant, cedar blocks are altogether out of place. The edges soon wear off, leaving each separate block of a rounded, almost semi-globular form, and producing a surface comparable in roughness to that of a swamp corduroy. The porous nature of the blocks permits them to absorb a very large portion of the liquid filth which falls on the street, and this, added to the dirt, droppings, etc., which lodge in the hollows between the worn blocks and which ordinary street cleaning is powerless to remove, forms a mass of decaying, germ-breeding matter not only offensive to the sight and smell, but injurious to the public health. The life of a cedar block pavement varies somewhat in proportion to the travel over it, but on heavy traffic streets in cities like Toronto it does not exceed four or five years. Where traffic is light another source of decay is in the blocks not being kept constantly moist, but being alternately wet and dry they succumb to rot almost as soon as they would have done to the wear and tear of heavy traffic. Cedar blocks.

The good qualities of a granite pavement are many. It is not indestructible, but it is adamant compared with wooden blocks; and in a list of all the materials used for street paving, so far as time and experience have yet disclosed their relative durability, the first place would probably belong of right to granite. Possessing this prime requisite for paving purposes—high powers of resisting wear—and being comparatively unobjectionable from a sanitary point of view, were granite smooth and inexpensive, one would probably be tempted to look no further for a paving material. There are vast stores of granite in the archæan formations of our own Province, much of it convenient for shipment by water or rail; and in places where dray and freight traffic impose their severe tax upon the resisting qualities of a pavement, granite will probably always remain in use notwithstanding its comparatively high cost. The expensiveness of granite sets is due largely to the amount of labor necessary to properly dress and shape them, an item which cannot be avoided and which is not offset even by our comparative nearness to the places of supply. A granite pavement affords a better foothold for horses, especially in wet or frosty weather, than asphalt, but it is not so smooth, and its adverse effects upon both horses and vehicles is certainly very much greater. Granite.

Asphalt pavement is exquisitely smooth. It offers less resistance to the passage of vehicles than any other pavement known, and is very easily swept and kept clean. From a sanitary point of view it is entirely unobjectionable. Asphalt.

and when made of pure lake asphalt it is durable. Carriages and wagons make little or no noise passing over it, but the clatter of the horses' hoofs is not inconsiderable. The drawbacks to asphalt pavement are its very high cost, its slipperiness, especially when covered with a coating of ice or sleet, and the injury and expense attendant upon disturbing it for repairs to sewers, gas pipes, etc. The asphalt pavement first laid down in the city of Toronto was on that part of Bay street which lies south of King, and after five years' existence it is still in perfect condition, while on many other streets pavements since put down are showing numerous cracks which are rapidly becoming fissures, and other symptoms of wear. There is also a difficulty in making repairs to asphalt pavement, as it is no easy task to fuse the new material with the old, and if this is imperfectly done a weak spot is left to become a centre of disintegration. Another drawback of minor importance is the fact that in cold weather an asphalt pavement cannot well be sprinkled with water to keep down the dust, as a thin coating of ice is immediately formed, troublesome and even dangerous to horses. The life of an asphalt pavement is variously stated, some placing it at from seven to ten years where the traffic is heavy, and from sixteen to twenty years where it is light. There has not as yet been sufficient experience with asphalt in our own climate to judge with accuracy how long it may be expected to last under ordinary conditions, but the figures given above are probably not far from the mark. Very much however, as is evident from the experience of Toronto, depends upon the quality of the material and work.

Brick.

A brick pavement made of good material, properly laid, is almost everything that a pavement should be. It is smooth, ranking in this respect next to asphalt, and consequently offers a minimum amount of resistance to the passage of traffic, and inflicts a minimum of wear and tear upon horses and vehicles. It has the advantage over asphalt that, while it is smooth, the small spaces between the bricks afford a foothold for horses and prevent their slipping. So far as sanitation is concerned, it leaves little to be desired. It can be swept, cleaned and washed with ease, ranking in this respect next to asphalt, and far superior to granite or wood. It has none of the absorptive properties of wood, being nearly as impervious as asphalt and granite, and consequently escapes the odium which attaches to wood pavements of harboring filth and decaying organic matter. No pavement is noiseless, but in this particular brick comes next to asphalt and excels granite, being quite devoid of the "bumpiness" which characterizes the latter. It is easily laid and easily taken up when underground repairs are to be made, being almost as convenient to handle as wooden blocks and quite as much so as granite. The question of the durability of brick pavements is one that has been much discussed, but although American experience in this line has been largely confined to the last ten or twelve years and a final judgment cannot therefore be pronounced, it is everywhere the opinion that in point of durability brick is not excelled by any other material. The first streets paved with brick in America are at Charleston, W. Va., and Bloomington, Ill., where the pavement has been down about twenty years. In the former place it has given "entire satisfaction," and in the latter the verdict is equally favorable. It "gives

universal satisfaction, and stands heavy traffic, showing no signs of wear." At Wheeling, W. Va., where there are twenty miles of brick pavement, the first was laid in 1883. There, too, the city authorities are emphatic in its praise as being economical, durable, sanitary and smooth.

BRICK FOR BUILDINGS AND PAVEMENTS.

As a building material, brick came very early into use. At the dawn of history we find it employed in the erection of large and important structures which were intended to be a lasting memorial of those who built them. It is narrated in the oldest and most trustworthy record of the primal days of man that "The whole earth was of one language and of one speech. And it came to pass, as they journeyed from the east, that they found a plain in the land of Shinar; and they dwelt there. And they said one to another Go to, let us make brick and burn them thoroughly. And they had brick for stone, and slime had they for mortar. And they said Go to, let us build us a city and a tower whose top may reach unto heaven; and let us make us a name, lest we be scattered abroad upon the face of the whole earth."¹

It is evident that the bricks spoken of here were not of the ordinary sun-dried variety common in the East, which were without doubt the first kind made and well known to these early builders, but kiln-burned brick of a superior quality. They were bricks "burned to a burning" employed in the erection of a building which was to be of great height and durability; and the emphasis placed upon the thoroughness of the burning shows that experience had already proven the value of long exposure to great heat in improving the quality of brick, both as regards its crushing strain and its power of resisting the elements. Indeed, from a careful reading of this passage, one might be almost inclined to claim that we have here the first mention of vitrified brick. We know also that at a later date the lives of the children of Israel in Egypt were made "bitter with hard bondage, in mortar and in brick," and that when their taskmasters withdrew the allowance of straw which they were accustomed to mingle with their clay, they were nevertheless required to furnish the same tale of bricks as before. It is probable that the Israelites were set to work upon the alluvial deposits of the Nile, whose sandy loams were wanting in tenacity and plasticity and required the admixture of some such material as chopped straw to enable the bricks to withstand the necessary handling before being dried. The treasure cities upon which the hapless Hebrews were engaged, Pithom and Raamses, have yielded their secrets to the archaeologist, and bricks containing chopped straw or stubble have been unearthed from the courses where in all probability they were laid by the compatriots of Moses and Aaon. These were most probably sun-dried brick, such as would soon crumble to pieces in our climate, but which under the rainless sky and eternal sunshine of Egypt have been preserved until now in as good condition as when laid. Hard-burned bricks have been found among the ruins of many of the buried cities of the East. At Khorsabad, a little modern village on the Tigris, on the site of the great palace built by King

Early use of brick for structural purposes.

Brick of Babel.

Brick of the treasure cities of Egypt.

Brick of buried cities of the East.

¹ Genesis xi: 1-4.

Sargon, a pavement has been uncovered of artificially burned bricks, so hard that when struck they rang like a bell; as well as arched covers for sewers formed of radiating bricks accurately moulded, and glazed wall tiles in profusion.

PAVING BRICK IN MODERN TOWNS AND CITIES.

But though sun-dried and kiln-baked brick were among the earliest of architectural materials, the use of brick for paving purposes is of comparatively modern origin. Streets in some towns of continental Europe and England have been laid with brick for many years; but it is in the United States and within the last ten years that the reign of paving brick may be said to have begun. To show the extent of the favor to which it has already attained, it has only to be said that in September 1893 there were in the United States no less than 139 manufacturing establishments in which street brick were made, and 311 towns and cities in which brick pavements were in use. Some of these manufactories are of great size, turning out as many as sixty millions of brick per year, and the industry is still rapidly expanding. Nor is the use of paving brick confined wholly to the smaller class of towns or cities. Among the large places which are giving it a trial are Boston, Detroit, Washington, Minneapolis, St. Paul, Buffalo, Rochester, Cincinnati, Cleveland, Kansas City, Atlanta, Louisville, Pittsburg, Philadelphia and Chicago. A recent list shows that in the State of Michigan eight cities have given in their adhesion to brick, in West Virginia nine, in New York sixteen, in Indiana seventeen, in Iowa twenty, in Pennsylvania thirty-nine, in Illinois forty-four, and in Ohio fifty-six.

The testimony given by these places is almost unanimous in favor of brick as a paving material. Judge E. H. Thayer of Clinton, Iowa, president of the Iowa Road Improvement Association and editor of the *Clinton Daily Age*, says in a letter to the Bureau, dated 22nd March, 1894: "Vitrified brick for street paving is in general use in the West. For heavy traffic there can be no superior, and it answers the purpose fully as well as granite. In my opinion, it is the paving of the future of this entire country." Charles P. Chase, C.E., also of Clinton, and author of an excellent handbook entitled *Brick Pavement*, published in 1891, says under date of 6th April, 1894: "If the best quality of brick is used and the work well done, I have no doubt but that it is the cheapest and most durable pavement for the money that can now be obtained. Our cities are disgusted with wooden pavements when compared with brick; and granite and asphaltum are too expensive as a general thing. The best brick well laid will make a pavement as good as granite, except on streets where the heaviest traffic is carried on. It is easily laid or removed for repairs, is clean and sweet as compared with wood, and not as slippery as asphaltum or granite, and not as noisy as granite. . . . Our people here, and the same is true of other cities in this part of the United States, are pleased with the pavement, and the city is unable to furnish it as fast as the people call for it." In Chicago, if anywhere, the conditions of travel and traffic are sufficiently severe to put any kind of paving material to the test. In a letter dated 27th March, 1894, Mr. A. W. Cooke, Chief

Introduction
of paving
brick in
America.

Testimony in
favor of the
material

from Iowa.

from Illinois.

Engineer, Department of Public Works, Chicago, says: "Vitrified brick as a material for roadway paving has been extensively used in the United States for more than twenty years, principally in the cities and towns in the western central States, and whenever properly used has never failed to give satisfaction. . . . As compared with asphalt, granite and cedar block pavement, vitrified brick ranks second as to first cost; first as to cost of maintenance; first as to ease with which it can be repaired; first as to durability under traffic; third as to noiselessness; second as to freedom from dust; first as to freedom from decay; second as to freedom from absorption; first with granite as to foothold for horses; and second as to ease of traction. In a sanitary point of view it is without a superior, and excepting asphalt, without an equal." In view of the great size of Chicago, the immensity of the traffic carried on there, and the wide experience which that city must necessarily have had with the various kinds of pavements, the certificate of Chief Engineer Cooke is high praise indeed. The city engineer of Memphis, ^{from} Tennessee, states that the pavements in that city are principally granite, limestone, gravel, macadam and vitrified brick. Of the last he says: "It has been in use in the city of Memphis under medium heavy traffic since April, 1889, during which time the city has not spent one dollar for repairs except where the pavement was torn up for repairs of gas and water pipes. I believe that the brick pavement is destined to supersede the various pavements heretofore used, and that it will be generally accepted in many cities except for very heavy traffic. It has given general satisfaction in Memphis as a sanitary pavement, being easily and economically cleaned. It is comparatively free from noise, and does not tax the nervous system like the stone and granite pavements. The surface is smooth, pleasing to the eye and affords a fair foot-hold for horses."² Many other similar expressions of opinion could be quoted. The sincerest testimony however which can be given is the rapidity with which the cities in all parts of the United States are adopting the new pavement. Mr. C. M. Rickard, City Engineer, Springfield, Ill., ^{and elsewhere.} says: "Street paving was begun in this city in 1883, and carried on to such an extent that in 1887 about twenty miles of streets were paved. The material used was hemlock boards and white cedar blocks, without tar. The life of this pavement laid on the hemlock boards was about seven years. . . . We have now begun repaving, and in the next few years all the old block pavement will have been replaced with brick. . . . During the year 1893 three miles of brick streets were paved at an average cost of \$1.26 per square yard. During the coming season there will probably be about four or five miles of streets repaved."³ There are sixty miles of it in Philadelphia and Germantown, eighty-five miles in Columbus, Ohio, ten miles in Indianapolis and five in Cincinnati, while New York, which has experimented with every variety of street material, is now paving Broadway south from Central Park with brick. The city engineer of Washington, says: "Owing to their more enduring qualities, we are paving all alleys with vitrified brick and repaving the gutters of streets paved with asphalt with them, as they have

²Paving and Municipal Engineering, February, 1894, p. 55. ³*Ib.* p. 79.

better wearing qualities, and are not affected by water or uric acid from horses as is asphalt, and most of the new pavement is being laid with brick." The cities of the very first class, such as New York and Chicago, have been somewhat slow in making use of the new material, doubtless because of a suspicion that it might not withstand the impact of heavy loads and constant travel. Yet in the latter city the Chicago, Burlington and Quincy Railway Co. experimented with stone, asphalt and cedar blocks at its freight yards, and after discarding all for various reasons, put down brick, with the result that after a tonnage of 12,500 tons had passed over it daily for four years not a broken brick could be found. That company is so well satisfied with its experience in Chicago that it now uses it for paving all its yards where there is heavy traffic, its recent order for the St. Louis yards being a million and a half of brick.

A severe test
in Chicago.

Forecasting
brick pave-
ment works
for 1894 in
the U. S.

In the May (1894) number of *Paving and Municipal Engineering*, an excellent journal published at Indianapolis and devoted to subjects indicated by its name, a forecast is made of the extent and cost of public improvements to be made this year in fifty-four cities of the United States, based on returns received by the editor. Thirty-two cities report projected pavements as follows: Asphalt 288,163 sq. yds., brick 524,143 sq. yds., and macadam 383,086 sq. yds. The figures representing the cost are incomplete, but it is significant that the area proposed to be laid with brick is much larger than that to be covered with either asphalt or macadam, and is nearly equal to that of both combined. Louisville, Ky., appears in the list for 150,000 sq. yds. of brick at a cost of \$525,000, but the bulk of the outlay for brick streets is undertaken by cities of moderate size. Thus Burlington, Iowa., is down for 40,000 sq. yds., costing \$75,000; Decatur, Ill., for 33,000 sq. yds., costing \$50,000; Danville, Ill., 40,000 sq. yds., costing \$75,000; Huntington, W. Va., 20,000 sq. yds., costing \$25,000; and Tiffin, Ohio, 25,000 sq. yds., costing \$68,000. On the other hand, Chicago proposes to lay 39,000 sq. yds. of asphalt at a cost of \$117,000, and 250,000 sq. yds. of macadam at a cost of \$225,000, while it is investing in only 6,000 sq. yds. of brick, costing \$12,000. Milwaukee is covering 100,000 sq. yds., and Indianapolis 95,066 sq. yds., with asphalt, while the latter city proposes besides to lay 40,700 sq. yds. of brick. It is evident therefore that while some cities of the first class are slow to commit themselves to brick pavements, brick is fast becoming, if it has not already become, the favorite material for towns and cities of less than the largest size.

Brick paving
in Ontario.

Chatham.

So far as is known, only two places in Ontario have made use of brick as a paving material. One of these is the town of Chatham, where in 1890 a brick pavement was laid down on King street, from the Rankin House almost to the Garner House, the busiest part of the main thoroughfare. The bricks were purchased from local brickmakers and were made from clay adjoining the town. They were not burnt hard enough for durability, but the pavement is in fairly good shape yet, and all are agreed that brick is the material for Chatham, provided suitable clay could be got and the brickmakers there had the proper appliances for burning it. The other place where vitrified bricks have been put down is Toronto, and to those

who have not watched local affairs closely it may be news that there are four Toronto miles of streets in this city paved with vitrified brick, all of which were laid down last year. The following are the streets: Dundas street from the bend to Lansdowne avenue; Lansdowne avenue from Dundas to College; College from Lansdowne avenue to Bathurst; Bathurst from Queen to Bloor. The pavement is between the street-car rails only. The bricks of which it is composed are all imported from the United States, partly from Massillon, Ohio, and partly from Canton, Ohio. The foundation is a bed of concrete, on which is laid a cushion of sand one inch in thickness, and on this the bricks are placed on edge at right angles to the kerb. They are laid as close to one another as possible, and the interstices are completely filled with paving pitch or Portland cement. Pitch is used on Bathurst street between College and Queen, and on College street between Bathurst and Dufferin, and cement on the remainder of the pavement. The cost of paving brick laid down in Toronto is from \$20 to \$23 per thousand, made up as follows: Price at place of manufacture per thousand, \$9 to \$10.50, freight \$9 and duty \$3. It takes from 60 to 64 bricks to lay a square yard of pavement, allowing for breakages. The brick pavements in Toronto having been down scarcely a year do not afford data for a conclusion as to their durability; we expect them to be yet practically uninjured and as good as when laid down. This on examination we find to be the case, and although, owing to the pavement being between the car rails only and thus by its position as well as by its smoothness offering a double inducement to vehicles of all kinds, it has received more than its fair share of travel, the only visible mark of wear is a slight rounding-off of the edges of the bricks. The comparative cost of the various kinds of pavement used in Toronto is as follows, including foundations:

Cedar block on 6 in. sand	\$.75 per sq. yard.
Cedar block, on 2 layers of 1-in. boards, with tar composition.	1.39 "
Cedar block, on 6-in. concrete	1.50 "
Light asphalt, 4-in. concrete, 2-in. asphalt	2.10 "
Vitrified brick, on 4-in. concrete	2.25 "
Heavy asphalt, 6-in. concrete, 2½ in. asphalt	2.60 "
Granite sets on 6-in. concrete	3.85 "
Scoria blocks on 6-in. concrete	4.00 "

The city authorities are very favorable to the use of brick as a paving material, considering it suitable for traffic of any kind, whether heavy or light. If good paving bricks were made here and sold for the same price as that charged by the United States manufacturers in their own markets, a saving of from 65 to 75 cents per square yard over present cost could be effected, which would reduce the cost of brick pavement to practically that of cedar blocks. In such a state of affairs there would be no choice whatever between the two kinds of pavement. The inodorous, bumpy, short-lived block would disappear forever before the clean, smooth, warm-colored and durable brick. There are miles of cedar block pavements in Toronto which are approaching the point when they must either be renewed or replaced by some better material. It would be a calamity if cedar blocks were again laid to furnish a repetition of the nuisance which this kind of pavement becomes in its unlovely old age; while on the other hand, a public benefit of no mean kind would be conferred by replacing them with smooth, lasting and sanitary brick roadways.

Comparison with cedar blocks as to cost.

Cost of brick pavements in the U. S. The cost of brick pavements in the United States varies considerably with the kind of foundation employed. It ranges from \$1 to \$2 per square yard, the average being perhaps about \$1.50. The cost of the bricks themselves for a single course pavement at a selling price of \$10 per thousand is about 65 cents per square yard. A few samples of the cost of brick pavements, together with the various kinds of foundation and methods of laying the brick adopted, may be quoted from Mr. Chase's manual, above referred to :

Bloomington, Illinois. In Bloomington, Ill., where some of the pavements are twenty years old and but little worn, the manner of laying is as follows : The foundation is brought to proper shape and well rolled ; then a course of cinders is spread on and compacted by rolling ; on this is placed two inches of sand ; then the first course of bricks on their flat sides with their long axes parallel to the street. Next comes an inch of screened sand, and then a layer of bricks edgewise on their two inch surface, and long axes at right angles to the street. The bricks are then covered with sand, which is swept into the cracks, and the whole pavement rolled with a heavy roller. There is no necessity of the sub-course of brick being as hard as the upper course, but care must be taken to break joints in both courses. The entire pavement, including all materials, cost \$2 per square yard. A line of pavement running to the depot had, in 1891 been down for seven years, carrying all the freight to the railway and all coal from the coal shafts, a very heavy traffic, without showing any appreciable sign of wear.

Decatur, Ill. In Decatur, Ill., the specifications required ; (1) foundation brought to desired crown 12 inches below grade and rolled with a heavy roller ; (2) a course of clean gravel, none larger than a robin's egg ; (3) one course of brick flat-wise, then one and a-half inches sand, and a course edgewise, and brick brought to a surface by striking with a maul on a plank ; (4) sweep in dry sand ; (5) brick extra hard and vitrified. The cost is \$1.50 per square yard. The oldest brick pavement at this place had been down six years in 1891, and then showed but little wear.

Steubenville, Ohio. At Steubenville, Ohio, hard burned bricks are used, chiefly obtained from New Cumberland, W. Va., and have given satisfactory results. They are laid on foundations of gravel similar to that used at Decatur. The wear is estimated at one-fourth to one-half an inch in five years. Cost of pavement, \$1 per square yard.

Peoria, Ill. At Peoria, Ill., Franklin street, which in 1891 had been paved with brick three years and a half, is one of the principal thoroughfares and has a very heavy traffic. It was as pleasant to ride on as asphalt, and showed little or no signs of wear. The bricks used were larger than ordinary, being four inches thick, twelve inches long and five inches deep. They were laid on five inches of rolled gravel, the joints being filled with sand. Contract price, \$1.70 per square yard.

A record of forty-two cities. In an admirable article on the Manufacture and Use of Paving Brick, read before the International Engineering Congress of the World's Columbian Exposition by Daniel W. Mead, that gentleman gives a table of forty-two cities in the United States where brick pavements are in use, showing the number of years the pavement has been down, the kind of foundation, the

average cost per square yard and other particulars. Cincinnati is shown to have laid a quantity of pavement four years ago on six inches of concrete at a cost of \$2.50 per square yard; a similar pavement in Indianapolis cost \$2.40 per square yard; one in Wheeling, W. Va., laid eleven years ago on eight inches of gravel, cost \$1.35 per square yard, while the premier pavement in Charleston, W. Va., placed in position twenty-three years ago on a foundation of three and a half inches of sand and tarred boards, cost only \$1.15 per square yard. In the cities of Illinois and Iowa, where paving brick is more largely used than in any other part of the United States, except perhaps Ohio, a variety of foundations is employed, comprising broken stone, cinders, sand, gravel, concrete, and usually a course of brick laid flatwise, which may be of inferior quality to those forming the actual surface of the street. A common foundation is six inches of broken stone, covered with two inches of sand, either with or without the overlying sub-course of brick laid flat. Six inches of concrete is also frequently used, and sometimes sand alone forms the bed on which the bricks are placed.

In the last-mentioned case the expense is low, as at Council Bluffs, where the pavement is stated to have cost only \$1.32 per square yard. A pavement resting on six inches of broken stone with a course of brick flat cost at Alton, Ill., \$2.16 per square yard; at Springfield, Ill., one on six inches of cinders cost \$1.50 per square yard; at Clinton, Ia., one on six inches of broken stone with sand, \$1.35 per square yard; and at Dubuque, Ia., six inches of concrete foundation brought the total cost of pavement up to \$1.69 per square yard.

FOUNDATION FOR A BRICK ROAD-BED.

A good foundation is as essential with vitrified brick as with any other kind of paving material. However excellent the surface covering of the street may be, it cannot but fail of achieving the best results if it does not rest on a proper substructure. The road-bed should be thoroughly drained, so as to secure the greatest possible freedom from moisture, that arch-enemy of pavements, equally objectionable in fluid or frozen form. When brought to proper sub-grade, the whole surface of the roadway should be thoroughly consolidated by rolling or ramming. If the bed to overlie this is of gravel or broken stone, it should consist of pieces of uniform size, not too large, and free from dirt. If of concrete, the sand entering into the latter should be sharp, the cement of first-class quality, and there should be a due proportion of each in the mixture, say three parts of sand to one of cement; and the fragments of stone to complete the concrete should be angular, with rough faces, clean and not excessive in size. The concrete when deposited on the sub-grade should be rammed until loose mortar appears on the surface, and sufficient time should be allowed for it to set before placing the brick in position. On the concrete a layer of sharp, dry sand should be spread to the thickness of an inch or an inch and a half, to act as a cushion on which the bricks may rest. The bricks are placed on this on edge at right angles to the street, and in order that the joints may be broken, each alternate row should start at the kerb with half a brick. The bricks should be as close to

Importance
of a good
foundation.

one another as it is possible to lay them, and the interstices filled in with sand, paving pitch or cement. The last named is preferable for a lasting and substantial piece of work, as it is impervious to water and not loosened by the heat of the sun, which is not the case with sand and paving pitch, respectively. A drawback to the use of cement for this purpose is the length of time it takes to harden, while the pitch consolidates in a few minutes. It is difficult to exclude traffic from a street long enough to allow the cement to thoroughly and properly set.

Facility of making repairs or improvements with brick pavement.

It is frequently necessary to disturb the surface of the street in order to make repairs to sewer and gas pipes, water mains, etc., and the facility with which a pavement can be taken up and relaid is an important consideration. Brick is far ahead of asphalt in this particular, and is as easily taken up and relaid as either granite or wooden blocks. When the joints between the bricks are filled with sand, the bricks may be removed, cleaned and placed in position again with little or no trouble, but if pitch or cement be used, such repairs generally involve the destruction or rendering worthless of the bricks removed.

Suiting a foundation to the necessities of a street.

It is evident that for heavy and constant traffic, a foundation such as is described above is an absolute necessity, if a brick pavement is to have a fair opportunity of proving its smoothness and durability. For lighter traffic a less expensive foundation may suffice. The engineer of an Ohio town states that last year he put down a considerable area of brick pavement on a foundation of six inches of clean gravel, and one inch of sand. The usual drain pipes were omitted. The whole pavement, when completed, cost \$1.28 per square yard. Such construction might perhaps serve the purpose in small towns, but could scarcely be expected to stand the strain of heavy traffic. Mr. Mead says :

“For light traffic, the fragmentary materials, (rubble, gravel, sand, etc.,) or sand with a layer of brick laid on their side, or six inches of concrete, make good foundations, the selection depending on the local resources. For medium traffic, nine inches of stone or gravel, or six inches of gravel or stone with a layer of brick laid on their sides, bedded in sand, or six inches of concrete, will give good results. For heavy traffic, the stone or gravel should be at least one foot in thickness, or the concrete at least nine inches.”

Preferred size of brick.

Bricks of the standard size (which in Canada is $2\frac{1}{4} \times 8\frac{1}{4} \times 4\frac{1}{4}$ inches) are to be preferred. They are more likely to be thoroughly vitrified than larger blocks, which are frequently found unvitrified in the centre, and they possess an additional advantage from the manufacturer's point of view. In almost every kiln of brick burnt there is a percentage of the output too soft for paving purposes. These, if of the ordinary size, may be used in building, or for sewer arches, while if too large or of an odd size they would be hardly saleable.

BEST CLAYS FOR PAVING BRICK.

All clay will not make good paving brick. Clay that will yield excellent building brick may be altogether lacking in the qualities necessary for good paving material. A brick that is made from coarse clay or one that has an excessive percentage of sand will be open and porous or easily broken, and

Tests of a good quality of clay for vitrifying.

unfit for paving purposes. The best bricks are those made from a tough, plastic, smooth clay, with a fine grain, that will burn hard without warping, twisting or melting easily under a strong heat. It is impossible to determine either from the physical properties or the chemical analysis of a clay whether it will produce a satisfactory paving brick. The latter method of examination may indeed suffice to give a negative result: that is, if it reveals a large preponderance of undesirable, or an insufficient proportion of necessary elements, we may conclude that the clay in question is unsuitable for the purpose. But a sample of clay which passes muster under chemical analysis may fail when subjected to actual test. "The analysis of a clay is only presumptive The test of analysis. evidence of its adaptation to the various departments of clay working, and never to be taken as conclusive. The intense heat of the kiln may effect decompositions and develop combinations which are beyond the reach of chemical reagents. The presence of a great mass of highly heated material sometimes exerts an influence that cannot be produced in the laboratory."⁴

Mr. Edward Orton, jr., E.M., in a well written series of papers on the Clay-working Industries of Ohio, which have appeared in *The Clay Worker* (Indianapolis), agrees that the only conclusive test of the quality of a clay is actual trial. He says: "The heat test of clays, whether applied in special furnaces or kilns in a laboratory or carried on in the ordinary course of manufacture in the kilns of a clay plant, is the only important and convincing The test of trial. test which we can apply. By it each man learns what he needs to know, and only by it can the ultimate facts be known, for no matter what the source of our opinions or expectations may be, there is no assurance of the quality of a clay but actual trial. Even the predictions of a chemical analysis are secondarily useful, for while they are founded on the results of well known laws, there are still too many unknown and unexplained contingencies in the composition of clays to make a chemical prediction more than a reasonable probability. By an analysis certain things are indicated; we expect a fire trial will develop a result in accordance; it probably will, wholly or in part; but it is usually only in part, for such is the infinite variety of composition and combination in clays, that their products are somewhat like the human face, no two alike."⁵

Clay is the immediate or ultimate product of the decomposition of felspar, chiefly of the felspathic ingredients of granitic rocks. The essential Constituents of clay. constituent is a hydrous silicate of alumina, known as kaolin, composed

⁴ Prof. R. T. Brown, formerly chemist of the United States Department of Agriculture, in *Brickmaker's Manual*, p. 167.

⁵ *The Clay-Worker*, April 1894, pp. 147-8. Mr. Orton's work in the line of clay-working and ceramics has recently been recognized. By enactment of the General Assembly of Ohio a Course of Practical and Scientific Instruction in the Art of Clayworking and Ceramics was added to the educational work of the University of that State. The department has already been organized with Mr. Orton as director, and the first term opens on September 12th, 1894. The course is intended to afford to young men engaged in brick works and potteries an opportunity to gain as much knowledge of the principal scientific studies touching their craft, with as little expenditure of time on other branches of science not so closely related to their work, as is possible. The course extends over two years, and the instruction covers physics, physical geography, chemistry, algebra, geometry, shopwork, clayworking, general and economic geology, mechanical drawing and drill. Particular attention will be given to chemistry, including the analysis of clays, limes, cements, felspars, pottery, glass, glazes, slips, enamels, etc. Tuition is practically free. This is the first instance in the history of this continent in which steps have been taken to put the ceramic industries on the plane occupied by those of mining, metallurgy and agriculture.

of silica 46.3 per cent., alumina 39.8 per cent., and water 13.9 per cent. This may be considered pure clay, which is rarely met with in nature. The clays of common occurrence contain a larger proportion of silica and a smaller proportion of alumina than kaolin, and variable quantities of numerous other ingredients, the chief of which are lime, magnesia, potash, soda and iron. The alkaline constituents of clay may be either the elements contained in the felspar of the original rock, or derived from extraneous sources; the iron is probably in most cases an added element, though originally present in some felspars as a coloring matter. Clays, considered with reference to the manner of their occurrence, may be either residual or sedimentary. Residual clays are the product of the disintegration of rocks in place, and where such a process has gone on free from the intrusion of other impurities, the leaching out of the alkalis may have left a bed of pure or nearly pure kaolin. Sedimentary clays are those which have resulted from the grinding up of rocks by glacial action, or the working over and transportation of residual beds. This class of clays is more likely to have retained the original composition of the rocks from which they were derived. Clays are found in all geological formations except the very oldest, and in many cases have, through the influence of heat and pressure, become indurated into compact rocks or shales. No one geological series has a monopoly of clay suitable for the manufacture of paving brick. The shales of various ages are now extensively used for the purpose, and even some drift clays, subjected though they have been to so many vicissitudes and exposed to contamination from so many sources, have been found to possess the requisite qualities.

An examination of the analysis of samples of clay used in making paving brick in various and widely separated portions of the United States shows that a considerable range is permissible in the proportions in which the main ingredients are present. It does not appear to be essential that the silica and alumina should bear any fixed relation to each other in quantity. In some samples the former is high, and the latter low, while in others the reverse is the case, with apparently little or no effect upon the quality of the product. Alumina shrinks, warps and cracks greatly in drying, but gives plasticity and adhesiveness to the clay and strength to the product. Silica prevents cracking and distorting, the more silica being present the less the shrinkage. But the greater the proportion of silica the less the plasticity and adhesiveness of the clay, and the weaker and more brittle the product. Neither does there appear to be any fixed standard for the fluxing constituents, either singly or taken together. What is doubtless true is that these should not fall below a minimum, otherwise the clay would refuse to vitrify; nor exceed a maximum, otherwise it would fuse too soon and melt out of shape at too low a heat.

On the subject of the physical and chemical qualities of vitrifying clay, Mr. Orton writes as follows in the series of articles above referred to:

"In examining the subject it is found that clays used for making vitrified brick are chemically different from those used in making any other form of vitrified wares. Hence the following statements may be applied to all clays in which vitrification is an essential quality.

Residual and sedimentary.

Shales.

A wide range of proportions permissible.

What vitrification means.

“ Before taking up the consideration of the clays, it is proper to define somewhat more fully what is meant by the term vitrified.

“ In the third paper of this series, the term was defined as indicating the incipient fusion and fritting of the particles of the clay ware into a new chemical compound, not necessarily glassy, but indicating by its fracture that such a chemical union has begun to take place.

“ The degree to which such vitrification has taken place in a burnt clay is measured by its ability to absorb water, for as the chemical union progresses the pores of the clay become more and more constricted and the appetite for water less and less. If the clay be a good vitrifying variety, it will absolutely cease to absorb water at a temperature some distance beneath its melting point. Other clays, burnt at something near the same temperature, may enter into combination to a certain extent, but still absorb water freely. Such clays are perhaps somewhat vitrified after being burnt under such conditions; but under the classification proposed they must not be included as vitrifying clays.

“ The physical peculiarities which mark vitrification in a burnt clay are the conchoidal fracture, absence of pores, and blending of the ingredients into one mass. Cracks, fissures and cavities may be found, but porosity must not exist in a well vitrified clay, and the original particles must have begun to cohere by the bond of heat instead of the bond of plasticity.

“ It is impossible to convey adequately by words the peculiarities of fracture which indicate vitrification, but it is a quality which the natural sense of any observer readily teaches him to detect.

“ Vitrification is thus seen to be a physical state or condition which any clay may assume if it is heated to the requisite point. The qualities which a clay must have to be profitably made into vitrified product are as follows:

“ 1. There must be a balance between the vitrifying temperature and the fusing temperature. Some clays begin to vitrify at low heat and become perfectly non-absorbent without ever approaching to a point where the clay becomes soft or bloated. Others stand heat well up to a certain limit and then fail rapidly. Obviously, the latter would not do for a vitrified product, for it would be impossible to burn a kiln of it without overburning a large quantity in order to obtain a sufficient heat to cause the rest of the kiln to properly vitrify. There must be a margin, or a tolerably broad range of temperatures, inside of which the vitrifying action takes place without approaching fusion: for if a burner is working between two extremes, too high absorption and porosity of his output on one side, and melted and twisted ware on the other, it is plain that he could not pay Peter without borrowing from Paul.

“ If a clay have this first great condition, it can be profitably worked, but its value will depend partly on two other factors, 2nd, plasticity: 3rd, color.

“ 2. The importance of the requisite plasticity is easily seen, for if it is not possessed it must be obtained by mixture which may interfere with the first and more important quality of vitrification. Again a balance of qualities is needed. Too great plasticity causes imperfect arrangement of the

particles of the clay in passing through the die of the machinery. Too little causes surface imperfection, cracks, toughness, etc. The majority of the vitrifying clays are not naturally very plastic as they occur; they may have been once, but the quality is gone, and it is only by fine crushing and very thorough tempering that plasticity sufficient can be induced. However, the faults of plasticity can largely be conquered by the use of proper mechanical means, while the vitrification depends on inherent chemical properties which we cannot vary or alter.

Color. "3. The color of the ware is only important in view of a singular prejudice which the public have cultivated against light colored materials. The popular idea is that vitrification is measured by the dark color of the product, and that light colors are prima facie evidence of softness. This is by no means true. Many of the impure fireclay beds of the State make most excellent vitrified brick, but cannot be sold on account of their naturally light color. This difference is due more to the condition of the iron present than to its amount. In the light colored clays the iron is largely present as grains, while in most shales it is in the state which affects equally every particle of the clay, whether chemically combined or not."⁶

Sources of
vitrifying
clay.

Mr. Orton goes on to enumerate the sources from which vitrifying clay is obtained in Ohio. He states these as three: (1) The shale clays, coming largely from the coal measures, but represented in all of the older deposits as well; (2) the impure and low grade fire clays, coming from the coal measures; (3) river clays or sedimentary deposits of recent origin. The fire clays, together with the coal measures to which they belong, are absent in Ontario, although it is claimed that some beds of the Hudson River shales possess the qualities of fire clay. As to the sedimentary deposits of Ohio, they have so far found but limited use in producing vitrified wares, being too fusible, too plastic, and containing an undue proportion of limestone gravel, which spoils the surface of the ware after burning. Their counterparts in this Province supply the raw material for numerous building brick industries, but as yet no attempt whatever has been made to test their suitability for the manufacture of paving brick. Such efforts have been confined exclusively to the shales of our Hudson River and Medina formations, and it is encouraging to those engaged in these efforts to know that in Ohio the use of shale in the production of paving brick has given satisfactory results and is rapidly extending. It is stated by Mr. Orton that none of the three classes of clay enumerated above is in itself a perfect material for the purpose to which it is applied, though instances are found in which each is used alone with satisfactory results. The shales and river clays are too fusible and lose their shape at too low a heat, but vitrify perfectly. The fire clays are more refractory, owing to their high percentage of silica and comparative freedom from fluxing impurities, and they keep their shape well, but at the expense of vitrification. On this account a mixture of fire clay with either shale or river clay improves the quality of the product. As regards plasticity, the shales are as a class not sufficiently plastic to work alone; the river clays are too plastic, while the fire clays leave little to be desired in this respect. As to color, the shales

Advantages of
a mixture of
clays.

⁶ The Clay-Worker, May, 1894, pp. 544-5.

and river clays burn dark, the fire clays light. Both in point of plasticity and color, therefore, an admixture of fire clay with shale or river clay is found to be mutually advantageous. Mr. Orton gives an analysis of shale clays used in the manufacture of paving brick and sewer pipe at a number of establishments in Ohio, which is as follows :

Analyses of Ohio shales.

Elements.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
Silica (total).....	57.15	58.36	57.14	49.36	57.15	55.67	58.23	58.34	57.28	57.40	56.61
Alumina.....	20.26	19.67	21.29	24.00	21.06	24.31	23.47	24.89	21.13	21.20	21.63
Water (combined).....	5.50	5.13	6.00	9.10	5.30	6.75	6.15	7.53	5.22	7.75	.....
Clay and sandy impurities (total).....	82.91	83.12	81.39	82.70	84.41	86.69	86.82	86.80	83.86	86.35	.....
Oxide of iron.....	7.54	7.43	7.31	8.50	7.51	6.11	5.63	5.78	8.52	6.57	7.08
Lime.....	.95	.84	.29	.56	.29	.43	.62	.44	5.79	1.00	1.11
Magnesia.....	1.62	1.35	1.53	1.60	1.22	.77	.98	1.57	2.13	1.46	1.41
Potash.....	3.05	3.04	3.44	3.91	3.27	3.00	3.98	4.68	.....	4.10	3.51
Soda.....	.88	.73	.61	.49	.39	.69	.42	.34	.....	1.00	.48
Fluxing impurities (total).....	13.69	13.39	13.18	14.63	12.71	10.40	10.73	12.81	16.44	14.07	.....
Moisture.....	2.70	2.65	1.30	1.20	1.90	2.65	1.65	.....	.....	.....	.....
Total.....	99.40	99.16	98.87	98.54	99.62	99.74	99.20	99.61	100.07	100.42	.....

1. Bucyrus Brick and Terra Cotta Co., Gloucester, shale.
2. Bucyrus Brick and Terra Cotta Co., shale and plastic clay mixed.
3. Royal Brick Co., Canton, O., Canton shale.
4. Waynesburg Brick and Clay Mfg. Co., Waynesburg, shales.
5. Ohio Paving Co., Columbus, O., Darlington shales.
6. A. O. Jones Co., Zanesville, O., shale and fire clay mixture.
7. T. B. Townsend & Co., Zanesville, O., shale and fire clay mixture.
8. Columbus Sewer Pipe Co., Columbus, O., Huron shales.
9. Akron Vitrified Press Brick Co., Independence, Bedford shales.
10. Akron Vitrified Press Brick Co., Independence, another sample.
11. Average of preceding ten analyses.

The average composition shows a clay containing 84.78 per cent. of clay base and silicious matter, and 13.22 per cent of fluxes.

HUDSON RIVER AND MEDINA SHALES.

A comparison of the chemical composition of the Hudson River and Medina shales of Ontario as given elsewhere in this article with that of the Ohio shales in the above table shows that the former contain a larger proportion of silica and a smaller proportion of alumina than the latter. The percentage of iron in both cases is nearly the same, while there is more lime and magnesia in the Ontario shales than in those of Ohio. As to the alkalis, potash and soda, the analyses of Ontario shales showing these constituents are too few in number to admit of a comparison being made. Judging from the chemical constitution only, the conclusion might be reached that on the whole

Comparison with the shales of Ontario.

The Clay-Worker, May, 1891, p. 546.

the shales of Ontario, as represented by the samples of which analyses is given, are likely to prove less refractory than those of Ohio. The surplus of silica is counterbalanced by the deficiency in alumina, while the larger bulk of fluxing impurities would indicate the likelihood of greater fusibility. Whether this is an advantage or the reverse depends entirely upon the degree of ease with which fusion takes place in any given sample of clay. If there is sufficient refractoriness to permit of thorough vitrification before the point is reached when the ware breaks down and loses shape, the easy fusibility is a desirable quality, as less heat, and therefore less fuel, are required to complete the vitrifying process. If on the other hand fusion occurs and the product is run or twisted out of shape at a comparatively low temperature, it will be impossible to produce a properly vitrified article. Experiments so far point strongly to the conclusion that the Hudson River and Medina shales of Ontario are not too easily melted, but are sufficiently refractory to admit of proper vitrification, and this without requiring an excessive degree of heat. The samples of paving brick made from them, well vitrified and yet true in shape, testify that such is the case. These will be dealt with later on.

Analyses of
U. S. paving
clays.

In The Mineral Industry (1893) a table of analyses is given of paving brick clays from a number of localities in the United States, which is said to be very complete, and compiled from official sources. The table is interesting for purposes of comparison with the one just quoted. It will be noted that the average silica contents of the clays cited therein is considerably higher than that of the shales whose analyses are given by Mr. Orton.

Locality.	Si O ₂ .	Al ₂ O ₃ .	Fe ₂ O ₃ .	Ca O.	Mg O.	Ti O ₂ .	Alk.	H ₂ O.
Bloomington, Ill.	67.80	11.55	6.50	8.90	5.32	.....	2.42	0.20
Burlington, Ia.	77.40	11.74	12.31	1.60	1.91	.....	4.23	.....
Clinton, Ia.	73.82	15.88	9.16	trace	trace	.....	4.50	3.50
Franklin County, Kan.	59.60	17.86	14.94	0.79	0.81	.....	.....	6.00
Leavenworth, Kan.	58.45	21.96	8.43	1.05	1.47	.....	4.00	6.51
Flint Ridge, Kan.	58.20	29.80	5.40	6.00	.....	.....	.....	0.60
Cheltenham, Mo.	61.22	25.64	3.47	.....	.....	.....	1.31	9.68
Montgomery, Mo.	43.93	40.09	1.70	.....	.....	.....	0.20	14.60
Kansas City, Mo.	64.37	19.73	9.07	0.82	2.32	.....	3.78	.....
Cumberland, W. Va.	69.02	22.07	4.53	1.70	0.38	.....	2.68	.....
Nuzum's Mills, W. Va.	59.25	32.26	1.67	7.16	.....	.....	.....	6.30
Mount Savage, Md.	39.90	30.08	0.88	.....	.....	.....	2.30	13.90
Robbins, Tenn.	70.57	15.19	7.97	0.78	0.82	.....	2.50	.....
Hornellsville, N. Y.	67.29	15.85	6.16	0.95	0.19	.....	8.71	.....
Warners, N. Y.	52.90	18.85	6.55	3.35	4.49	.....	6.00	8.34
Woodbridge, N. J.	42.23	39.53	0.50	0.01	.....	1.40	0.49	16.80
Phillipsburg, N. J.	56.78	17.38	0.50	4.14	3.15	.....	3.42	7.60
Columbus, Ohio	57.45	21.06	7.54	0.29	1.22	.....	3.66	7.80
Canton, Ohio	53.38	19.36	14.86	1.48	1.06	.....	.....	.....
East Palestine, Ohio	57.80	25.54	2.51	0.25	0.61	.....	2.69	10.60
Haydensville, Ohio	76.24	16.87	0.16	.....	0.50	.....	1.09	4.90
Woodlawn, Penn.	42.15	31.43	2.32	0.32	2.01	1.00	.....	10.60
New Brighton, Penn.	67.36	22.05	5.61	0.86	0.36	.....	5.40	.....
San Francisco, Cal.	56.51	21.33	0.29	.....	3.53	.....	trace	6.30
Golden, Col.	52.41	32.21	0.66	0.20	0.60	.....	0.61	14.05
Winchester, Ill.	23.15	17.08	.....	.....	0.28	1.20	1.10	.....

These analyses exhibit surprising variations in the composition of materials used for a common purpose, not only so far as the silica and alumina are con-

cerned, but also in a smaller degree as regards the fluxing impurities. They are instructive as disclosing the fact that clays of the most unlike constitution are employed in the manufacture of paving brick.

EFFECTS OF FLUXING INGREDIENTS ON VITRIFICATION.

As regards the part played by the minor or fluxing ingredients of the clay in the process of vitrification, Mr. Mead says :

“Lime and magnesia, while infusible in themselves or with alumina, fuse in the presence of an excess of silica, as do also several other common ingredients of clay and form a ‘vitrified brick.’ It is found that potash has the most active fluxing effect on clay, after which follow soda, lime, magnesia and iron, in the order named. To ‘vitrify,’ a clay should contain at least three per cent. potash, or three and one-half per cent. soda, or five per cent. of lime or magnesia, or eight per cent. iron, or a combined proportion of any or all of these fluxes equal to these amounts. An appreciably less amount of these fluxing elements will leave the product more of the nature of a fire-brick, unvitrified and porous, and, as a rule, unfit for paving purposes. A greater proportion than above specified is desirable and will make the clay more easily vitrified at a less heat, and is to some extent a measure of its economic manufacture, as a lower heat and consequently less fuel will be required in its burning. Too great an amount of these fluxes, amounting perhaps to three times the quantities above mentioned, will render the clay hard to handle on account of great fusibility. According to Richter, lime and magnesia are more active fluxing agents than potash and soda, but his conclusions do not agree with American experience. The presence of lime or magnesia in a paving brick in reasonable quantities is not believed by the writer to be detrimental to the brick if it exists in a finely divided state and is intimately commingled with the other constituents, so that a silicate of lime or magnesia will be formed in the burning. The Milwaukee building brick is one of the best of common brick, and it contains a large percentage of lime, and Portland cement contains often as high as sixty per cent. of lime. In each case however the lime exists in close chemical union with the other elements of the material. Iron in considerable quantities has a fluxing effect with silica, and to this extent cements it together and gives it strength. It is not the most valuable of constituents in this regard however, and its presence is not essential to a first-class paving brick. Iron, when present, is usually in the form of hydrous peroxide or protoxide of a yellowish or bluish color. During the burning, the water of crystallization is expelled and the iron takes the form of the red peroxide, giving its color to the material in proportion to the amount present. Potash and soda fuse at a lower temperature than the other constituents of clay, and their presence in suitable quantities is desirable for the manufacture of vitrified paving brick.”

Mr. Chase remarks on the same subject :

“Lime is very injurious to the paving brick, as it is changed to caustic lime in burning, and a small amount of moisture reaching this will cause it to slack and disintegrate the brick. A small amount of magnesia aids in producing vitrification. Iron is not injurious in a paving brick : but in a brick to resist

high temperature six per cent. of iron makes it useless. Alumina, and not iron, gives elasticity to the brick, is tough and binding, readily fusing in the presence of silica. The other constituents are impurities and act as a flux." ³

PHYSICAL PROPERTIES OF CLAY.

The physical properties of clay have an important bearing upon its fitness for use in the manufacture of paving brick. The hard, compact shales of the older formations, subjected as they have been in past ages to great heat and pressure, have to some extent lost that plasticity which is necessary to the proper handling and working of the raw material; hence such shales have to be reduced by mechanical means to a finely divided condition, and carefully tempered by the addition of water before they are in a condition to undergo the processes of manufacture. The fineness of the particles of which clay is composed likewise has considerable influence upon its behavior in the kiln. Coarse clays are difficult to vitrify even when the fluxing constituents are present in sufficient proportion, on account of their ability to withstand a large degree of heat. The more finely divided the clay, the more readily is it vitrified, and the tougher, stronger and more impervious to moisture is the product. The several ingredients of the clay may also vary in their action according to the condition in which they exist. On this point Mr. Mead says: "The uncombined silica may be more or less finely divided, and its condition has its effect on the action of the fluxes. In clays derived from felspathic or micaceous rocks, undecomposed felspars and micas sometimes occur. Lime, instead of being finely divided, may occur as lumps or pebbles, in which condition it will unite with the other ingredients only on the surface, the balance burning into caustic lime, which on exposure will gather moisture and slack, disintegrating and crumbling the brick." It is even conceivable that two samples of clay, substantially identical in chemical composition so far as the proportions of the several constituents are concerned, may act quite differently in the kiln, owing to the different condition in which these constituents are present in the respective samples. A clay full of fragments of the original rock, for example, would be likely to require a considerably higher temperature for its vitrification than a clay resulting from the more complete degradation of the same rock; and this difference in temperature might bring about the production of two very unlike samples of brick.

One physical property, it may be remarked, is possessed by clays alone among the mineral substances found in nature, viz., plasticity. The cause of the plasticity of clays, by virtue of which they may be moulded into almost any desired form, does not seem to have yet been thoroughly explained, but it evidently depends largely upon the presence of the chemically combined water, as when this is driven off by heat the clay loses its plasticity, which can never be restored. Dr. Koenig of the University of Pennsylvania, who has made a study of this subject by means of microscopic investigations, states that kaolin or pure clay is composed of minute particles, loosely aggregated and invisible to the naked eye. Magnified 1,100 diameters, these

* Brick Pavement, pp 14-15.

infinitesimal particles look like globules, and are not very unlike fish roe in appearance. In Dr. Koenig's opinion these particles are not crystalline; and he lays stress upon their similarity to globules of starch, as they are capable of absorbing water and of enlarging and passing into a plastic paste, the extreme mobility of which is accounted for by his assumption of the rounded form of the ultimate particles. Pure alumina is not plastic; neither is pure silica; yet when in chemical combination as a silicate of alumina there is developed this highly interesting property. If there be more silica present than can be taken up in chemical union by the alumina, the result is a lessening of plasticity, which goes on decreasing in proportion to the quantity of sand added. Clay loses its plasticity entirely at a low red heat, probably about 1,000° F.

MANUFACTURE OF PAVING BRICK.

The ordinary methods of making common brick require some modification in the manufacture of paving brick. If the raw material is shale, it is first reduced to a powder in a granulator or dry pan, and then thoroughly tempered in a pug mill before passing to the brick machine. The auger type of brick machine is the one more commonly employed, and the clay is handled in the condition known as "still mud." The "soft mud" process is not considered applicable to the manufacture of paving brick. Attempts are being made to adapt the "dry press" method, and on certain kinds of clay with a considerable degree of success. The drying of the brick previous to their burning is an important part of the process, and is best done on hot or slatted floors, or in flues or tunnels, by means of artificial heat. Outdoor drying cannot be depended on where the industry is conducted on a large scale. In the actual burning of the brick, the best results are obtained by means of the "down-draft" kiln. The fires are started slowly, in order to allow the water mechanically held in the clay to pass off as steam, which it does completely at a temperature of 212° F. This process is technically called "water-smoking." When the smoke issuing from the kiln shows no further signs of escaping steam, the heat is gradually increased, and at a little above 1,000° F., or a low red heat hardly perceptible in daylight, the combined water also

The stiff mud and dry press methods.

Burning.

"In the appendix to Brick and Tile Making (London, Eng., 1898), Mr. Charles Tomlinson, F.R.S., speculates thus as to the cause of plasticity in clays: "We have seen that clay ceases to be plastic when its chemically combined water has been driven off. Still however water cannot be said to be the cause of plasticity as a general property, since we have in melted glass a more perfect example of plasticity even than in clay; and few substances are more plastic than sealing wax at a certain temperature. A clear idea of plasticity and of some of the other mechanical properties of matter may probably be gained by considering them as variations of the forces of cohesion and adhesion, and by bringing these in their turn under Newton's great law of attraction, which, whether exerted between atoms or masses, is directly as the mass and inversely as the squares of the distance. . . . Now the method of arranging the particles of clay at that precise distance that shall impart plasticity is one of Nature's secrets that we have not yet succeeded in penetrating. It may be that the circumstances under which the clay is formed and deposited, or the time that has elapsed since its formation, or the pressure of the superposed layers, may have so arranged the particles as to enable them to become plastic when the proper proportion of water is added. It may be that a certain state of disintegration is required on the part of the alumina and the silica, so that their proximate elements shall be neither too fine nor too coarse; or it may be that the silica, in combining with the alumina, separates the atoms of the latter to precisely those distances required for the development of the property; or, lastly, the presence of a small portion of animal or other organic matter in clay may have something to do with this remarkable property."

passes off. Any organic matter present is now eliminated, and sulphur compounds broken up, part of the sulphur going off in the smoke. This is a critical stage of the operation. As the combined water is expelled the particles of the clay begin to settle together and the pores to close up; and if the heat be too quickly raised this process goes on so rapidly at the outside of the bricks that the gases evolving in the centre find it difficult or impossible to force their way out. In this case the imprisoned gases will distend or "bloat" the bricks and perhaps ruin their shape altogether. This is more apt to occur in the burning of large paving blocks, or bricks of extra size. The chemical changes are accompanied by corresponding alterations in the physical conditions of the clay. The expulsion of the water has brought about a shrinkage in the size of the bricks, which are now denser, harder, and stronger than before. Their weight is subject to no further reduction. If the contents of the kiln have safely passed through this ordeal, there is usually little further need for fear in the burning. The heat is again raised, and vitrification shortly begins to set in, whereby the various constituents of the clay are chemically combined into one compound silicate. This process may be regarded as the initial stage of fusion, but must not be carried to the actual point of fusion, otherwise the clay will melt and run entirely out of shape. As the heat becomes nearly as great as the clay can bear, the structure of the latter is so changed that instead of exhibiting a rough, stony fracture, the clay will break with sharp edges like glass, and will no longer absorb water.¹⁰ After vitrification occurs, the kiln must be gradually cooled down previous to the removal of the brick. From two to four days are required for "water-smoking," from four to six for burning proper, and from three to five for cooling. If cooled too rapidly, the bricks become glassy and brittle, while by allowing the heat to slowly subside they are toughened, and as it were annealed. Indeed the term "annealed brick" has been proposed as a substitute for "vitrified brick," as being more descriptive of the essential quality of a first-class article. The word "vitrified" conveys the idea of a glassy, and consequently a brittle product, while the fact is that good paving bricks, though "vitrified" in the sense of being rendered impervious to moisture, or nearly so, are tough and very difficult to break. As a matter of fact, it is possible to produce a paving brick of fair quality without vitrification. Where the raw material approaches a fire clay in its composition, it may be difficult or incapable of fusion, and yet may yield a paving brick suitable for a warm climate and for moderately heavy traffic. Bricks made in certain parts of West Virginia from clays of this kind have given good satisfaction. A degree of vitrification is however requisite for a rigorous climate like our own, as a brick which would absorb any appreciable quantity of moisture would soon be shattered by the keen frosts of our winters.

Vitrification.

Cooling down.

¹⁰ The degree of heat required to bring about these changes Mr. Orton found to vary between 1,800° F. for shales and 1,920° F. for fire-clay, the product being paving bricks. The temperature of open hearth steel in the furnace before being tapped for pouring was 2,660° F.; of mill iron as it ran from furnace to casting bed 2,225° F.; inside of boiler firebox 2,175° F.; of another firebox 2,295° F. The Clay-Worker, April, 1894, p. 447.

 QUALITIES OF PAVING BRICK.

A first class paving brick will resist a file or emery wheel almost as effectually as a piece of cast iron. It should have a specific gravity of about 2.25, and be capable of sustaining a crushing strain of about 12,000 lb. per square inch. Bricks of fair quality will vary in specific gravity from 2.03 to 2.41, and in crushing strain from 9,000 to 13,000 lb. per square inch. The crushing strain of granite varies from 5,000 to 21,000 lb. per square inch. The test for crushing strain however is difficult to apply, and unless made under definite conditions is uncertain in result. The transverse strength of a brick, viz. the weight it is capable of sustaining in the centre while the ends are resting on supports, is more easily ascertained, and representing as it does both the compressive and tensile strength of the material, probably indicates more nearly the value of the brick for actual wear in the street. A standard brick should exhibit a transverse strength of at least 1,600 lb. to the square inch.

The percentage of water absorbed by a paving brick is an important test of its quality. The best bricks will not take in more than 2 per cent. of their own weight after an immersion of three days, while a common red building brick which has a specific gravity of 1.82 per cent. will absorb as much as 15.13 per cent. of its own weight in the same time. The ratio of absorption, however, is usually greater than 2 per cent., and in some cases runs as high as 3 and even 5 per cent., though brick of this latter quality should be looked upon with suspicion, and as scarcely suitable for use in northern climates. The presence of caustic lime in a brick is also revealed by the immersion test. Caustic lime has a great affinity for moisture, and if it be present it will absorb the water and break or crack the brick, or will form "poppers" on the surface.

It is customary to test paving brick for its resistance to abrasion by placing the specimens in a foundry tumbler with pieces of cast iron, and after submitting them to so many hours' friction at a given number of revolutions per minute, to calculate the loss as compared with the original weight. No standard of comparison has yet been fixed for this test, but it is useful in determining the resisting powers of bricks of different makes, or of bricks delivered on a contract as compared with the samples.

 THE CLAYS OF ONTARIO.

No general or systematic examination has yet been made of the clay or shale deposits of Ontario with a view of determining their value for manufacturing purposes. There is abundance of clay adapted for the production of building brick in almost every part of southern and western Ontario. In very many places pockets of clay on the surface of the drift are utilized for this purpose, some burning red and some white. These local deposits are usually of limited extent and of variable character, and are unlikely to prove sources of supply of paving brick. The Erie and Saugeen clays are widely distributed throughout the Province, and are generally capable of being burnt into building brick.

The Erie clay, which when moist is of a blue color with thin gray bands, burns white and is largely used for brickmaking where it does not contain too great a proportion of lime. In the northwestern portion of its area, as in the counties of Bruce and Huron, it is frequently too calcareous to admit of successful use in brickmaking. The thickness of the Erie clay is thought not to exceed 200 feet. The Saugeen clay, which overlies the Erie, and is sometimes separated from it by beds of sand, is thinly bedded and of a yellowish or brownish color, contains considerable lime, and is extensively used in the manufacture of bricks, which are usually red in color. The thickness of the Saugeen clay is probably somewhat less than that of the Erie. The classification of the stratified clays of Ontario into the Erie and Saugeen beds was first made by Sir William Logan, and while doubtless it is sufficiently accurate in the main, there are localities where deposits of clay are found which do not accommodate themselves to this division. One example is in the exposure made at the works of Messrs. Taylor Bros. on the Don, near Toronto, where overlying a deposit of brown sand which covers the till, there is a bed of dark brown clay twelve feet thick burning red. Above this, but separated from it by several other beds, and immediately below the surface, is a bed of brown clay sixty feet thick burning buff. If we have here the Erie and Saugeen clays respectively, they give precisely the opposite colors on burning to those assigned them by Logan. So far as known, no experiments have been made with the Erie and Saugeen clays in the manufacture of vitrified brick, but probably they would be found to contain too large a proportion of lime for successful use. The boulder clay or till of course cannot be availed of in the manufacture of bricks of any kind on account of the great number of pebbles and boulders which characterize it.

The Palæozoic shales.

The Palæozoic formations of Ontario, which end in an unimportant and restricted section of the Chemung and Portage group of the Devonian series, do not afford so great a variety of shales and clays as a complete section of the geologic scale would do, and are notably deficient in the fire clay deposits so characteristic of the carboniferous measures. Shales and argillaceous rocks however form part of nearly every one of

Hudson River

the formations subsequent to the Archæan. In the Hudson River and Medina formations we have inexhaustible supplies of material from which not only building brick, pressed brick and sewer pipe may be made, but also paving brick of excellent quality. The Hudson River shales are exposed in a

in the Don valley.

number of places in the neighborhood of Toronto, in particular by the Don and Humber rivers and at Mimico. At the works of Messrs Taylor Bros.

Taylor Bros. works.

on the west bank of the Don the shale, which immediately underlies the till, rises ten feet above the level of the valley, and has a depth as ascertained by borings half a mile distant of about 400 feet. Above the shale is the boulder clay in a bed three feet thick, which is followed by a deposit of coarse sand colored brown by iron stain, about eighteen feet in thickness; this is succeeded by a bed of clay twelve feet thick, dark brown in color, which burns red, and overlying this is ten inches of light brown clay exceedingly fine in grain, which burns white. Next in ascending order is a grayish

clay six feet in thickness which burns gray, or green when exposed to intense heat, and above it is a similar thickness of reddish clay burning red. Over this and extending to within a few inches of the surface is a thick deposit, probably sixty feet in perpendicular depth, of a brown thinly-bedded clay, which burns buff. From a mixture of the several clays with one another and with the shale bricks of a variety of pleasing colors are produced. A quarry has been opened on the shale to furnish material for the manufacture of pressed brick, and is now perhaps eighty feet in depth. It shows the shale to be interbedded with thin bands of limestone which have to be culled out. This firm, with characteristic energy, have added paving brick to the other branches of their industry, already including pressed brick of a great many kinds and colors, plain and ornamental, terra cotta, and enamelled brick. An exhibit of Don Valley pressed brick took the highest award at the World's Columbian Exposition. A large kiln has been erected on the continuous principle, and it is the intention to undertake operations on a considerable scale in the manufacture of paving brick from the shale. Of course the shale requires to be ground before being worked, and as it is found that the greater the depth the harder the shale, it is customary to dig a supply and expose it to the disintegrating influences of the weather for a time. Following is an analysis of the Hudson River shale of which the Don Valley pressed bricks are made, furnished by the kindness of Dr. Coleman of the School of Practical Science :

Hygroscopic water.....	1.50	per cent.
Water (combined) and CO_2	5.51	"
SiO_2	60.55	"
Al_2O_3	14.79	"
Fe O_2	7.58	"
Ca O_2	1.81	"
Mg O_2	1.55	"

The Rosedale Pressed Brick and Terra Cotta Company, whose works are situated at the base of the high bank overlooking the river and a little farther down stream than the Taylors', have apparently a large supply of promising clay, and are also proposing to enter into manufacture of paving brick.

The Toronto Vitriified Paving Brick and Stone Company have a very conveniently situated property on the east bank of the Humber, at the point where Bloor street strikes the river opposite the old stone mill. The Hudson River shale outcrops in the bank of the river and rises there perhaps 20 feet above the water. As the property extends over a number of acres there is a plentiful supply of the raw material. The shale is here interbedded with bands of calciferous sandstone of varying thickness, which would have to be laid aside in the working.¹¹ Shipments of brick could be made either by means of scows (the river affording a depth of 12 feet of water) or by rail, a switch of the Belt Line railway running into the property. A large building has been erected, some of the machinery put in place and two kilns par-

¹¹A little higher up the river, on Mr. Baby's farm, there is a lofty bluff in which bands of shale and sandstone are exposed, and where quarrying operations could be carried on very economically. The river at this point has furnished an excellent building stone for many years, and every freshet brings new supplies to the surface. North of the bluff a sand road makes the ascent of Tecumseh Hill to the old Indian burial ground, so well known to local antiquarians.

Analyses.

tially completed, out of a plant intended eventually to produce 50,000,000 bricks a year, but the recent financial depression has obliged the company to cease operations, and at present progress is suspended. Analyses by Dr. Coleman and Prof. Heys of the shale give the following results, which seem to show that it is not the same in quality throughout :

I. (Dr. Coleman).		
Hygroscopic water	1.24	per cent.
Water (combined) and CO ₂	6.07	"
Si O ₂	63.47	"
Al ₂ O ₃	11.28	"
Fe O	6.90	"
Ca O	3.30	"
Mg O	2.20	"
K ₂ O	3.41	"
Na ₂ O	2.60	"
	100.47	"
II. (Prof. Heys.)		
Silica	55.28	per cent.
Alumina	24.29	"
Oxide of Iron	6.82	"
Lime	1.68	"
Magnesia .....	.80	"
Carbonic acid	1.31	"
Sulphuric acid	1.25	"
Moisture and organic matter	6.57	"
Alkalies and loss	2.00	"
	100.00	"

At Mimico.

Mimico Sewer
Pipe and
Brick Manu-
facturing Co.

At the Mimico Sewer Pipe and Brick Manufacturing Company's works, Mimico, the Hudson River shales come to within a few feet of the surface. Immediately below the soil is a deposit of yellow clay about three feet thick, of suitable quality for mixing with the shale in the manufacture of sewer pipe, and below this is a bed of gray calcareous clay of the thickness of a foot. Immediately underlying the latter is the shale, which here as elsewhere is interbedded with bands of limestone. This company is engaged chiefly in the production of sewer pipe, but has also been experimenting with its material with the view of making vitrified brick. Some excellent samples have been produced. An analysis of the shale by Dr. Coleman shows it to have the following composition :

Analysis.

Hygroscopic water	1.34	per cent.
Water (combined) and CO ₂	6.08	"
Si O ₂	58.18	"
Al ₂ O ₃	15.47	"
Fe O	7.42	"
Ca O	2.61	"
Mg O	2.98	"

Medina.

Hamilton and
Toronto Sewer
Pipe
Co.

The red Medina shales, which have seldom a less thickness than 500 feet, are already utilized on a considerable scale by various firms in the manufacture of pressed brick, terra-cotta and tile, at Milton, Beamsville, Terra Cotta and elsewhere. At Hamilton they furnish the Hamilton and Toronto Sewer Pipe Company with the raw material for excellent sewer pipes and building brick, and the company are now proposing to add to their extensive business the manufacture of vitrified brick. Their works consist of two distinct plants, one of which is not at present in use, but is likely to be made the scene of the new industry. A mixture of 50 per cent. shale and 50 per cent. clay is used for the sewer pipe, and a like mixture will probably be employed for the paving brick. The clay is simply disintegrated shale and is found immediately at the base of the mountain, where the shale in place outcrops

under the Medina sandstone, as well as overlying the greater part of the level ground between the mountain and the bay. A quantity of the raw material was sent to Canton, Ohio, and manufactured into paving bricks there. An analysis of the mixed clay and shale ground ready for use, made by Dr. Coleman, is as follows :

Water (combined) and CO ₂	4.17	per cent.
Si O ₂	61.79	"
Al ₂ O ₃	14.53	"
Fe ₂ O ₃	8.35	"
Ca O	0.85	"
Mg O	2.28	"

The clay being wet, was dried at 100° c. before weighing ; and as it was red in color the iron was determined as Fe₂ O₃ .

To his building-brick manufactory on the outskirts of Toronto Junction, Mr. C. R. S. Dinnick is adding a plant for making vitrified brick. The raw material which Mr. Dinnick proposes to use is a mixture of the red Medina shale and clay, and after considerable time and money spent in experimenting he believes he has discovered the proper proportions in which such a mixture will give the best results. The samples he has produced from his own kilns appear to be of good quality.

TESTS OF ONTARIO PAVING BRICKS.

Vitrified bricks from some of the shales and clays of Ontario mentioned above were recently subjected to a test at the School of Practical Science, Toronto, by Mr. C. H. C. Wright, B.A.Sc., lecturer in Architecture, the object being to determine (1) their powers of absorbing moisture, and (2) their transverse strength. The bricks so tested were made from the Hudson River shale at the Don and Mimico, and the Medina shale and clay at Hamilton. Along with these were submitted for purposes of comparison several bricks of well-known manufacture in the United States. The results were highly gratifying, especially at the present experimental stage of the industry here, when it is not to be expected that the best methods have been found or the greatest skill in manipulation acquired. The test was indeed surprisingly favorable to the Ontario bricks, goes far to show not only that we have here the right material on which to base the manufacture, but also that Ontario makers may hope with time and experience to produce an article which will withstand competition from any quarter. In ascertaining the powers of absorption of the various samples, or rather their capacity to resist the penetration of water, the bricks were placed in a drying chamber and subjected to heat until they ceased to lose weight, thus depriving them of all their hygrometric moisture. They were then immersed in water, and weighed at intervals of three, five and fourteen days, with the results as noted in the respective columns of the table given below. It will be observed that much the larger proportion of water taken up was in every instance during the first period of three days, and that there was comparatively little increase in weight after the fifth day. In the absorption test the Syracuse brick, which proved itself almost impervious to water, took first place, the Ontario samples ranking second, third and fourth, and showing a marked superiority over two of the American bricks. The possession of high non-absorptive properties in a brick is good evidence of thorough vitrification, and is a prime requisite in a climate like our own. In

more southern regions, where the temperature is uniformly higher, this quality probably has not the same importance, but the effect of our keen frosts on a pavement of water-soaked brick would be very disastrous.

The transverse strength of the bricks was preferred as a test to their crushing strain, which is the one usually taken, for two reasons, (1) it is more likely to be a true index of the quality of the brick, and (2) it more nearly represents the conditions of actual wear. In the usual method of ascertaining the crushing strain a one or two-inch cube is cut from a corner of the sample and subjected to the test. In hammering, chipping and otherwise dressing this small cube to the perfectly exact dimensions required, there is considerable risk of weakening it by starting flaws or cracks, not discernible to the eye, yet of sufficient importance to vitiate the result of the test. This objection does not apply to the test for transverse strength, which is made on a machine constructed for the purpose by placing the specimen on rests near the ends and then applying pressure in the centre until it gives way. The weight registered by the machine at the instant of yielding is the total pressure applied, from which the pressure sustained per square inch is easily calculated. A pavement is very rarely called upon to withstand anything like a pressure of 10 000 or 12 000 lb. per square inch, which is about the crushing strain capacity of good paving brick, and in any case it is evident that the wear due to dead weight pressure is very small as compared with that caused by impact and friction. The transverse strength test, on the other hand, indicates the power of a brick to resist pressure and at the same time to withstand the flattening-out or stretching tendency induced by a superincumbent weight. In this test the Syracuse brick again headed the list, the Ontario samples standing second, fourth and sixth. The average transverse strength shown by the seven samples was 2,659 lb. per square inch, while the average of the three Ontario bricks was 2,681 lb. per square inch. Good quality paving brick is expected to stand a transverse strain of not less than 1 600 lb. per square inch, so that every one of the samples tested was more than equal to the requirement in this respect.

The bricks experimented upon were from the following Ontario manufacturers, viz.: Hamilton and Toronto Sewer Pipe Company, Hamilton; Taylor Bros., Toronto, and Mimico Sewer Pipe and Brick Manufacturing Company, Mimico; and from four well-known firms in the United States, in Galesburgh, Ill., Syracuse, N. Y., Canton, Ohio, and Cumberland, W. Va.

The following table shows the result of the test for absorption:

Table of absorption test.

Brick No.	Weight in pounds.				Total increase. lb.	Percentage of increase.
	Dry.	3 days in water.	5 days in water.	14 days in water.		
1	6.908	7.000	7.027	7.017	.139	2.01
2	7.344	7.375	7.375	7.375	.041	.42
3	6.078	6.094	6.098	6.109	.031	.51
4	5.984	6.078	6.094	6.109	.125	2.08
5	4.625	4.625	4.627	4.627	.002	.04
6	7.190	8.068	8.738	8.750	1.750	25.00
7	6.891	7.862	7.987	7.901	1.010	14.65

In the test for transverse strength the bricks were placed on edge, or with the narrow side up; and the usual formula for determining the modulus of rupture was applied, viz.: $f = \frac{3wl}{bh^2}$, where w = centre load in lb., $l = \frac{1}{2}$ span in inches, b = breadth, and h = height. The following table gives the results, and also the size of the bricks in inches:

Brick No.	Transverse strength lb per sq. inch.	Size of Bricks (inches).
1	1,793	2 525 x 4 050 x 8 500
2	2,519	2 600 x 3 900 x 8 750
3	3,703	2 375 x 3 875 x 7 750
4	3,134	2 325 x 3 800 x 8 125
5	3,972	2 000 x 3 650 x 7 500
6	1,948	2 560 x 3 750 x 8 500
7	1,515	2 500 x 4 250 x 8 500

THE CLAY WEALTH OF ONTARIO.

The enormous value which lies latent in our vast deposits of clay is as yet but faintly realized. A beginning has been made in their utilization by establishing the manufacture of pressed brick. This industry is hardly more than six years old in Ontario, and already it has proved a source not only of private gain, but of public benefit on a large scale. Employment has been furnished to the workmen of our Province, for the processes through which the clay must be put before reaching the stage of the final product require the assistance of many hands, and to this extent the necessity of leaving our country to seek work elsewhere has been lessened. One more avenue has been found for the employment of capital at home, and it is no less important to check the exodus of capital than that of labor. Capital is the stream, labor the wheel which it turns; "useless each without the other." We cannot continue to send our surplus capital to be employed in enterprises outside of the country without at the same time sending thither our laborers to assist in the application of it. Capital and labor flow along the line of least resistance, and both will find their way to the place where they can secure the greatest return. But a current of either capital or labor once established in a particular direction is difficult to divert except by the certain prospect of profitable employment nearer the starting place. The pressed brick industry of Ontario has given an instance of how such a diversion may be effected. Large manufactories have been built, large sums of money expended in establishing them, large amounts have been and, notwithstanding the present depression, are still being annually paid as wages to workmen, and to railways for transportation. These are the results to private individuals directly interested in the business. But the public as well has been benefited. Building material of superior quality has been furnished those who wished to erect houses, and the use of pressed brick and terra cotta in our cities and towns has added very largely to the beauty and durability of recent architecture. The old roughly-made, soft-burned and easily disintegrated bricks have given place to well-formed, hard burned, dense articles, far superior in lasting qualities, at a cost not actually much greater and indeed much less in proportion to their value.

Employment of labor and capital at home.

Paving brick industry.

An open field
for enterprise.

There is a still larger field standing open for the manufacture of paving brick, and even greater benefits will be conferred upon the public by its introduction than in the case of pressed building brick. Vitrified brick is fast assuming the first position on the list of paving materials in the United States, and it is coming more and more into use as its merits become known. We in Ontario cannot long remain behind our neighbors; and indeed the chief if not the only obstacle in the way of its adoption here is the excessive cost induced by the expense of bringing the material from the other side. If the attempts being made to produce a first-class article from our own clays prove successful, this difficulty will to a large extent disappear, for the cost of manufacturing here ought to be little if at all above the cost of manufacturing in the United States, and vitrified brick of Ontario manufacture should sell as cheaply, or nearly so, as that of Ohio or Illinois does in those States. The market is that of the towns and cities of the Province, of neighboring Provinces, and perhaps—if production can be sufficiently cheapened—of neighboring States also. There is no danger of an exhaustion of the market, for so long as man maintains his gregarious habits, so long will there be cities and towns with streets to be paved and re-paved; and as taste improves and higher standards are set up people will demand the best, particularly if the best can be supplied at a moderate cost. The first manufacturers will have the field to themselves, for there is a substantial impost on the imported article, and even without it the freight on a thousand of Ohio paving brick is almost equal to the prime cost, and quite sufficient to give the home manufacturer an indisputable advantage in the markets of his own Province.)

The benefits
of well paved
streets.

The immense benefits which well paved streets would confer on the inhabitants of our towns and cities can hardly be estimated. Every working horse, every buggy, delivery wagon or dray would have a longer life; larger loads could be taken and consequently the cost of hauling and delivery would be lessened; no longer would rainy weather and the wheels of traffic churn the surface of streets into eye and nose-offending mud; time would be saved by the increased rapidity with which distances could be traversed; frequent and expensive repairs would be obviated; and the public health would be improved, for the streets could be readily and cheaply cleaned and no excuse would exist for allowing disease-breeding filth to find lodgment under the public gaze. The establishment in our Province of a paving brick industry is calculated to bring about such a state of affairs. It would afford employment for labor and capital. It would be another step in the utilization of our dormant resources, and a distinct advance in national progress and development.

T. W. G.

VI.

ROCKS AND BUILDING STONE.

By Dr. A. P. Coleman, Toronto.

Geologists and architects have at least one interest in common, they both deal in what a geologist calls "rocks" and an architect "stone." The rocks of the geologist include however the sand of a seashore, the soil of a field and the ice of a glacier, whereas no architect would think of building in any of these materials unless perhaps an ice palace at Quebec, Montreal or Ottawa, this or some other winter. The geologist, when dealing with rocks, is apt to dub himself a petrographer or lithologist, but the architect is more modest and gives himself no special name because he builds in stone.

The petrographer divides rocks into three grand divisions,—massive or igneous rocks, resulting from the cooling of melted material; schistose rocks, having their minerals arranged in a parallel way so as to split most readily in one direction; and sedimentary or elastic rocks, made of fragments of other rocks deposited by water. The massive rocks show the greatest variety of minerals, and are always taken up first. Their mineral constituents are of two kinds,—essential, when their absence would throw the rock into another species, and accessory, when less important.

The mineral playing the largest part in the formation of rocks is quartz, rock crystal when it displays its own form, a six sided prism ending in a pyramid. It is the hardest of the essential rock forming minerals, is almost unattacked by the weather, and therefore is the most useful constituent of many stones suitable for building. Next in importance come the feldspars, orthoclase with its flesh red or white cleavage surfaces, and plagioclase showing delicate striations on cleavage planes. The former is a silicate of alumina and potash, and the latter of alumina and soda or lime. Some of the plagioclase feldspars have a magnificent play of color, as in labradorite. Of the darker rock minerals, mica, hornblende and augite are most important. There are several kinds of mica, but we need mention only muscovite, a silicate of potash having pale colors, and biotite, a magnesian silicate very dark in color. All micas may be recognized by their very perfect cleavage into exceedingly thin elastic plates. Hornblende is a dark colored silicate having two planes of cleavage with an angle of 124° between them. The scales clef off are not elastic. Augite or pyroxene, another dark, almost black silicate, has usually no distinct cleavage, and may be distinguished thus from hornblende. Of the accessory minerals, few are of much interest to us, though garnet, often of a fine red color, occurs in many archæan rocks in Ontario, and tourmaline in black triangular prisms may sometimes be seen. The most important of the accessory minerals to the architect is iron pyrites, a hard, brassy looking sulphide

Rock or stone.

Divisions of rocks.

Mineral constituents of rocks.

of iron crystallizing in cubes, which under the action of the weather may change to a sulphate and finally stain the rock where it occurs rusty brown with oxide of iron.

Massive rocks.

Granite, syenite, diorite, and gabbro.

Turning now to the rocks themselves, granite is naturally taken up first by both petrographers and architects, as the most widespread and useful of the group. It consists essentially of quartz, felspar and mica or hornblende, and takes on gray or flesh red colors from the prevalent orthoclase felspar. It is one of the handsomest and most durable of building stones, and but for its great hardness would no doubt come into much wider use. Its one defect is the ease with which it crumbles under the action of intense heat, as shown at the Boston fire. If quartz be omitted from granite, the rock is called syenite, which has the same colors and uses as the previous rock, though a little softer to work. When the felspar is striated and mixed with hornblende, forming a dark green or black rock, it is named diorite; if augite is the dark mineral the rock is diabase or gabbro. All these rocks fall into the same line in the hands of the builder, who sometimes calls them black granite.

Porphyry.

Porphyries are rocks unlike those that have been described in that the general mass is fine grained or compact in structure, enclosing larger grains or crystals of quartz or the felspars. Some of the porphyries are very handsome stones for ornamental work, but are little used in building.

The more important ancient massive rocks have now been described, and it will scarcely be necessary to take up in detail the corresponding series of modern eruptive rocks, including the lavas, such as trachyte and basalt.

Schistose rocks.

Gneiss.

The schistose rocks too need only a brief mention, since only one of them, gneiss, practically granite, having a parallel arrangement of its mica plates, is used to any extent for building. In Norway one sometimes sees a whole house built of gneiss, roof as well as walls.

The sedimentary rocks.

Far more important are the fragmental or sedimentary rocks, which provide the most commonly used building stones. We may divide them into three groups, those made of clay in some form, those made up of silica or the silicates (quartz, felspar, etc.), and those which consist of carbonate of lime, or of this with carbonate of magnesia.

Slates.

The clayey or argillaceous rocks are usually too feeble and easily acted on by the weather to be of use in building. The slates however, which are clays consolidated and metamorphosed, are an exception, since innumerable minute crystals of mica and other minerals have begun to form in them, binding the materials together and giving a resistance to the weather surpassed by no other rock. The perfect cleavage which gives slate its value as roofing material does not correspond to the stratification, as one would expect, but has been caused probably by strong lateral pressure in mountain building. The different tones of color in slates are taken advantage of by architects to give variety in roof effects.

Sandstones.

Perhaps the most useful group of rocks in architecture is that of the sandstones. Breccias, made up of large angular fragments, are too rare to find much place as a building material; and conglomerates, formed of rounded pebbles cemented together, are also rarely put to use, though some notable buildings, such as the Pitti palace, are built of them. Our brilliant jasper

conglomerate from Lake Huron with its red pebbles on a white ground might give striking effects, though it would be very hard to work. It would probably last for eternity however, if put into a building. Sandstones, on the other hand, are among the most favored building materials. They consist chiefly of grains of quartz, often with a large admixture of fragments of felspar or other silicates, and result from the destruction of the older massive rocks. The cement binding the particles together has a great effect on the durability of the stone, and should receive more attention than it does from architects. A siliceous cement forms a rock difficult to work, but lasting practically forever. A ferruginous cement consisting of oxides or carbonate of iron is a durable one, and occurs in many reddish or brownish sandstones. The cement is said to be calcareous when carbonate of lime is deposited between the sand grains. Such sandstones effervesce with cold dilute acid, and the lime is more or less easily attacked by rain charged with carbonic acid from the air of cities, allowing the stone to crumble. The least efficient cement of all is argillaceous or clayey, and sandstones containing it readily disintegrate when exposed to the weather in a climate like ours. The clayey odor when breathed upon affords a rough test for the argillaceous cement. It is an unhappy fact that the durability of a sandstone is often in inverse ratio to the ease with which it is worked, so that the builder is tempted to use the poorer qualities.

Last come the carbonates, consisting of calcium carbonate in limestone, and of calcium and magnesium carbonates in dolomite. The two may be distinguished by the action of cold acid, which effervesces strongly with the carbonate of lime, but hardly at all with dolomite. The limestones are generally formed of broken shells, though in many compact varieties, such as lithographic stone, the fossils have completely disappeared. Porous modern limestones, formed by springs, are called travertine. The most ancient limestones have been so metamorphosed as to become thoroughly crystalline, and when very fine grained and pure white are statuary marbles. Many of the colored varieties of so called marbles are really however uncrystalline limestones. The limestones are often admirable building stones, durable and handsome, but are apt to be attacked by the atmosphere of great cities charged with acid fumes. The dolomites resist this action somewhat better. A very handsome variety of chemically deposited carbonate of lime, sometimes used for interior decoration, is called Mexican onyx in the trade, though incorrectly, since the true onyx is a variety of silica

The coloring matter of rocks is usually some compound of iron. Reds are caused by the sesquioxide, hematite; browns and yellows by the hydrous or brown oxide. Red and brown sandstones are good examples of this; the paler they are the less oxide of iron they contain, while pure white ones are practically free from this metal. The flesh color of orthoclase felspar in the granites arises also from the red oxide of iron. On the other hand, silicates and other compounds of iron in the monoxide state show various shades of green or gray, or almost black, as in the diorites and other greenstones, in green slates, and greenish gray sandstones. These green monoxide compounds of

iron tend to weather into the ruddier sesquioxides. One often notices that pale greenish sandstones turn yellowish or brownish on exposure, a result of slow oxidation of ferrous oxide. The darker limestones are usually colored with bituminous or coaly matter, which on exposure gradually oxidizes; so that a blue limestone eventually bleaches to a pale gray, almost white.

Weathering
quality of
rocks.

The weathering quality of rocks is a matter of great interest to architects, for on this turns the permanence of their work. Certain rocks, such as quartzites and sandstones with a siliceous cement, are practically indestructible by the weather, as one can see on surfaces scoured by glaciers during the ice age seven thousand years ago, but still showing the polish and scratches then given them. Rocks formed of silicates, like granite and syenite, are also very resistant; others, like the limestones and marbles, are slowly dissolved by rain and are more rapidly acted on by the impure air of large cities, which contains traces of sulphuric acid. The dolomite of the English Parliament buildings is said to be suffering badly from this cause. Sandstones with clayey cements are readily disintegrated in moist and changeable climates; and stone containing much iron pyrites should be looked on with suspicion, since it is very apt to weather into brown oxide of iron, weakening the stone and giving rusty stains. The porosity of a stone is a matter of prime importance in a climate like ours, where water soaked walls may be quickly crumbled under the action of frost.

Effects of cold
and heat on
rocks.

In rocks composed of several different minerals, like granite, great changes of temperature tend towards disintegration through unequal expansion. Quartz has a cubic expansion of .000036 for one degree centigrade; orthoclase, only seventeen parts in a million. In case of a great fire, where the temperature may be raised suddenly 1,000° or more, this unequal expansion sets up strains which split off the surface, as in the great fires of Boston and Portland, where massive granite buildings crumbled to ruins. One would expect limestones to burn to quicklime and thus fall to pieces, but actually they resist far more heat than granite, while sandstones resist fire best of all.

The testing of
rocks.

The last point to be referred to is the best means of testing a rock intended for building purposes. The test of time is of course the most convincing of all, but then one cannot always wait a thousand years to see how durable a building stone is. The resistance of a cube of stone to crushing strain gives useful evidence as to its strength, and the amount of water it absorbs helps to a decision as to its durability in frosty climates; but the most valuable test of a scientific kind is a petrographical examination. By the microscopic study of thin rock sections one can determine the actual minerals that make up a rock, their relationship to one another, their state of freshness or decay, and the character of the cement that binds the particles together. No other method will give such complete evidence as to the internal structure of a rock, on which its durability depends, as a careful examination of sections under the microscope.

VII.

LITHOGRAPHIC STONE.

In the Report of the Bureau for 1892 an account was given of the opening and working of a quarry of lithographic stone by Dr. Volney of New York, near Crow lake, in the county of Hastings. This quarry is on the farm of Thomas McGraw, and consists of fifty acres, being part of lot 9 in the third concession of Marmorata, on the south side of Crow lake. A small mill has been erected near the quarry for dressing the stone, and samples sent to New York are said to have proved very satisfactory. Dr. Volney hopes to organize a company to undertake operations upon a larger scale.

Half a mile west of the Volney quarry a new property was opened last year, and a mill was built to dress the stone for market. This locality was prospected in 1892, and in December of that year or in January of 1893 a joint stock company known as the North American Stone and Asbestos Company was organized to carry on operations. The capital is \$200,000; George Clawson of New York city is president, and A. M. Ohisholm of the same place, formerly of Marmorata, is general manager. Samples of stone taken in 1892 having been tested in New York, the Company proceeded to acquire the mineral rights on an area of 313 acres, consisting of 165 acres owned by William Bonter, parts of lots 6 and 7 in the third concession, 135 acres owned by Edward Bonter, parts of lots 7 and 8 in the third concession, 8 acres owned by Thomas McGraw, part of 8 in the third, and 5 acres owned by Patrick McFaul in the second concession. The consideration paid was \$4,800.

In April of last year work was commenced by opening a quarry on lot 7 in the third concession, close to the south shore of Crow lake, and about the same time the erection of a mill was undertaken. The ground where the quarry was opened is ten feet above the level of the lake, and the rock is covered with only a few inches of drift. The formation is Trenton limestone, very evenly bedded, but showing a slight dip to the southeast—about two inches in 100 feet. A hundred yards from the lake the ground begins to rise, forming an old shore line. The quarry is 100 feet long by 50 wide, and has been opened to a depth of 25 feet. The jointings are in straight lines, and far enough apart for blocks to be taken out of any size that is likely to be required. The first layer of lithograph stone is 7 feet from the surface, and has a thickness of 10 inches. It is marked with a white cloud, and is not of uniform texture. Three inches below it is the second layer, 7 inches in thickness. The third layer has a thickness of 16 inches, the fourth 12 inches, the fifth 15 inches, and the sixth, seventh, eighth and ninth from 6 to 8 inches. All these layers are separated from each other by beds of limestone ranging from 3 to 14 inches in thickness, and suitable for building stone. The several

The mill.

layers below the first differ from each other more or less in color and texture, one being of a dark cream color, and the others of varying darker shades from gray to blue. The fifth is a dark blue stone, but very fine in texture. Owing to the nearness of the quarry to the lake, there was a constant flow of water into it between the beds after the lake level was reached; but with a pulsometer pump no difficulty was experienced in keeping the water under control.

The mill is a frame structure, 35 by 88 feet, with an engine and boiler room attached, 20 by 24 feet. The boiler is 120 h. p., and the engine 95 h. p., built by Hamilton of Peterborough. Two gangs of saws have been set up in the main building, the saws being of common band iron. Sand is fed to them automatically, and water is supplied from an overhead tank. The planer is of Brooklyn manufacture, and has a bed area of 36 by 52 inches. The cut of the saws is at the rate of $1\frac{1}{2}$ inch per hour, and as they are run night and day when the mill is in operation, their capacity is 3 feet per day. The mill was started about the first of June, and operations were continued to the 10th of November. During this time twenty men were employed at the works, fifteen in the quarry and five in the mill and blacksmith's shop.

Tests were made in New York with 45 stones from the several layers, and all except those from the top one were pronounced "O. K. and all right." These stones were from 20 by 30 inches up to 36 by 52 inches; but stones have been taken out 6 feet square without a flaw. The demand is for the larger sizes.

It is the intention of the Company to add to the sawing and planing capacity of the mill and possibly also to manufacture vitrified brick. The top layer of the lithographic stone appears to be well adapted for the latter purpose with the addition of other materials, as shown by samples made in New York.

Kelly's property.

Another location of lithographic stone is lot 9 in the fourth concession of Marmora, the property of Mr. William Kelly of Marmora village, who purchased it from Hon. Malcolm Cameron in 1870. A Detroit syndicate procured an option on this lot last year, and at the time of my visit to Marmora in the latter part of November prospecting operations were being carried on upon it under the direction of Mr. Wayne Choate, a mining engineer from Detroit. The top layer of lithographic stone has a thickness of 10 inches; six inches below it is a second layer of 30 inches, and a foot below the second is a third of 18 inches. The middle one is lightest in color and the best in quality. The same bands of lithographic stone are seen to outcrop on the banks of Crow river, at the village of Marmora, but the stone there is marred with fine crystals of calcite.

Old quarry on Crow river.

In 1862 or 1863 an American company built a mill to manufacture lithographic stone at a point lower down the river, on lot 6 in the fourth concession; but the quality was not suitable. The property was afterwards bought by the late Judge Sherwood, and by him sold to Mr. Kelly. The area of this location is only one acre.

VIII.

MOSS-LITTER.

By Edward Jack, Fredericton, N.B.

The application of moss as bedding for horses and cattle is of ancient date, especially in Sweden, where the inhabitants who resided near the moors have made use of it for a long time in a small way. But it was only in the year 1880 that moss-litter was made an article of manufacture and commerce, and this was done by Hollman, at Gifhorn in Hanover. Tört mull (turf dust) had also previously to this time been made use of in Sweden, on a small scale, as a deodorizer in closets. In what the Germans denominate high moors, water-mosses take the most important part, especially the sphagnum, of which we have very many varieties in Canada. This is usually the predominant plant so long as the moor continues growing; where this growth from whatever cause ceases, either on the whole or in places, heath plants, such as *Cassiope*, *Andromeda*, *Kalmia* and *Ledum* spring up.

That property which renders turf most suitable for the purposes of litter is its absorptive power, which varies much in different kinds. While some kinds of turf in an air-dried condition, containing 20 per cent. of water, will absorb but twice their own weight of fluid, there are others which take it up even to twenty times their own weight. This difference is owing to the structure of the turf, and in part depends upon its botanical constitution, as well as on its degree of decay. The more the turf is decayed the less quantity of fluid is it able to absorb. The bright, light, fibrous, but little decayed turf, which forms the upper layers of many moors, has a much greater absorptive power than the dark heavy turf, which is much better however for use as fuel.

But the botanical composition of the turf is of more importance than the degree of decay. The moors which are formed by the growth and decay of the various sphagnum mosses occupy the first place as a source of supply for moss-litter. The remarkable absorptive power of these mosses depends upon the peculiar structure of their cells, which is found in but few others. The leaves and epidermis of the stalk are very largely composed of large empty cells, which can fill themselves with water by means of a number of holes. The cell walls are prevented from collapsing through the ring or spiral-formed thickenings with which their inner sides are provided. They are thus always distended, and thus always ready for use. Between these cells lie smaller ones, which contain chlorophyl and afford nourishment to the plant. They take up however but a small space. This capillary apparatus enables the sphagnum plant to raise the water to its highest parts, even when these are above the water level. By the felting of the moss there is also formed, so to say, a net of water-absorbing channels which act in the like manner.

The absorptive power of the turf is also dependent on the fineness of its division. Von Feilitzen made some experiments on the subject at the experimental station at Jonkoping in Sweden, the results of which were as follows:

Experiments
at Jonkoping.

1. The turf broken up by hand into large pieces took up 16.36 times its own weight of water.

2. After the turf had been passed through a sieve with one and a half millimetre mesh it took up 18.83 times its own weight of water.

3. Using a sieve of a mesh of one-half a millimetre, only 14.08 times its own weight of water was absorbed.

A simple test
for ascertain-
ing absorptive
power.

Since the value of turf used as a moss litter depends in so great a degree upon its absorptive power, which again is dependent on its dryness, it is very necessary that one should have some simple way of ascertaining this, for moss-litter containing 30 per cent. of water seems to the touch to be dry. In order to make this test, all one has to do is to weigh a sample and allow it to remain for three days in water. It is then placed on a sieve which had been previously weighed, and the superfluous water allowed to drain off in a cold room where there is but little evaporation taking place. The difference in weight, deducting that of the litter in its original state, will give the absorptive power and consequent value of the article. The writer found by such a trial that the absorptive power of the sphagnum moss taken from the great moor at Shippegan, in the county of Gloucester, New Brunswick, was seventeen times the weight of the original moss, which had been previously dried artificially. The absorptive power which can be profitably made use of must be below that number, for the very act of removing this specimen from the sieve caused a large loss in the water which it had absorbed.

Absorption of
gases.

The sphagnum moss has not only great absorptive power in so far as water is concerned, but also as respects gases. Its absorption of ammonia is in part due to the free humic acid which may be found in connection with the litter; but according to experiments carried on at the Experimental Moor Station by Dr A. Koenig the ammonia was arrested chiefly by the pores of the plant.

Experiments
at Hanover
with moss and
straw.

An experiment made by the regimental veterinary surgeon Arnold at Hanover on the purity of air in the stables where moss-litter was used for bedding, shows this absorptive power for gases well. The moss-litter used was strewed to the thickness of twelve centimeters, the air was examined daily, and its contents of ammonia ascertained. The result for six days showed the gas contents in a given quantity of air each day to be as follows:

Where moss-litter was used.		Where straw was used.
Day.	Gram.	Gram.
1	0.	0 00:2
2	0.	0 0028
3	0.	0 0045
4	0.	0 0081
5	Trace.	0 0153
6	0.0010.	0.0168

While the much decomposed dark turf can remain long in the water without taking up very much of it, the brighter air-dried fibrous moss is a most

ready absorbent, and can take up just as much water as it was originally able to do. There is also a great difference in the absorptive powers of the various layers of the same moor. Experiments made at the Experimental Moor Station gave as the result of the absorptive power of the different strata of a northwest German moor at Osterholz the following numbers :

Depth of layer experimented on in centimetres.		100 parts of dried moor substance absorbed water in parts—
0—27	Much decomposed heath humus, passing over into much decomposed moss turf.....	890
27—43	Moss turf, with some remains of eriophorum, (a common bogplant in northern Canada; the spike in fruit looks like a tuft of cotton.).....	1,390
43—61	Clean undecomposed moss turf.....	1,560
61—76	In part, much decomposed heath earth; in part, little decomposed moss turf.....	820
76—91	Mixture of heath earth, moss turf, and remains of eriophorum.....	720
91—104	Chiefly much decomposed heath turf, with a little undecomposed moss turf and remains of eriophorum....	570
104—117	The same.....	590
117—131	Nearly amorphous heath turf, with a small quantity of undecomposed stalks of heather.....	510
131—151	The same.....	460
151—157	The same.....	400

It is a matter of prime importance that means should be taken to drain, so far as possible, any moor which is intended to be made use of as a source of supply of moss-litter. In some of the North German moors a simple and easy way of securing the material has been for some time in use. At the commencement of the winter the surface of the moor is ploughed to a moderate depth, and then allowed to remain over winter in order that the frost may act upon it, since the frozen turf dries quicker than that which has not been exposed to the frost; and experiments have also proved that the moss which froze when full of water loses by thawing alone a considerable quantity of it. In the following spring these furrows are gone over with a harrow, and in dry weather they are repeatedly harrowed with a lighter harrow. So soon as the first layer appears to be sufficiently dry it is removed: the harrowing, drying and removal are again repeated, so that this may be done in Germany as many as ten times during a very dry summer. In other cases the turf is dug or cut in pieces, or clods. These are then piled in conical heaps, a vacant place being left in the centre so that the sun and wind can have their full action on them. While the pure sphagnum affords much the best litter, it must be remembered that the remains of various other plants found in bogs are also used for such purpose. A specimen of German moss litter, such as is now being used at the rate of 50 tons per week in Boston, was sent the writer a few weeks ago; no sphagnum plants were visible in it, and it was altogether inferior to moss-litter which can be furnished from Canada.

Procuring and preparing the turf.

The preparation of moss-litter is very simple. The first operation is the breaking up of the sods, which is done in a machine called a Reisswolf, which is nothing more than a cylinder, inside of which there is a revolving roller, provided with bent iron teeth. By this means the clods are reduced to the proper size, and come out at the bottom of the cylinder. With this a shaking sieve is connected, which separates the moss-litter from the dust, or torf mull, an article which is now being made use of in Germany and elsewhere for many important purposes. The Reisswolf may be driven by hand, horse or

steam power, according to the amount of work required to be done. The material thus reduced in size and separated from the mull or dust is introduced into a press somewhat similar to the American beater, where it is pressed into bales of about 1.25 metres long by 0.75 metres broad. Before its removal from the press it is protected at the angles by laths, and the whole firmly held together by four pieces of iron wire, two of these near the centre of the bale, while the other two are fastened around it near either end. From 50 to 60 of such bales constitute a load in Germany for a common railway car.

In stalls of all kinds, as in the case of straw, the litter must be kept and applied dry. For a beast which is constantly in the stall a hundred weight of moss-litter per year should be allowed for each hundred of live weight of the animal; working beasts require less. The litter should be strewn to the depth of 12 to 15 centimetres; this may be allowed to remain untouched for a fortnight. If one would be saving, such part of the litter as becomes damp can be raked up under the crib to dry there, in order to be used again, but it is better to remove the wet litter and replace it by dry. About 75 kilograms are required monthly per horse; cattle, on account of their more watery excrements, require more. By the use of moss litter the animals are provided with a suitable, soft, elastic and dry bed, they are kept clean, while the air in the stables is rendered pure, and lung diseases prevented. The most valuable part of the animals' secretions, which is nearly all lost by the use of straw, is completely saved for the agriculturist by means of the absorptive powers of moss-litter, and it has also been experimentally established by one of the leading veterinary surgeons of Berlin that in stables which were well provided with moss litter there was 30 per cent. fewer cases of hoof lameness than in those which were not furnished with that material.

Mode of using
the litter in
the stalls.

Value of moss-
litter as a
fertilizer.

Some experiments were made in Germany in the year 1883 in order to ascertain the difference between the value of moss-litter and straw as fertilizers after they had been used in the stall. With this object in view nine head of cattle were allowed to stand six days in a stall, where they were bedded with rye straw to a depth of from twelve to thirteen centimetres; during the next six days moss-litter was used for bedding. The analyses gave the following results in 1,000 parts of dry dung:

	With straw litter.	With moss- litter.
Potash.....	16.28	16.99
Lime.....	8.85	9.11
Phosphoric acid.....	7.91	8.33
Total nitrogen.....	15.12	19.63
Easily soluble nitrogen.....	0.31	2.11
Difficultly soluble nitrogen.....	14.81	17.49

In the autumn of 1884 further experiments were made in Germany on ten milch cows bedded in a similar manner, with the following results in 1,000 parts of dry dung:

	With straw.	With moss- litter.
Potash.....	16.3	15.4
Lime.....	5.4	5.0
Phosphoric acid.....	12.1	12.7
Total nitrogen.....	24.9	29.4
Easily soluble nitrogen.....	7.8	12.6
Difficultly soluble nitrogen.....	17.1	16.8

The remarkable increase in the amount of easily soluble nitrogen is a very noticeable feature in the above analyses. This easily soluble nitrogen which had been fixed by the moss-litter was lost in the case of the straw, which allowed it to escape in the ammonia, and circulating through the air of the stable rendered it unhealthy for the cattle which were compelled to live in it. From this experiment on these ten cows it was shown that by using moss-litter instead of straw for bedding about 140 kilograms of easily soluble nitrogen was in this case saved in the course of year.

In small towns where there are no proper systems of sewerage or drainage the air is often poisoned by the escape of gases from cesspools and places of deposit for feces; by the use of moss litter and turf dust this could be avoided and those disagreeable odors could be transformed into a most valuable fertilizer to add to, instead of taking from, the comforts of man. The accumulation of fecal matter in cities or towns has been and is the chief cause of epidemics and infectious diseases, and one may well conceive what a blessing it would be were this waste matter rendered not only innocuous, but even brought to the farmer and market-gardener as a most useful accessory to his other fertilizers. Notwithstanding all the care which can be taken in protecting the contents of cesspools by means of stone and lime, various experiments have shown that the soil under and around them is more or less permeated by fecal matters, and thus a nursery is formed for bacteria and other noxious micro-organisms. Moss-litter, which possesses so strong an absorptive power for gases as well as fluids, when rightly applied can be made to remedy the evil; for not only will it prevent the escape of noxious fluids and gases, but it will also check the growth of injurious micro-organisms. In order to apply the moss-litter in such cases, it must be broken up into small pieces before being thrown into the cess-pool. It has been estimated that two hundred weight of good moss litter will absorb 1,000 litres of fluid, and that the use of a hundred weight of moss-litter for the absorption of the feces of each person per year will be enough on the average. It is most advisable to begin the strewing of the litter after the pot has been emptied, and regular application should be carefully attended to so soon as any bad odors are perceived. After some time the contents of the pot are absorbed and can be shovelled out, being as free from smell as common earth. Experiments carried on for seven months in Germany, on the content in carbonic acid of the air in the neighbourhood of a cesspool which had been treated with moss-litter showed that by the use of this article the carbonic acid had decreased from 3.097 per cent., the original content prior to the use of the litter, to 1.074 per cent.

In various German cities the use of moss-litter has been introduced, partly in an obligatory and partly in an optional manner. Were the fecal matter of our smaller towns thus preserved for the use of the agriculturist and market-gardener, the saving which would be effected can easily be shown to be enormous. That this can be done with a profit to the towns themselves has been proved by various instances in Germany.

According to Professor Heiden an animal weighing 1,000 pounds live weight will produce yearly sixty-four hundred-weight of liquid dejections, the

Uses of moss litter in towns.

Use of moss litter for cess-pools.

Value of liquid manure.

value of which he estimates at thirty-five marks. More than two-thirds of this he says is lost under ordinary management, but by the proper use of moss-litter this can to a very great extent be prevented; but as the property of moss-litter to fix ammonia is not without bounds, the addition of a little kainite to it will check the escape of any surplus nitrogen, as will also that of wood ashes or ground plaster.

Preservative powers as packing material.

The preservative powers of moss-litter are due to its property of absorbing gases and moisture, thereby among other things checking the growth of bacteria. Instances are given by the German authorities where sea fish by its use have been transported fresh for a long distance and were received in good condition at their destination more than a fortnight after they were caught. Autumn pears packed in it are reported by the same authorities to have been as good early the next summer as when they fell from the trees. Potatoes also when packed in it all winter were perfectly fresh during the succeeding summer, showing neither rot nor any signs of germination.

Experiments in Canada desirable.

The writer knows of no experiments having been carried on in Canada to test these preservative powers of peat moss, but it would seem very desirable that such should be made. In case this were attempted the cleanest and brightest sphagnum litter should be selected, and in order to increase its efficacy it should be artificially dried so as to expel as much as possible of the water which the common air-dried moss contains. Some of these deposits of Canadian sphagnum are remarkably free from any impurities. The upper layer of the great Shippegan moor, which consists nearly altogether of the remains of plants of *sphagnum fuscum*, is so clean that the water squeezed out of the dead wet moss taken from a distance below the surface is not only perfectly transparent but also tasteless. The habitants when crossing this moor often dig a hole and quench their thirst with the clean cool water which flows into it.

Prospects of a market.

There can be no doubt that peat moss can be raised and dried as well in Canada as in Germany; that we have it in as great quantities and of as good quality here as there; and that were this industry once started we would not only be able to supply all the wants of our own towns, but also have a large surplus for exportation. Four or five years ago Rothbart estimated the annual production of this article in Germany at 1,300,000 hundred-weight, part of which was used there, the balance being exported to England, America, and even to the East Indies.

In the preparation of this short article on moss-litter, the writer acknowledges his indebtedness to the German authorities, especially to Furst, Fleischer and Junger.

IX.

IRON TRADE OF THE UNITED STATES.

For the week ending February 3, 1894, there were 130 furnaces in blast in the United States, producing 101,043 tons of pig iron. In the corresponding week of 1893 there were 248 furnaces in blast, producing 174,534 tons. The total production in 1894 to February 3 was 505,215 tons, and to the corresponding date in 1893, 872,670 tons. This shows a decrease of 367,455 tons in a little over one month, or about 42 per cent. The Engineering and Mining Journal says: "That the iron and steel trade has been and is still demoralized to an extent that was never before known since iron was first made in this country, is a stubborn fact well known to those engaged in the business. . . . Prices for all descriptions of iron and steel, raw and finished material, are away below any prices that were ever dreamed of, and there is apparently no room for further reductions in rates without going below the cost of manufacture."

Condition of
the pig iron
trade in the
United States.

A bulletin of the American Iron and Steel Association shows the production of pig iron in the United States in 1893 to be 7,124,502 gross tons, being 2,032,498 tons less than in 1892. The following table gives production by half years for the last four years:

Pig iron pro-
duction.

	1890.	1891.	1892.	1893.
	tons.	tons.	tons.	tons.
1st half	4,560,513	3,368,167	4,769,683	4,562,918
2nd half	4,642,190	4,911,763	4,387,317	2,561,584
Totals	9,202,703	8,279,870	9,157,000	7,124,502

As compared with the first half of 1893 the production in the second half of that year shows a decrease of nearly 44 per cent., the largest semi-annual decrease in production of which there is any statistical record.

The total production of Bessemer steel ingots in the United States in 1893 was 3,123,524 gross tons, against 4,168,435 gross tons in 1892, showing a decrease of 1,044,911 tons, or over 25 per cent. In the last half of 1893 the production was only 1,031,467 tons against 2,092,057 tons in the first half—a falling off of more than 50 per cent. The production of steel rails was 1,036,353 gross tons, being 424,379 tons, or 30 per cent. less than in 1892. In the first half of the year there was produced 704,240 tons, and in the second half only 332,113 tons. The production of Bessemer steel rails in the United States in 1893 was the smallest since 1885.²

Production of
Bessemer in-
gots and rails
in United
States.

¹The Engineering and Mining Journal, Feb. 3, 1894, pp. 114-115.

²The Iron Age, Jan. 25, 1894, p. 176.

Lake Superior
iron ore pro-
duction.

The Iron Trade Review publishes the following table, showing the quantities of iron ore from the several ranges of Michigan, Wisconsin and Minnesota, carried down by lake freight in 1892 and 1893 :

Ranges.	1892.	1893.
	tons.	tons.
Marquette	2,666,856	1,829,053
Menominee	2,261,499	1,466,197
Gogebic	2,973,993	1,329,464
Vermilion	1,167,650	820,621
Mesabi	4,245	613,620
	9,074,243	6,058,955

Add all rail shipments of both years and the totals of production are 9,603,173 and 6,236,992 tons respectively—showing a decrease in 1893 of 3,366,181 tons, or 35 per cent.³

Penokee and
Gogebic Con-
solidated
Mines in the
hands of re-
ceivers.

On 11th January, 1894, the Penokee and Gogebic Consolidated Mines passed into the hands of receivers by order of the Court at Madison, Wis. This company controlled what is known as the Colby group of mines, which includes the Colby, the Palms, the Tilken and Comet iron mines in Michigan and the Superior mine in Wisconsin, all on the Gogebic range. An action begun by the Farmers' Loan and Trust Company of New York to foreclose a mortgage of \$1,000,000 on the company's property was the immediate cause for appointment of receivers. The mines could have shipped this year a million tons of ore, more than half of which is ready for delivery ; but there is no market. The Penokee and Gogebic Consolidated Mines are consolidated at \$6,000,000, and among the principal stockholders are the Rockefellers.⁴

Dunn Mine,
Lake
Superior.

The Schlesinger syndicate, operating the Dunn mine on Menominee range, Wisconsin, ran behind during the depression of last year, and among the obligations unpaid were \$22,000 for royalties and \$10,000 freight to the Chicago and Northwestern Railway. The leasehold, for which the syndicate had paid \$80,000, was recently sold under the hammer and was bid in by the railway for \$28.⁵

An iron town
sold out.

Fort Payne, Alabama, has been sold at public outcry for \$60,000. The purchase includes 30,000 acres of mineral lands, 2,000 town lots and various industries, including the rolling mill and furnace of the Fort Payne Coal and Iron Co. It is said that the private and corporate expenditures amounted to \$5,000,000, and of the Port Payne Coal and Iron Co. alone to \$2,000,000. Yet all this property has been sold for \$60,000. The town was founded by New England capital in 1889.⁶

The Pittsburg
iron workers.

As further evidence of the depressed condition of the iron trade in the United States is an approximate estimate, prepared by the Pittsburg Press, of the number of men in the main iron works employed in the Pittsburg district. It shows that out of 56,956 men employed by 68 firms reported when working full time, only 26,413 were employed at the beginning of the present year.⁷

³The Iron Age, Jan. 25, 1894, p. 157.

⁴The Iron Age, Jan. 18, 1894, p. 100.

⁵The Iron Age, Jan. 18, 1894, p. 100.

⁶The Iron Age, Feb. 1, 1894, p. 220.

⁷The Iron Age, Jan. 18, 1894, p. 113.

X.

NICKEL STEEL FOR ARMOR.

One of the most promising uses of nickel continues to be as an alloy with steel in the manufacture of armor plate. Yet the superiority of nickel steel is not so uniformly admitted as to make the general adoption of it by Governments certain. In the United States there is no doubt in the mind of naval experts that the nickel steel plate surpasses all others in capacity to resist attack; and although discredit has been temporarily brought upon it by the dishonesty of certain parties employed in the manufacture of plate, there can be no doubt that a high degree of perfection has been attained in that country in the production of an alloy possessing admirable qualities. This is especially true of the nickel steel plate produced at the South Bethlehem works, as has been proven many times over by the severe tests to which it has been subjected. On the continent of Europe also, much attention has been given by Government officials and the heads of great iron and steel works to new processes of alloying and treating the metals; but perhaps with the single exception of the Krupp works in Germany the degree of success reached in the United States has nowhere else been attained. It is in Great Britain alone that claims are made of the superior excellence of all-steel plates, and the naval authorities of that country maintain that steel treated by the Harvey process has given even better results than nickel steel subjected to like treatment. It may be questioned however if in alloying nickel and steel for use in the manufacture of armor the quality is equal in all respects to the product of United States works. American experts assert that it is not, as has been shown by trials of armor in the two countries, and claim furthermore that the larger experience they have had in the manufacture and treatment of nickel steel entitles them to speak with some confidence upon its merits.

(The subject has an important interest to Ontario, because our nickel mines are one of the world's principal sources of supply of this metal; and being more accessible than their only rival, the New Caledonia mines, they are likely to profit most by every increased demand for the metal. Ontario's interest in the subject.)

The papers which follow show pretty clearly the present situation of the controversy on the best material for the manufacture of armor plate. The situation of the controversy. First in order is an extract from the Annual Report of the U. S. Secretary of the Navy for 1893. Then follows a paper by Mr. C. E. Ellis, (managing director of Messrs. John Brown & Co's Atlas Works), read at the British Institution of Naval Architects, 15th March, 1894, in which the records of numerous tests are given to show the excellence of all-steel armor treated by the Harvey process. Third in order is an extract from an editorial article in the

London Engineer of March 23rd, 1894, commenting upon the paper of Mr. Ellis and upon one read at the same meeting by William H. White, c.B., of the British Admiralty service, asserting the claim that "at the present moment England is taking the lead both in armor and ordnance." The fourth article is a reply to Engineer by Captain Jaques, Ordnance Engineer of the South Bethlehem Iron Works, which Engineer commented upon but declined to publish. By the favor of Captain Jaques it is published in this Report for the first time.

UNITED STATES TESTS OF ARMOR PLATE.

"The tests of armor plates at the naval proving ground at Indian Head during the past year have been most important, some exceeding in severity any ever attempted either in this country or abroad. The results of these tests have been conclusive in demonstrating the desirability of using the Harvey process for the armor of all the vessels now under construction. In one test, that of a 14-inch nickel steel Harvey plate, the results were remarkable. Against this plate were fired four 10-inch Holtzer armor-piercing shells, with striking velocities of 1,472, 1,859, 1,959, and 2,059 foot-seconds, respectively. All four of these projectiles were crushed on the plate, the greatest penetration, which did not exceed 11 inches, being that of the last shot, which was fired at a fragment of the plate weighing but 4.4 tons with a striking energy of 14,715 foot-tons, or 3,344 foot-tons per ton of plate attacked. It is believed that such an energy per ton of plate has never been used in any test.

Tests at Indian Head proving ground.

During the tests for acceptance of armor plates experiments have been made to determine the relative effects of impact of armor-piercing projectiles on ship's framing protected by ordinary nickel steel plates and by nickel steel Harveyized plates. In the experiments the backing representing the ship's framing was the same in each case.

Tests of treated and untreated nickel-steel plates.

The untreated nickel steel plates receive nearly all the energy within themselves, and distribute it over the vessel in racking effect, while the hard surface of the nickel steel Harveyized plates causes the energy of impact to be principally absorbed in the disintegration of the projectile. The experiments developed a marked difference in the effects produced, in one case a much heavier nickel untreated plate being set back bodily several inches under impact of 100 foot-seconds less velocity than the lowest striking velocity with which the Harvey plate was attacked, while the latter was scarcely moved at all.

During this year all the armor delivered has been of nickel steel, the tests of which have shown ballistic qualities decidedly superior to what is required for acceptance under the terms of the contracts.

Beneficial results of the Harvey process.

Exhaustive experiments have conclusively demonstrated the beneficial results obtained by the application of the Harvey process, and arrangements have recently been made to Harveyize such of the armor under the old contracts as was not too far advanced in manufacture to admit of the change, or as would not seriously delay the completion of the ships. In consequence

of this, much of the side armor of the Maine, Texas, Indiana, Oregon and Puritan, the turret armor of the Maine, Puritan, and Monadnock, and the barbettes for the Oregon will be of Harveyized nickel steel. All the armor provided for under the new contracts will be treated by the Harvey process.

At the present time this country is no longer alone in the manufacture and use of nickel steel and nickel steel Harveyized armor, its initiative having been followed by many foreign powers. Compound armor has been abandoned by the German naval authorities, and that country will hereafter employ nickel steel, and it is believed that Krupp of Essen is using a surface-hardening process similar to that of Harvey. Nickel steel Harvey plates have been very successfully tried in England and Russia, and experiments are going on in France and Italy with a view to having its manufacture domesticated in those countries. The right to use the Harvey process has been secured by an Austrian firm, and the necessary furnaces are now being installed in that country. Nickel steel armor has been steadily growing in favor in England, and a syndicate, including the principal armor firms of that country, has purchased the right to use the Harvey process."¹

Adoption of
nickel steel
armor by
European
powers.

ELLIS ON RECENT EXPERIMENTS IN ARMOR.

At the meeting of the British Institution of Naval Architects in March the following paper was read by Mr. Charles E. Ellis of the armor-making firm of John Brown & Co. of Sheffield.

"The importance of any discoveries which will increase the defensive power of any given thickness of armor as disposed in modern battleships is so great that no apology is needed for introducing this subject to the Institution. By the kindness of the council I have been permitted to lay before the members a few remarks on the history of the latest developments of the attempts made by manufacturers to furnish a plate equal to cope with the improved armor-piercing forged steel projectiles, which at one time threatened to carry all before them. The adoption of a new type of plate for three important battleships by the British Admiralty has brought the entire subject into considerable prominence, particularly in consideration of the extensive shipbuilding programme, which is apparently admitted on all sides to be necessarily undertaken in this country.

Armor plate
and pro-
jectiles.

COMPOUND V. STEEL PLATES.

"I think the last paper of importance which was presented to the Institution was that of M. Barba, the chief engineer of the Creusot Works, and was read in March, 1891. In that paper, and in the comments upon it made at the meeting, the merits and demerits of steel as against compound armor were fully discussed, and I think I am not going too far in saying that the general opinion was that for all practical purposes compound armor still held the field. It was felt that the acknowledged superiority of this type over steel in (1) offering greater resistance to projectiles of medium quality, as admitted by M. Barba himself, and (2) withstanding the attack of shot fired

Steel and com-
pound armor.

¹ From Secretary Herbert's Report for 1893, pp. 27-28.

obliquely, was such that, in spite of the excellent results obtained both by Messrs. Schneider and by Messrs. Vickers in all steel plates, the compound plate was, under all the circumstances, preferable. The then recent tests on board the *Nettle*, which were under review at this period, are however valuable at the present time as forming a standpoint from which we can estimate the extent of later improvements.

I take as examples the compound plate of Messrs. Cammell tested on March 24, 1888, and the steel plate of Messrs. Vickers tested on September 6, 1888. Each trial was made under the ordinary *Nettle* conditions. The plates measured 8 ft. by 6 ft. by 10½ in., and were attacked by the 6 in. breechloading gun, firing three Holtzer projectiles of 100 lb. in weight, and two Palliser shot of 98 lb., with a striking velocity in each case of 1,976 foot seconds, giving according to the Gavre formula a perforation in wrought iron of 11 in., and according to De Marre's formula of 13 in. The resistance of the compound plate to each of the Holtzer projectiles was about the same. Each of the shot stuck in the plate, being much split up, the base projecting in each case from 5½ in. to 6½ in. from the face, and bulges were formed at the back of the plate about 2 in. in height. The length of the Holtzer shot is 17½ in., and judging from the back of the plate and from the fact that the shot was somewhat set up, it is not unreasonable to suppose that the penetration in each case would be from 9 in. to 10 in. The plate developed several superficial cracks, but these were not at all serious. In the Vickers steel plate the penetrations were ascertainable in each case, being 13.5 in., 13 in., and 13 in. respectively, with bulges at the back of the plate from 2½ in. to 3½ in.; the projectiles rebounded entire, two of them being slightly distorted and set up. Three short through cracks were formed, but the plate remained entire. It is not necessary for my present purpose to consider the effect of the Palliser shots at these trials, beyond saying that each of the plates stood up well against them. I have taken these plates as favorable illustrations of the armor of the period—1888-91—when M. Barba's paper was read, and I shall now endeavor to show what increase of resisting power has been obtained in some of the later inventions or improvements in manufacture.

Dealing first with steel plates, I must refer to some trials of Messrs. Charles Cammell & Co., who, although fully occupied at the time with the manufacture of compound armor, achieved considerable success in their experiments with steel. Following up a successful trial of an all-steel plate at Portsmouth in May, 1888, they presented further plates for test in December, 1891, and in May, 1892, which were characterized by excellent quality of steel. Under the usual conditions of a *Nettle* trial each of the plates successfully stopped all the projectiles without any cracking whatever. The penetrations, as might be expected, were considerable, the greatest being about 14 in.; but there could be no doubt that a uniformly excellent plate had in each case been presented. The same firm was also successful in the manufacture of nickel steel plates, which were so largely used for the secondary armor of the Royal Sovereign class of battleship. The tests upon which these plates were selected were under the following conditions: The plate, 4 ft. by 4 ft. by 4 in., was not backed, and was attacked by

Comparative tests of six years ago.

Cammell steel and nickel steel plates.

three Palliser 5-in. projectiles of 49 lb. in weight, with a velocity of 1,200 ft. per second. In the most successful trials none of the shot perforated the plate and no cracks were found. For this class of armor there can be no doubt that the alloy of nickel proved most beneficial in providing the peculiar toughness requisite when the plate is unbacked. My own firm were also successful at the same trials, which were competitive, in producing good nickel steel plates, and were allowed, with Messrs. Cammell, to provide the secondary armor for the battleships above named.

An excellent plate, manufactured by Messrs. Vickers, was tested at Ochta in November, 1890; but, as the results of that trial are so well known, I pass on to give some particulars of the results achieved by the Continental ^{Vickers} plates. manufacturers in recent trials of steel armor.

I regret I have no records of any of the plates of Messrs. Schneider other than those which have appeared in the public press. I wish however to refer to the Texel trial of August, 1893, when this firm was represented. The conditions of the trial were the same as in the case of the Harveyed plates of the same trial. In the result Messrs. Schneider's plate was perfor- ^{Schneider} plates. ated by two of the shots, but broke up two of the remaining three, one of these being fired with the highest velocity. The remaining shot, which was fired at the lowest velocity, rebounded intact. The plate, which appeared to have been face hardened, exhibited no cracks whatever. Another interesting trial of the nickel steel armor of the same firm was held in the summer of last year, when a test plate for the armor being made for the Tri Sviatitelia was very successful. The conditions of acceptance were that the plate should receive four blows from Holtzer projectiles of 317 lb. from a 9.4 gun, with a velocity of 1,945 f.s., without any portion of the plate being broken off, while in no case was the base of the projectile allowed to penetrate the target to a depth of as much as 7.8. Through cracks were permitted. The plate measured 8 ft. by 8 ft. by 15.9 in., and from the account in the Engineer (15th September, 1893) successfully passed these severe conditions, the greatest penetration being 14 in. No serious cracks were produced.

The St. Chamond Company, in addition to some successful trials of Harveyed plates, which I will not deal with here, has been singularly success- ^{St. Chamond} plates. ful in the production of a steel armor plate of great toughness and uniform character; and I have the particulars of those trials where this is most apparent. In April and May, 1892, a plate measuring 8 ft. 3 in. square, and 10½ in. in thickness, successfully withstood nine steel 6-in. projectiles weighing 100 lb. each, fired at a velocity of 2,149 ft. per second, without being perforated and without any cracks whatever being formed, except in the bulges formed by the projectiles. Judging from the two cases where it was possible to measure them, the penetration did not exceed 12½ in. At the trial at Ochta in December, 1892, the same company exhibited a most interesting example of this class of armor. The plate measured 8 ft. by 8 ft. by 10 in., and six shots weighing 87 lb. were fired at it from a 6-in. gun, at a velocity ranging from 2,177 ft. to 2,198 ft. per second. The penetration varied from 11¼ in. to 12 in., proving the uniform character of the steel, and no cracks whatever appeared in the plate. The calculated perforation

in wrought iron of the shot is according to the Gavre formula 11.7 in., and according to De Marre's formula 13.8 in. A further trial of a similar plate was made at Texel in August last, but as an account has so recently been given of the results in the Engineer (19th January, 1894), it is not considered necessary to do more than to say that the Ohta results were fully confirmed.

Another French firm, the Chatillon Commentry Company, has devoted considerable attention to the manufacture of deck armor, with excellent results. I have the particulars of a trial where, in a plate of 5 ft. 3½ in., by 4 ft. 11 in. by 2¾ in., nine 100-lb. shots were fired from a 6-in gun at a square in the centre of the plate, the side of the square measuring only 15½ in. The velocity was of course low, being 535 ft. per second; but the peculiarity of the trial was that only one fine crack was formed between two of the points of impact. The same firm have also been experimenting with Harveyed armor, with the satisfactory results mentioned below.

Of the German manufacturers, Messrs. Krupp exhibited at Chicago several excellent plates, of which I select two for illustration here. The first is a nickel steel plate measuring 12 ft. by 8 ft. by 15¾ in. Four Krupp's steel and one chilled iron projectile, weighing 718 lb. each, were fired from a 12-in. gun, with a velocity of about 1,690 ft. per second. The chilled shot broke up and stuck in the plate, while the four steel projectiles were thrown back broken. The greatest penetration was 19.6 in., and the plate remained free from cracks. On 13th March, 1893, a 10½-in. nickel steel plate (hardened) was tested with excellent results. Five Krupp's steel projectiles were completely broken up without cracking the plate in any way. The particulars of the rounds are as follow :

	Round 1.	Round 2.	Round 3.	Round 4.	Round 5.
Gun.....	5.9 in.	5.9 in.	5.9 in.	8.26 in.	8.26 in.
Weight of shot	112 lb.	112 lb.	112 lb.	209 lb.	307 lb.
Velocity.....	1,885 f.s.	2,000 f.s.	2,160 f.s.	1,727 f.s.	1,824 f.s.
Penetration...	2.7 in.	Not measurable.	12.2 in.	4.5 in.	Not measurable.

The trial is interesting, inasmuch as the behavior of the plates resembles closely that of the Harveyed plate, but it is evident that the shot was considerably overmatched.

The old-established firm of the Dillinger Huttenwerke Company has also given favorable examples of nickel steel armor, exhibiting the same absence of cracking which has characterized so many of the trials of this class of armor. I append the particulars of the tests of two plates which are worthy of notice.

Trial, 9th February, 1893: 8½ in. nickel steel.

Round.	Projectile.	Weight of projectile in lb.	Velocity in f. s.	Penetration in inches.
1	Steel, 6 in	112	1,554	10.5
2	"	112	1,543	10.8
3	Steel, 8½ in	209	1,451	11.5
4	"	210	1,447	12.2
5	Chilled iron, 8½ in.....	209	1,442	9.6

Trial, 31st May, 1893: 15½ in. nickel steel.

Round	Projectiles.	Weight of projectile in lb.	Velocity in f.s.	Penetration in inches.
1	Steel, 12 in	714	1,700	22.2
2	"	715	1,677	21.9
3	"	714	1,664	21.5
4	"	714	1,665	22
5	"	714	1,701	12.5

Steel plates are also being successfully manufactured in Russia, Italy, and in Austria; the firm of Witkowitz in the latter country having been recently successful in the Pola trials. An account of these trials has so recently appeared that I need not give any particulars.

The above remarks show that, since the reading of M. Barba's paper before the Institution, a considerable impetus has been given to the manufacture of steel armor, and I have endeavored to give the results of the best examples of each manufacturer's plates in order to show what progress has been made. It will be noticed that, with one or two exceptions, none of the plates are hard enough to break up armor-piercing projectiles, which is the special characteristic of the modern Harveyed armor yet to be noticed. As long ago as 1883 Admiral Acton, the Italian Minister of Marine, in explaining to the Chamber of Deputies the reasons for the preference of the Government for compound armor to steel, said that if the face of the steel could be successfully hardened it might possibly be most successful in the future, and Captain Orde Brown in the pages of the Engineer, has for some time advocated the application to steel of the principle of hard faces and soft backs, as seen in compound armor. As will be seen, this desideratum has now been obtained, but before examining the results of the trials of the new Harveyed plates, I must first treat of the experiments of compound armor plate manufacturers subsequent to the trial of the standard plate of Messrs. Cammell, above described. Although the question has apparently ceased to be of practical interest, a few instances of the improvements effected in increasing the hardness of the faces of compound armor may here be given.

Passing over the Dutch trials of November, 1889, where a compound plate made by my company broke up two forged steel Krupp projectiles, in the words of Captain Orde Browne, "like chilled iron," I come to later experiments. Mr. Alexander Wilson has shown me a photograph of a 10½ in. compound plate, manufactured by his firm, which was tested in August, 1891, and completely broke up three 6-in. A.P. projectiles, and two 6-in. Pallisers, fired with a velocity of from 1,956 ft. to 1,974 ft. per second. I am not able to give the penetrations, but beyond two unimportant cracks the plate was apparently uninjured.

THE TRESIDDER AND HARVEY PROCESSES.

"I must now mention some experiments made by my own company in the same direction. The attention of my friend Captain Tresidder had been drawn to the importance of endeavoring to break up the point of a steel projectile before it had time to effect any degree of penetration into the plate sufficient

The Tresidder treatment for hardening, and

to cause perforation or serious damage by cracking. With this object in view, he tried various methods of rapidly chilling the face of armor plates; and, after obtaining fairly satisfactory results with cold air and steam impinging along the face, he directed his attention to the best way of hardening armor by means of a sudden uniform process of chilling by water. The process devised by Captain Tresidder was, and is, applicable and beneficial to all kinds of plates; but naturally, it has its most striking effect where carbon is present in sufficient quantity to ensure absolute hardness. My company being at the time large manufacturers of compound armor, Captain Tresidder's earliest experiments were conducted with that class of plate; and, although it subsequently became apparent that the hardening process was more suitable to homogeneous than to built-up or compound plates commonly so called, the results of one or two of the trials are sufficiently interesting to deserve mention. The nature of the invention may be stated in a few words. It consists in the application of water under such pressure and of such volume as will effectually prevent any envelope of steam forming on the face of the plate, this ensuring a rapid chilling and resultant hardness uniformly over the surface of the plate.

results obtained from it.

The experiments were, so far as the chilling process was concerned, uniformly successful; but for my present purpose I only trouble the Institution with the consideration of one trial which took place at Shoeburyness on August 4, 1892. The dimensions of the plate were 8 ft. by 6 ft. by 10 in., and it was attacked by five 6-in. Holtzer projectiles, weighing 100 lb. each, with a velocity of 1,976 ft. per second. Captain Orde Browne describes the result of the trial as follows: 'The whole of the projectiles broke up with very little penetration. The plate, after the trial, appeared to be nearly as stiff and as strong as at first.'

Similar results were obtained in numerous other trials, the marked feature in each case being the complete breaking up of the best forged steel armor-piercing projectile in the same manner as the old compound plates had invariably broken up chilled Palliser shot. Of the value of the invention as a step in the development of armor there can be no doubt, but experience soon proved that its efficacy would be more strongly demonstrated by applying it to homogeneous steel plates, highly carbonized on the face, armor which has now generally become known as Harveyed armor.

The Harvey treatment

The late Mr. Harvey unfortunately died just at the time when the results of his plate had become known and acknowledged in Europe. Having successfully applied to smaller articles the system of cementation or conversion followed by chilling, he directed his attention to the effect of similar treatment in the case of homogeneous steel armor plates. A series of experiments was made under the auspices of the United States Government, and the results were from the first of a very encouraging description.

adopted by the British Admiralty.

Inasmuch as this armor has been definitely adopted by the British Admiralty for the three important battleships now building, I have thought it would be interesting to the members of the Institution to give a detailed account of nearly all the trials that have been made of it in this country and abroad.

The list includes the earliest American trials of the Bethlehem Iron Company and Carnegie, Phipps & Co., and the first Harveyed plate manufactured in Europe, that of Messrs. Vickers, tested in November, 1892.

It is no part of my purpose to draw comparisons between the plates of rival manufacturers. I desire rather to call attention to the results obtained by this class of plate in the various trials taken as a whole, in order to demonstrate the extent of the improvement in armor realized by the new process. The British tests appear to be most useful for this purpose, and, with the authority of the Director of Naval Construction, and the consent of the other English manufacturers, I am able to give full particulars of all the British trials.

BRITISH TRIALS OF HARD-FACED ARMOR.

“Speaking generally, the American trials are characterized by conditions rather more favorable to the plate than to the shot, while in France, with one or two exceptions, the reverse has been the case. In England however, and in some of the trials made abroad, the authorities appear to have gauged most accurately the resisting power of the Harvey plate to the blow to be delivered, with the result that in many cases; the shot and the plate appear to be equally matched. A good instance is to be found in the trials of Messrs. Cammell’s and Messrs. Vickers’ 6-in. steel plates on the Nettle. An examination of these trials will show that, with the highest velocity (1,960 ft. per second), a 6-in Holtzer projectile was unable to perforate the plates, damaged as they had been by two previous rounds. According to the Gavre formula, this shot would have perforated 11 in. of wrought iron (or 13 in., according to De Marre’s formula), so that we get a superiority to wrought iron of at least 183 per cent. Other instances may be found in the nickel steel 10½-in. plate of Messrs. Cammell, and in the nickel steel plate of the same thickness made by my own company, tested at Shoeburyness on 9th November and 10th October, 1893, respectively. The Cammell plate was curved to moulds supplied by the Admiralty, and was only penetrated to the depth of 10 in. In the Brown plate the projectile stuck in the plate, broken, and we may assume that each of the plates was a fair match for the blow delivered. The gun used was the 9.2, and, with a Holtzer shot of 380 lb. and a velocity of 2,035 ft. per second (the highest obtainable), a striking energy was obtained of 10,900 foot tons. These conditions would give, according to the Gavre or De Marre’s formula, a perforation in wrought iron of 22 in. or 22½ in., showing for the plates in question a superiority over wrought iron of 209.5 per cent., at least. Again, the Chatillon Commentry 6.7-in. plate gives an excellent example of a trial where the conditions of attack and defence approximate one another.

Taking the severest blow, we find that the plate was not perforated by a shot which would, according to the Gavre formula, pierce a wrought-iron plate of 11.9 in., and according to De Marre’s, a plate of 13.8 in. in thickness: in other words, showing a superiority over wrought iron of 177 per cent. according to the one, and of 205 per cent. according to the other formula.

It was at first assumed that the Harvey process was considerably better adapted to nickel steel plates than to all steel, and this is still no doubt the

general opinion in the United States. In the Annapolis trials of 1890 the Schneider nickel steel plate was undoubtedly superior to the all-steel plate made by the same firm; and in a trial of 3-in. plates in May, 1891, the nickel steel Harveyed plate was stated to be better than the all-steel plate. In the Indian Head trials of the same year, the low carbon all-steel Harveyed plate of the Bethlehem Company was placed considerably below the high carbon nickel steel Harveyed plate of the same company: but in this case the consideration of the question was complicated by the difference in the carbons, as it is probable that a nickel steel plate would not require to be so high in carbon as an all-steel plate to give the same resistance. Since this trial however it seems to have been assumed in the United States that all Harveyed plates should be made of nickel steel. In Great Britain however the high cost of nickel has caused manufacturers to turn their attention to producing Harveyed steel plates containing no nickel, and an examination of the details of the various trials shows that all have succeeded in proving the reverse of the theory accepted in the United States. There may perhaps be a slightly greater tendency to crack in the all-steel than in the nickel steel plates, as tested in this country, but this is more than compensated for in the superior resistance to penetration. The 6 in. Portsmouth trials all demonstrate this fact, and attention may also be called to the trial on 26th October, 1893, when experiment showed that the 10½-in. Brown all-steel plate more effectually broke up the 9-in. shot than was the case in the similar trial of the nickel steel plate under the same conditions. The expense of the addition of nickel renders this question of such importance that I regret there are no foreign trials available for providing further demonstration, if such be needed.

Apart from the question of extra cost, there are also practical considerations which affect the point in question. Some experiments made by Captain Tresidder show that a steel plate containing an ordinary percentage of nickel and a high percentage of carbon is practically unworkable. If therefore a nickel steel plate be taken containing, say, 3 per cent. of nickel, and it be super-carburised up to, say, 1 per cent., its face will be so hard (even before the chilling process is effected), that for all practical purposes it will be impossible to drill and tap the various small holes that are nearly always necessary to be made on the face of the armor plates for ships' sides. In the case of steel armor, this difficulty (which I believe has already arisen in the United States in the case of nickel steel plates) does not exist, and thus one important objection to the adoption of the Harvey process for ship's plates as required by naval architects has been overcome by its application to all-steel armor in place of nickel steel.

I must now allude to the doubts that have been expressed as to the difficulties which will be experienced by manufacturers in adapting the process to curved and twisted plates. Both the Dutch and the Austrian Governments appear to have attached great importance to this consideration. No doubt there are, and will be, difficulties caused by the warping effect of the water treatment, and time alone will show whether they are as serious as the detractors of the system allege. I think however—and I am sure I can speak for the other armor plate manufacturers in this country—that any

American tests of low and high carbon nickel steel plates not accepted in Great Britain.

The extra cost of nickel,

and the quality of extreme hardness it imparts to steel.

Adapting the Harvey process to curved and twisted plates.

difficulties thus created will be readily overcome. In the first place, if a plate is uniformly heated, and uniformly chilled, any alteration of its form will also be uniform. A very little experience therefore will teach the operator the lines on which to work, particularly if the system of chilling in use is of a suitable character. We know also that the side armor for the Maine, made by the Bethlehem Company, has been accepted by the United States Government; and, although I have no accurate information on the point, we may safely assume that the plates were not straight. Both Messrs. Cammell and my own company have also successfully made sample Harveyed plates to moulds having both curve and twist, and probably other manufacturers have done the same.

It may be interesting to give an account of some mechanical tests showing the quality of the soft parts of Harveyed plates which have been successful in trials. In the early stages of our experiments a 4 ft. by 4 ft. by 9 in. plate was tested at Shoeburyness, breaking up the 6-inch Holtzer in the usual way without cracking. Test pieces were taken from the back of the plate with the following results:

Mechanical tests of soft parts of plate

	First specimen.	Second specimen.
Breaking strain per square inch	31 tons	29 tons.
Elongation per cent. in 2 in	31	31
Reduction of area per cent	57	61
Cold bends without fracture.....	180°	180°

The plate, it may be mentioned, was not of our special armor plate quality. It gives however a sufficient indication that, apart from the face, the body of the steel does not, at least, suffer from the application of the process.

One characteristic of this kind of plate must be specially mentioned . . . I refer to the extraordinary resistance given to shot by small fragments of plate only. Perhaps the most conspicuous instance of this is given by the Bethlehem 14-in plate of 11th February, 1893, where a 10-inch Holtzer projectile was fired, at a velocity of 2,059 ft. per second at a piece of plate weighing only 4 1/5 tons, and was broken up with a penetration of 11 in. The total striking energy of the blow was 14,715 foot-tons, or 3,344 foot tons per ton of plate. Another example may be found in a recent trial of a 6-in. steel plate made by my company. The fourth shot of this trial was fired nearly at the centre of the plate, after cracks had been made, such that the point of impact was about the middle of an equilateral triangle, with each side measuring about 2 ft. The 6-in. shot, with a velocity of 1,815 ft. per second, was completely broken-up; one small crack only was made, and the fragment of plate represented by the triangle, dished to the extent of an inch, showing the tough nature of the material. If therefore the Harvey plate be broken up, but its fragments still adhere to the backing, it still presents a considerable resisting power. It seems however from the foregoing remarks that it might be desirable to have a greater number of bolts per square foot of plate than was the case in the old form of armor.

Resistance to shot by fragments of plate

EXTENT OF THE IMPROVEMENTS.

“With the above facts before us, we are enabled to form some idea of the improvements that have recently been effected in armor-plate manufacture, and of the relative value of the various kinds of armor. Without disregarding the excellent qualities of the steel and nickel plates which I have alluded to earlier in this paper, I think I have shown that Harveyed armor would be a more efficient defence to the vital parts of any ship of war, whether battleship or cruiser, than any other type of plate. Opinions may differ as to the percentage of superiority it possesses, but I do not think I am over-estimating its value when I place its resisting power at 50 per cent. above the steel and compound plates of 1888, which I have chosen as the basis of comparison. This advantage can be used by the naval architect in one of two ways: he can either clothe with armor a greater part of his ship, or he can obtain greater resistance, keeping the same thickness of armor. The new development is therefore of the greatest importance, and it will be a matter of satisfaction to this Institution that the British Admiralty have been the first naval authority in Europe to realize the value of this new form of armor, and to apply it to their most recent designs.”²

Estimate of the increased value in manufacture of armor-plate since 1888.

IS GREAT BRITAIN TAKING THE LEAD?

Commenting on a paper read by Mr. William H. White, C.B., at the meeting of the Royal Institution of Naval Architects (March 15), London Engineer deals with the claim that “at the present moment England is taking the lead both in armor and ordnance,” examines the ground on which the statement is based, and thinks it is possible that Mr. White may have referred to the continent rather than America.

Superiority of the Harvey system.

“The superiority of steel armor test plates treated on the Harvey system,” it says, “to the untreated plates preceding them has been so abundantly established in this country that, in speaking of the question on its own merits, without any thought of continental armor, the only doubt is whether to credit the improvement as having amounted to 50 per cent. or some much higher figure.” Having examined Mr. White’s claim as to superiority over continental armor, the Engineer proceeds to say:

Severe tests adopted in the United States.

“The question on which most light was thrown incidentally by the facts which came out in discussion is the comparison of English Harveyed plates with those of the United States. Both in the use of nickel and in the Harvey process the United States were in the field before us. They tested their Harvey plates with 8-in. Holtzer steel shot; while we were attacking our compound plates, treated by the Tresidder process, with 6-in. shot only. Their plate trials have been in the very front as to progress. Last year they tested magnificent nickel steel plates with Carpenter projectiles made in America, which put to shame the Holtzer shot fired on the same day, although the latter were of smaller calibre, and therefore easier to manufacture. It needs then very clear evidence to establish a claim of superiority as compared

² Charles E. Ellis at the Institution of Naval Architects, 15th March, 1894, published in *Industries and Iron* 8th June, 1894, pp. 669-71.

with the United States, even for a moment. We think however that the following points may be urged, although we speak doubtfully. Since the introduction of the Harvey process in England we have increased the severity of the tests: in fact, discovering what could be learned by repeatedly testing plates to destruction; and investigation has led to the conclusion that Harveyed steel plates without any nickel in their composition are slightly superior to those containing nickel, their resisting power to penetration being greater, although their toughness is less. In the United States nickel is used in all plates, but it is doubted whether thick plates can with advantage be subjected to the Harvey process. Without giving a distinct reason, the makers seem reluctant to subject their thick plates to the prolonged high temperature which is needed, urging generally how undesirable it is to do so unless the gain is very great; while they point out that the good effect of water-hardening and carbonization is necessarily limited to a depth which tells much less on thick than on thin plates. In addition to this we have heard that trouble is caused in America by the difficulty of drilling holes in the faces of their hard plates. In the discussion which followed the reading of his paper, Mr. Ellis stated two facts bearing on this: one that the presence of nickel causes steel to crystallize at a much lower temperature than it would otherwise, and the other that the 'arc light' system of drilling is not applicable to plates containing a high percentage of carbon and nickel together. It seems then a natural conjecture that the nickel in the United States plates has given trouble both in the Harvey process and in the process of drilling, which trouble we have happily avoided owing to the decision to dispense with its use. If this is so we shall find that the United States soon follow our example, and we may in the meantime be said to have the lead that Mr. White claims; although we acknowledge that whatever may be the dislike to apply the Harvey process to thick armor, extraordinary results have in one instance been achieved by a United States Harvey plate 14 in. thick. We have also to admit that the remarkable series of successes achieved by Harveyed plates, conclusive as they are as to firing for experiment, have as yet not convinced the continental powers that they ought to adopt them, because the process causes the plates to bend and alter slightly in form, and they are not satisfied that this can be so calculated and allowed for or so controlled as to admit of armor being fitted properly to the form of the ship's side. The answer was given to this objection that the United States ship *Maine* had been completed with her supply of Harveyed plates, that our own makers have now succeeded in making plates to a given curve, and that no serious difficulty is anticipated. We hope then altogether that at the present moment we stand in a very favorable position to furnish the new ships to be laid down with the best armor, and we trust soon to be able to give our readers detailed evidence with regard to our guns.³

The qualities of resisting power and toughness in steel and nickel steel armor.

Objections to nickel steel.

³ From London Engineer, March 23, 1894.

CAPTAIN JAUQUES' REPLY TO ENGINEER.

The letter of Captain Jaques which follows was written from New York under date of April 19, and in its issue of May 11 the Engineer made lengthy editorial comments upon it, but adopted the very singular course of withholding publication. At my request Captain Jaques has supplied a copy for publication in this Report of the Bureau.

"Sir,—In your issue of March 23rd an editorial, discussing the claim that Great Britain has taken the lead in armor and ordnance, advances (with hesitation, it is true) opinions that ought not to be passed by without at least friendly criticism.

The British critic and his qualifications.

My response is based on the assumption that the article in question was written by one who has for many years handled this subject for Engineer, viz., Capt. Orde Browne. He is a most persistent student of this special branch of war material; is one of Great Britain's first authorities on armor; has the confidence of his Government and of the contractors; and has access to much information and the results of trials which govern his opinions, but the details of which he cannot always give to the public. Further, he is perhaps the best fitted of anyone in England to make a comparison between the tests of the two countries, as he visited our Naval Proving Ground at Indian Head last summer with me and witnessed the tests of nickel steel armor of 9 and 17 inches thickness, and had the opportunity to examine carbonized plates that had already been given their ballistic trials.

I note he has expressed himself very cautiously; this caution appears to be personal admission that the evidence which decided the opinions of Mr. White and the First Lord of the Admiralty was not sufficient to convince him.

The opinion expressed by Mr. White at the meeting of the Naval Architects on the 15th of March, and to which Capt. Browne has referred, was not a surprise to me, as he had expressed the same views in a discussion of the subject during my last visit to England.

Mr. White has gone into the armor question during the past few years with the purpose of securing a protection for the splendid ships he has designed, at least equal to the best in the world; he has carried on experiments on a liberal scale; and he has given me the satisfaction of seeing *steel* armor replace *compound* in the designs of his ships.

While therefore I have great respect for Mr. White's opinions, I am not yet ready to admit that Sheffield has acquired the standard that we have reached; and although Great Britain has, in relinquishing compound armor, made great strides to the front, she does not yet lead the United States in the production of armor.

Mr. Charles Ellis' valuable paper on the development of carbonized armor is a most pertinent one for his pen.

As general manager of the Works where his father first attempted the carbonization of heavy armor, he knows all the difficulties that deferred the adoption of this process; and no one appreciates more than he the value of our work at Bethlehem in bringing the process to the stage at which the Harvey Company exploited it.

VALUE OF NICKEL IN CARBONIZED PLATES.

"The special points however that have suggested my reply to Capt. Browne's editorial of March 23rd are the statements which refer to England's claimed lead in armor, and the comparative value of nickel in carbonized plates. In connection with the latter it will be interesting to recall two official statements published about the same time. Coming from such high authorities they will necessarily be accepted by a majority of the people of their respective countries. But as their conclusions are so diametrically opposite, we must examine the information that has been given to the public to see which opinion is most soundly endorsed.

The First Lord of the British Admiralty (Spencer) under date of March 10th, 1894, said :

'In the course of the experiments the use of nickel as an alloy of steel for the purposes of armor plates has been fully tested. It has been established that Harveyed plates without nickel in the steel show resistance to modern projectiles as great as any hitherto obtained when nickel was combined with steel in plates, also treated by the Harvey process. The consequence of adopting this new system will be a great saving in cost for a given defence.'

The Secretary of the United States Navy, in his annual report dated November 18th, 1893, covers the statement of his Chief of the Bureau of Ordnance that—

'Recent experiments at the proving ground demonstrate conclusively that nickel armor will afford more protection than is generally supposed owing to the fact that the line of fire under service conditions will be at an angle to the plate which is most advantageous to the plate, and also destructive to the projectile. Nickel steel plates offer great resistance at this angular fire because of the extra toughness of this material as compared with ordinary steel.'

How is this marked difference in the conduct of carbonized plates of plain and nickel steel to be accounted for ?

Individual American plates still have the best record, unless perhaps we exempt one of Krupp's, and that was *nickel* steel supercarbonized by a process of his own.

The best and thickest carbonized service plates have been made in the United States and are of *nickel* steel.

Although England occasionally tests a plate of service thickness, her general practice of reducing plates to a thickness of six inches for ballistic acceptance, while supplying a uniform specimen for test and comparison, does not give results that will always hold true in plates of greater thickness, or be a guide for the valuation of the service plates themselves.

Increasing the number of bolts to keep cracked plates in position brings us back to the old discussions of which is the least objectionable, considerable penetration without perforation, or cracks. Each nation, as heretofore, will probably decide it from the point of view of its own experiments, as Mr. White has done from the action of his six inch Nettle plates.

The attempts to demonstrate the value of nickel in steel have been very unfortunate in England, and the question naturally arises, Why is nickel steel so expensive as to preclude its use in England?

The United States steel workers have had better success with nickel than even French makers, and the evidence which the Krupp, St. Chamond, and Bethlehem eight-inch to seventeen-inch plates furnish as to the value of nickel in carbonized steel armor should certainly carry more weight than the results of the six-inch plates tested on board the *Nettie*, on which Mr. White's recommendations appear to be based.

The English armor plate makers are reaping the benefit of American accomplishment in carbonization. Perhaps when they learn the American methods of incorporating nickel, the value of that metal in steel armor will be as enthusiastically admitted.

Personally I have already expressed myself that the greater value of the carbonization was with the thinner plates; that—

Relative value of carbonization in thick and thin plates.

‘Although the recent development has been chiefly in the direction of securing a harder face to the homogeneous steel plates, there still remains two types for comparison: that of a resistance which will keep out a projectile of any calibre if thick enough, and that which will destroy the projectiles until a calibre is reached whose smashing and racking energy will demolish the protection, although perhaps at the risk of its own destruction.’

But the results of the experiments reported in the annual report of the Secretary of the United States Navy for 1893, viz—

‘During the tests for acceptance of armor plates experiments have been made to determine the relative effects of impact of armor-piercing projectiles on ship's framing protected by ordinary nickel steel plates and by nickel steel Harveyized plates. In the experiments the backing representing the ship's framing was the same in each case. The untreated nickel steel plates receive nearly all the energy within themselves, and distribute it over the vessel in racking effect; while the hard surface of the nickel steel Harveyized plates causes the energy of impact to be principally absorbed in the disintegration of the projectile. The experiments developed a marked difference in the effects produced, in one case a much heavier nickel untreated plate being set back bodily several inches under impact of 100 foot-seconds less velocity than the lowest striking velocity with which the Harvey plate was attacked, while the latter was scarcely moved at all’—

reason for the carbonizing of plates of all thicknesses.

Usefulness of nickel established by United States tests.

It will be interesting to compare the future ballistic results obtained with service plates of the two nations manufactured in accordance with the recently expressed official opinions. Up to the present time the United States has carbonized more armor and a greater variety of shapes and thickness than all other nations combined, and her experience points to the usefulness of nickel in the methods she employs.

In Engineer's issue of July 16th, 1893, Capt. Browne said of the test he witnessed at the United States Naval Proving Ground, July 11th of the same year, that ‘there is evidence here given that nickel armor has been probably perfected so as to resist fracture in a greater degree at Bethlehem than anywhere.’

This was spoken of uncarbonized nickel steel. The same can unquestionably be said of our carbonized nickel steel plates.

VALUE OF TOUGHNESS IN THICK PLATES.

"Mr. White has admitted that the toughness given by nickel is of great value when unbacked plates are used. When he tests the thick armor now ordered for the *Majestic* and *Magnificent* he may find that a plate receiving a blow from a 12-inch or 13 2-inch rifle will behave so much like Gruson chilled iron that nickel or some other alloy will be needed to keep the plate together.

Toughness a necessity to match the racking powers of large calibres.

The racking, disintegrating power of the large calibres may make the employment of an element like nickel not only valuable, but an absolute necessity to secure the toughness which becomes of inestimably greater value in the thick plates.

Mr. Parla pointed out that the superiority of the nickel steel plate was as much, if not more, due to the great experience in treatment and manipulation as to the percentage of nickel alloy. Perhaps the English nickel steel carbonized plates are not as good as they can be made. The American who coached the British makers did not carry all of our experience with him.

The two facts mentioned by Mr. Ellis, 'that the presence of nickel causes steel to crystallize at a much lower temperature than it would otherwise,' and 'that the arc-light system of drilling is not applicable to plates containing a high percentage of carbon and nickel together,' have in no way interfered with our producing thick plates of carbonized nickel steel of a most attractive fine grain and fitted with as many holes and bevels on the hardened face and edges as the most exacting sailor or cabinetmaker could ask for.

If then the United States brought the present generally accepted type to the stage at which it is accepted by Sheffield; if we find no difficulty in carbonizing plates of seventeen inch thickness; if our carbonized *nickel* steel armor shows superior characteristics to carbonized *plain* steel, and if eight-inch and ten inch projectiles, when attacking at velocities over 2,000 ft.-sec. make no appreciable impression upon ten-inch and twelve-inch plates, Capt. Browne's hesitation to accept the statement of the Director of Naval Construction is well founded, and he is wise in waiting the results of the comparative test of thicker plates than six-inch before he yields that nickel has no marked value as an ingredient for the best armor.

Tests that suggest hesitation in accepting the British Admiralty's claim.

Until a four-ton fragment of fourteen-inch carbonized *plain* steel stands a 3,344 foot-ton energy per ton of plate with less penetration and cracking than did Bethlehem's fourteen-inch carbonized *nickel* steel plate, or a record is shown equal to that of Bethlehem's twelve-inch tapered ballistic test plate representing the side armor of the U. S. S. *Maine*, Great Britain can scarcely claim the lead in armor."

The Engineer of May 11 comments on Captain Jaques' letter (which it incorrectly states was published by him), and concludes by saying:

"Captain Jaques' letter is very moderate and fair. He readily accords full credit to the admirable Krupp plate exhibited at Chicago, yet we know that Krupp has been unfortunate since in one notable case. Altogether we think that it will be time to claim superiority over Bethlehem plates when they are beaten in fair competition."

and in which Engineer is disposed to accept.

XI

DIAMOND DRILLS.

Introduction
of the diamond
drill for pros-
pecting pur-
poses.

Prospecting with the diamond drill was first tried in the coal fields of Pennsylvania in 1870, and this method of underground exploring has since been widely adopted to prove the extent of deposits of coal, iron and copper ores, gold, silver, etc. Where minerals occur in beds or large deposits, like coal and iron, the utility of this method of exploring is universally acknowledged. It has also been very serviceable in searching for gold, where it is found in blanket veins or in beds of auriferous alluvium, as in California and some parts of Australia; as well as in very large silver veins, like the Comstock lode in Nevada. But as regards the exploring of ordinary quartz veins carrying gold or silver, opinions differ.

To be used
with caution.

T. A. Rickard, M.E., who spent some time in Australia, says the diamond drill is often likely to do irretrievable harm by fostering delusive hopes on one hand or by unnecessary discouragement on the other. The explanation is, that often in gold-bearing veins the ore is pockety, and that a drill-bore may pass through one or more pockets, showing the ore to be very rich, or may miss them altogether, showing it to be worthless. "If the drill is to be used at all," Mr. Rickard says, "the dangers attendant upon its use should be minimized by planning a series of holes close together, so as to test thoroughly and satisfactorily at least a small portion of ground."

Government
drills in
Victoria,
Australia.

In the Colony of Victoria diamond drill prospecting for coal and gold is conducted under the control of the Department of Mines. In the report for 1891 Government Geologist Murray states that the total expenditure on boring since 1886 has been £30,000 for coal and £80,000 for gold. After summarizing the net results of boring for gold since the commencement of such operations, Mr. Murray says: "These results represent not only a very large amount of gold already won, but a still greater quantity the existence of which may be regarded as a certainty, and which will in due time be raised." The operations, it is considered, have been conducive to great economy of capital, as it has been practicable to select suitable sites for shafts in many places where otherwise it would have been necessary to trust to chance. "It may be fairly claimed," Mr. Murray asserts, "that not a single bore of the many hundreds put down has been utterly useless, with exception perhaps of some few that were sunk against the advice of the officers of the department, and the results even of these furnished useful experience for future guidance."

Cost of the
work.

In 1891 the number of bores with diamond drills in Victoria was 102, and the aggregate depth 26,991 $\frac{2}{3}$ feet, the total cost of which was for labor,

material and transit (exclusive of diamonds) £9,747 7s. 2½d., or 7s. 2½d. per foot. Inclusive of cost of wear and tear of diamonds, the cost per foot was 11s. 5½d.¹

Another plan of Government aid in Victoria is by grants to companies or prospecting parties in opening up veins or deposits supposed to carry gold. The aid is made at a rate of 100 per cent. on the sum spent by the company or prospecting party, on condition that it shall be recouped if the mine is productive; but although £260,000 has been distributed in the six years 1886-91, the amount returned to the Government has been only £3,367. This fact, Mr. Murray says, speaks for itself as to the general non success of the system, justifying the assertion that the bulk of the money has been practically wasted. "The money has been distributed and expended with little practical and no scientific result; in fact, had it never been voted it is probable that mining enterprise would have gone on just the same, or perhaps even better, without the enervating influence that the scramble for participation in the prospecting vote has undoubtedly exercised."

In New South Wales diamond drills are under the control of and are fitted up and worked by persons employed by the Department of Mines. The drills are carried on railways free of charge, but cost of removing from station and setting them up upon the site selected for the bore, and returning to station, must be borne by the persons desiring to use them. Before use of a drill can be obtained the applicant must guarantee cost of removal as aforesaid, and fitting up at the site or mine, together with all charges for working the drill, including labor, loss of tubing, fuel, supply of water, repair of breakages, and £10 per week for wear and tear of machinery, destruction of diamonds, etc. The aim of the department is to work the drills in such a manner that the persons who employ them shall have their work done at cost price, and it is the duty of the superintendent to estimate the cost of each bore at such a rate as will just cover the amount. The total depth bored with six diamond drills in 1891 was 7,797½ feet, the total cost of which was £5,825 14s. 6d., or 14s. 11½d. per foot. The earnings of the drills are reported as £7,268 5s. 6d., or 18s. 8d. per foot, being a revenue above expenditure of £1,442 11s. But generally the accounts nearly balance. The diameter of bores is 3 to 4 inches.²

In Queensland two diamond drills were worked in 1891, but the results were not very satisfactory, owing in part to the broken nature of the rocks, but chiefly to the unpropitious character of the locations selected for boring.

¹In 1892 the number of bore holes put down for gold prospecting was 108, and the aggregate depth 27,272 feet; for coal prospecting, 29 bore holes and 117,574 feet. The aggregate cost of labor, material and transit for the former was £12,372 19s. 3d., and for the latter £8,339 12s. 1d., or at the rate of 9s. 0½d. and 9s. 5½d. per foot respectively. The cost for wear and tear of diamonds was 5s. 3½d. per foot prospecting for gold, and 2s. 11½d. for coal.

²In 1893 three borings were made with diamond drills, and the total depth bored was only 1,903 feet 7 inches, the decrease being explained as "solely due to the great financial depression under which the Colony is now suffering, as the Government drills are only worked at the expense of those who use them." The borings however were of great depths, being continuations of previous work. One was of 3 inches diameter, from 749 feet to 1,010 feet 7 inches; a second was 5 inches diameter from 1,875 feet to 2,356 feet, and thence 4 inches to 2,929 feet; while the third, of unspecified diameter, was from 87 feet to 675 feet. The average cost for boring, exclusive of office salaries, store wages, rent and travelling expenses of superintendent of drills, together with clearing bores, reaming and repairing, was 12s. 4½d. The cost of wear and tear of diamonds, included in the above, was 3s. 7½d. per foot.

"There can be no doubt," the report of the department states "that the selection of sites in future must be a matter of the greatest consideration, the mechanical part becoming of very secondary import. The choice of the best site resolves itself simply into a geological problem, and it therefore should devolve only on persons that are thoroughly versed in the geological structure of the locality to be operated on."

and Cape
Colony, South
Africa.

In Cape Colony, South Africa, the Government imported two diamond drills in 1880, and in order to distribute as widely as possible the benefits of trial borings, Government lends the tools and services of the foreman to private individuals, charging only actual expense without any profit.

The desirable-
ness of explor-
ation with
diamond drills
in Ontario.

In Ontario there has hitherto been no deep mining by the sinking of shafts, with perhaps the two exceptions of the Silver Inlet mine in Lake Superior and the Copper Cliff mine at Sudbury. To prove that ore is continuous in depth is of very great importance, especially in the case of narrow veins; and no doubt this can be done most expeditiously and cheaply with the aid of a diamond drill. There is a risk however that the cores may not show a fair average of vein matter, and the drill should therefore be put in charge of one having experience and knowledge. It might be advisable to purchase two drills, one of which could be operated in the eastern part of the Province, including the gold veins of Hastings and the Lake Wahnapietoe region, the iron deposits of Hastings, Peterborough, Frontenac and Lanark, and the nickel and copper deposits of the Sudbury district; while the other might be employed in the regions north and west of Lake Superior, including the iron ore deposits of the Mesabi range and the Mattawan and Atik-kan-rivers, and the gold veins of Lake of the Woods, Rainy Lake and Lake Manitou.

XII.

MINING ACCIDENTS.

The following table gives particulars of the mining accidents which have been reported to the Bureau during the year 1893:

No.	Date.	Company or firm.	Mine.	Name of injured person.	Nature of injuries.	Cause of accident.
1	Jan. 9.	Dominion Mineral Co.	Bleazard	Emms Shrigley	Killed	Fell down shaft.
2	" 19.	H. H. Vivian & Co.	Murray	D. McNaughton.	Slightly injured on back and hips.	Fell backwards into pot of molten slag.
3	July 13.	Canadian Copper Co.	Copper Cliff	H. Koskin L. Saha	Not seriously injured	Blasting hot ore at roast beds.
4	Aug. 17.	Canadian Copper Co.	Copper Cliff	Albert Luckow	Not seriously injured	Blasting hot ore at roast beds.
5	Sep. 16.	Canadian Copper Co.	Copper Cliff	H. Johnson H. Coweay	Not seriously injured	Blasting hot ore at roast beds.
6	Oct. 16.	Canadian Copper Co.	Evans	James Sreedy	Spine seriously injured	Caught by descending cage.
7	" 27.	Canadian Copper Co.	Copper Cliff	Theophile Fouchard George Tomblay	Injuries resulting in death Slightly hurt	Premature explosion of dynamite in hot roast bed.
8	" 31.	Canadian Copper Co.	Copper Cliff	William McDonald	Right arm torn off	Caught in driving belt of ore crusher.
9	Nov. 9.	H. H. Vivian & Co.	Murray	A. Philippek	Finger crushed	Loading car with ore.
10	" 9.	H. H. Vivian & Co.	Murray	D. Tosiak	Eye cut	Splinter of rock knocked off by hammer.
11	" 10.	H. H. Vivian & Co.	Murray	John Owens	Shoulders burnt	Molten metal ejected by bessemerizing furnace.
12	Dec. 8.	H. H. Vivian & Co.	Murray	John McIntyre	Leg fractured	Fall of rock loosened by explosion.
13	" 21.	Canadian Copper Co.	Copper Cliff	Alexander Fouchard	Injuries resulting in death.	Premature explosion of dynamite in roast bed.

Killed, 8; injured, 15; total, 16

General
results of acci-
dents.

The number of accidents which have occurred during the year is out of proportion to the scale upon which actual mining operations were carried on. Thirteen accidents have taken place involving sixteen men, of whom one was killed instantly and two died within a few days from their injuries. Of the remainder, three or four were painfully hurt and at least one permanently disabled. In the other cases the injuries were comparatively slight, and the men were detained from their work for short periods only. All the casualties reported took place, it will be observed, in the copper-nickel mines of the Sudbury district, where by far the larger part of the mining work of last year was done. The causes of the accidents were in the main those which are common to mining in general, and which indeed seem inseparable from the industry in whatever country carried on, such as premature explosions, falls of rock and ore, contact with molten metal, etc.; yet it is clear that there is room for the exercise of increased vigilance on the part of managers and foremen, and of greater care on the part of workmen themselves if bodily injury and loss of life in our mines are to be reduced to a minimum. Want of experience may have had something to do with the number of accidents. Mining in Ontario presents, in some of its processes and details, features of an unusual kind, and the dangers attendant upon these have, it would seem, not yet been fully appreciated or guarded against by mining companies and their managers. A case in point is the use of explosives in beds of roasted ore, which has been a leading cause of accident. It must be said too that many of the men employed in the mines of the Province are unused to the work, for a large proportion of them have been bred to other pursuits, and mining is a business where ignorance often pays a terrible premium to experience. Not that the old miner is always the most careful man, for in this as in other occupations familiarity breeds contempt, and risks are sometimes run in a spirit of foolhardiness or indifference, or to save time and trouble, from which men unaccustomed to danger would shrink. It is the place of experience to point out the sources of danger, and of wisdom to avoid them. As the necessity for watchfulness and caution becomes more and more apparent, it may be hoped that fewer casualties will occur.

Call for
greater vigi-
lance.

A leading
cause.

PREMATURE DISCHARGE OF EXPLOSIVES.

Breaking up
hot roasted ore
is

It has been said that the premature discharge of explosives used in breaking up roasted ore was one of the principal causes of accident. Almost one-third of the whole number, and two deaths out of the three, were due to this cause. As all familiar with the working of the copper-nickel mines of Sudbury know, the ore after being crushed by the breakers is piled in large heaps containing hundreds of tons over a few layers of dry pine cordwood with a view to being "roasted," the object being to expel the sulphur which it carries in large proportion. The wood on being fired ignites the sulphur, and the ore-heaps smoulder away, emitting their sulphurous fumes for many weeks, according to the size of the pile of ore. At the end of perhaps three months the greater part of the sulphur has been driven off, and the ore is then ready to be taken to the smelter. But in the roasting process a partial smelting or fusion takes place, and the ore is no longer in lumps but in the form of

larger or smaller masses which must be broken up before they are in condition for smelting. The use of explosives is generally necessary for this purpose, dualin being the agent chiefly employed. If the ore-heaps have been allowed to stand after burning until they become cool, there is no more danger in using explosives on the roast-beds than in the mine itself, although in any case it would be folly to entrust dualin to the hands of an inexperienced man. There is a temptation however when the smelters are in need of roasted ore to attack the piles while they are still hot, and it is evident that under such circumstances the use of explosives is attended with very much greater risk. To thrust a charge of dualin into a mass of ore almost at a red heat is to pay ^{paying court} court to death, even if all the precautions are observed which are possible in such a case. This practice had obtained so great a hold, particularly in the roasting yards of the Canadian Copper Company, and had led to so many accidents, that it was deemed a proper subject of investigation by the Inspector of Mines.

THE CASE OF THEOPHILE BOUCHARD.

Previous to the explosion of the 27th of October, in which Theophile Bouchard received injuries resulting in his death on the 31st of the same month, several smaller accidents had occurred from this and other causes at the works of the Canadian Copper Company which, owing to ignorance of the law, were not reported to the Bureau at the time. On advice being received of Bouchard's death, and also of the previous accidents, the Inspector was ^{A special report by the Inspector of Mines.} instructed to make full enquiry into the causes and circumstances of these unfortunate occurrences with the object of recommending measures which might, if possible, avert such disasters in the future. The Inspector made a careful investigation on the spot and took the statements of all eye-witnesses and any who could throw light on the accidents or their cause. His report on the Bouchard fatality was as follows :

COPPER CLIFF MINE, Nov. 9, 1893.

The following statements were made by the respective parties named in connection with the accident which occurred on the 27th of October last, when Theophile Bouchard was injured, which resulted in his death. The General Manager of the Canadian Copper Company furnished me with the following statement in writing :

DEAR SIR,—Mr. Trist has the contract for one year to handle and roast all ore coming from mines to roast beds. He employs and makes the rate of ^{The manager's statement.} wage for his own men : the company having no control over them : nor have they ever had any in past contracts on roast beds. We have always ore enough on the beds to keep three furnaces of the present capacity on a continuous smelting. There is no necessity for working or blasting hot ore piles, as the daily supply of green ore from the mines to roast beds far exceeds the weight of roasted ore taken from the beds to be smelted, so that the tonnage of cold roasted ore should always be increasing, and not diminishing. At Mr. Trist's own request I have had to lessen the amount of green ore coming from mines, as he could not handle it quick enough. Yours respectfully,

JAS. McARTHUR, Gen. Mgr.

The roasting
contractor's
statement.

Robert Wm. Trist, examined, says: I am contractor for roasting the ore for the Canadian Copper Co.'s smelters. I have held this contract since the 1st of May last, and it is to continue from that date for one year. I receive the ore in its raw state on board the cars on the trestle track along side the roast beds. I take the ore from the cars, put it on the roast beds, see that it is properly roasted, and then deliver it at the smelters as it may be required to keep the smelters supplied. I am paid by the ton for this work. I furnish every thing to do the work, such as labor, tools, explosives and all else except the wood which is delivered at the roast beds by the company for use. I had been working previously for two years in roasting ore at the Blezard mine, and had full charge for nine months. The whole surface or field on which the roast heaps here are placed would hold at least 70 000 tons, and about 50 ordinary beds can be placed on it at one time. I work at several ore beds at one time, and when built up I fire them. I sublet the removing of all the ore from the roast heaps and taking it to the smelters. I exercise a supervision over this sublet work to see that it is done safely and that no unroasted ore is sent to the smelters. Each man is paid so much per car. The men loading the cars have each done their own blasting after having been instructed how to do it. It was customary formerly to remove the ore from the roast heaps after it had cooled off, but more recently it has been removed when hot. This was necessary to properly mix the ore, there not being on hand a full supply of different kinds of ore for smelting properly. I furnish the explosives to be used by the men in blasting the ore on the roast heaps. I have a foreman, Thomas Smiles, whose duty it is to assist me in looking after this work, and he is especially to look after the roast ore part of the work. I take the green ore part on myself, and a general supervision over the whole work. In removing the ore from the roast heaps it is first loosened up and then taken by wheelbarrow to the cars. When the ore is compact or tight, it is necessary to use explosives to loosen it. In blasting when the ore is hot it is the custom to open a hole in the roast heap at least four inches in diameter and then cool it by pouring in water. The charge is wrapped in wet clay and a sack put round it before being inserted in the hole. The instructions to the men are to put in the explosive charge thus prepared and then to go away and not stop to tamp it. A long fuse is attached to the charge and lighted before it is put in the hole. The charge is pushed in the hole with a stick and the men get away. Another way of blasting hot ore is by making a hole in the ore bed about six inches in diameter and fill it with wet clay; then after cooling it with water, if necessary, push a bar of iron into the clay to make a hole of sufficient size to admit the stick of explosive. The fuse is lighted and the charge is put into the hole to explode, the charge being first prepared by covering it with a coating of wet clay. The man Bouchard who met with the accident was one of my best men and had been engaged in using explosives in hot ore for some four months. He had been previously accustomed to the use of dualin, and although acquainted with this kind of work was not one of the most careful of men, for I had occasion to check him about two weeks before the accident. He was not regularly at work at the place where the accident happened, but went over from another roast heap to assist the man at this blast who had not much experience in blasting. This I learned from him after his injury. I had myself been engaged in blasting hot ore at the Blezard mine for from three to four months, and I do not regard it as specially dangerous if done properly. Six other persons besides the deceased have been injured of late by explosions, including the man who was injured with Bouchard, but all quickly recovered. The last injured man will be around in a few days. I have positively instructed the men always to go away on inserting the charge and not to stop to tamp the hole. I was told by Bouchard that he remained a short time to tamp the hole when he

should have left the place : but he remained and got hurt. I consider if my instructions had been carried out none of these accidents would have occurred. I never had any accidents occur in blasting at the Blezard mine in hot roast heaps.

Thomas Smiles, examined, says : I am foreman of the roast yard and am employed by Mr. Trist. My work is to look after the men, and to see that cars are loaded at the roast beds and unloaded at the smelter. I look after the men while engaged in loosening up the ore on the heaps and wheeling it out ; also to a certain extent over the blasting at the heaps. I always instruct new hands how to do the blasting, and go twice a day and deliver to the men the dualin or powder. I am employed by the day, but the men who load the cars are employed by contract, at one dollar per car. A car load averages about five and a half tons. The usual way of loosening up the ore on the heaps is by blasting. When the men are breaking loose the ore they require to put in about two blasts a day for each man. In instructing the men to blast hot ore I tell them to make a hole in the ore bed about four inches in diameter ; then take the stick of dualin and roll it in a cloth spread over with wet clay until about four inches in size ; then attach a fuse not less than two feet in length, and if the hole is very hot to light the fuse before putting in the charge. A two-foot fuse will enable a man to get half an acre away before the charge explodes. I also instruct the men to put wet clay in the bottom of the hole before inserting the charge. I have been engaged in this kind of work since 29th of May last. During this time there have been four mis-charges and seven men injured ; one of them fatally, the others slightly. In following my instructions I consider there is no special danger. The custom was until the beginning of this month to have any of the men handling ore to do blasting, but since the last accident only two men have been allowed to do this work. The supply of ore for the smelters was so limited that we could not wait for the heaps to cool off. This is the reason why we removed the ore in its heated state. I was not present when Bouchard was hurt, but was informed that it was an act of carelessness on his own part.

George Tremblay, jr., laborer, examined, says : I have been working for Mr. Trist since October 7th up to the date of the accident, October 27th. I was working on roast bed 200 at the time of the accident. Bouchard came to help me, as I had been at his roast heap 195 and helped him. I made the hole in the heap for the charge, and Bouchard prepared the charge and put it in the hole. I think he lit the charge before he put it in. I was making the hole while Bouchard prepared the charge, and did not see him do it. I put wet clay in the hole but did not put in water. After the charge was put in the hole I threw in a handful of dirt and was in the act of putting in dirt and Bouchard was tamping it when it went off. We sometimes tamped the charge when handy to do so, and at other times did not do it. We more frequently tamped the holes than otherwise. I was not instructed to either tamp the charges or not to tamp them. I learned how to do this by working with other men, and these men tamped the holes ; do not know if Bouchard considered it dangerous or not. I have seen Bouchard tamp holes before. I often heard Bouchard say this was pretty risky work. I was never told how to do this by Mr. Trist or by Mr. Smiles.

George Tremblay, examined, says : I am employed by Mr. Trist to work on the roast heaps at the Copper Cliff. I had finished my day's work when the accident occurred in which Bouchard was injured, on 27th October. I have been working for the past two months, taking the ore from the roast beds. I have put a few charges myself in hot ore, but usually I have had someone else put them in because I was afraid to do it. I was never told

how to do this kind of blasting, except by the men who were with me. I have regarded the blasting in hot ore as dangerous. After Bouchard was hurt I went from my house and got him and brought him home. I never heard Bouchard say how the accident happened, nor did I ever ask him. Bouchard lived four days after the accident, and I attended him. He was my brother-in-law and lived with me at the time of the accident and death. I have worked with Bouchard on the same beds, and he has often put in charges for me. When the hole was very hot it was usual to go right away after the charge was put in, but when not too hot the holes were tamped. I have tamped holes.

Albert
Luckow.

Albert Luckow, examined, says: I have been working for the Canadian Copper Company for about three years, and for the year past on the roast beds. I have had experience in blasting both cold and hot ores. I am hired by Mr. Trist, and I do my work by contract under him in removing ore from the roast heaps to the cars. The only way to break up the ore on the heaps is by blasting it. About two blasts per day are necessary for each man, and all or most of the men did their own blasting. It has been the custom to instruct the men how to do this work. I have been told how to do it both by Trist and Smiles, and also under the former contractor for whom I worked last summer. I do not regard blasting in hot ore as much more hazardous than in cold ore, provided due care is exercised. I blasted in cold ore only last summer. I only know of one accident last summer, and that was by Mr. Morrell, the contractor himself, in cold ore. A considerable quantity of hot ore was blasted last summer (1892), and every man did his own blasting. About two months ago I met with a slight accident by blasting in hot ore. This occurred by my failing to wrap the dualin up in wet clay on a rag, although I had put wet clay in the hole and pushed in a bar to make a hole for the charge—a common way of blasting. I was tamping the hole when the charge exploded. If the hole is tamped the charge will break up much more ore than by leaving it untamped. I do not know if any instructions were ever given forbidding men when blasting to tamp the holes, but they usually exercise their own judgment in doing this. I always tamp the holes. I do not know anything about the accident which occurred on 27th October, when Bouchard was injured. I heard of some other accidents by blasting in hot ore this summer, but do not know about them. I understand that two careful men of experience are now to do all this blasting in all the roast heaps, which I think is a good thing for safety.

The Inspector's
conclusions.

The Inspector stated the conclusions he had arrived at in the following terms. "It is certain that Theophile Bouchard came to his death by an accident which occurred when blasting in hot ore. After inserting the charge he remained to tamp the hole where the accident happened, contrary to the instructions of Trist, the contractor; nor could Bouchard have been ignorant of the imminent danger of such a practice, as he had been engaged at this kind of work for four months. He had also been checked by his employer, but a couple of weeks before, for carelessness. I consider that at the time of the accident he did not exercise such due precaution in blasting as he might have done to avert it. From the information obtained, I am satisfied that the practice of tamping holes after charges were put in had become too common among the men. I have carefully examined the whole system of blasting in hot ore, and I regard it as a practice attended with too great danger to be allowed. A recent change has been made on the roast yard at the Copper

Cliff, viz., in not permitting every man working on the roast beds to do his own blasting, as the custom has formerly been, but by limiting it now to two careful men of experience. This no doubt will greatly lessen the risk of accidents, but will not entirely remove it."

A coroner's inquest was held on the death of Bouchard by Dr. R. B. Struthers of Sudbury on 1st November. The jury returned the following verdict:

Coroner's inquest on the case.

That Theophile Bouchard came to his death as the result of an accident brought about by his own carelessness. And we strongly recommend that such means as are necessary be taken to get and keep on hand a sufficient stock of ore so that men will not have to work and handle hot ore. In the meantime we recommend that one man only, and he an experienced one, be allowed to fire on holes in hot roast beds.

THE CASE OF ALEXANDER BOUCHARD.

The fatal accident to Theophile Bouchard was followed on 21st December by another from the same cause, by which Alexander Bouchard was mortally wounded, though he did not actually die until 3rd January, 1894. The circumstances attending the second fatality were pretty much the same as those of the first, with the exception that the ore in which the deceased was working is described as being "not very hot." Previous to the time of the first accident it appears to have been the custom to allow men working on the heaps of roasted ore to handle their own explosives. At the Canadian Copper Company's works the breaking up and delivery of the roasted ore is carried on by a contractor, who employs and directs the workmen, the company disclaiming any responsibility in connection with this department of the work. On the 3rd of November, moved thereto by the recommendation of the jury at the inquest held on the body of Theophile Bouchard, the contractor (Mr. R. W. Trist), entrusted the duty of using explosives on the ore heaps solely to one man experienced in this branch of the work, and at the same time forbade the workmen to use the explosives themselves. The men however were paid by the piece, and being anxious to get on with their work, whenever they found it inconvenient to wait for the services of the man appointed to do the blasting, they did not hesitate to make use of the powder themselves if they could get it. The man, Paul Rioux, placed in charge of the exploding, seems to have had somewhat lax ideas about the way in which his instructions were to be carried out, for on several occasions he gave powder to the men for their own use. On the day of the accident Rioux was laid off work with a frozen foot. This was known to Thomas Smiles, the foreman at the roast yards, whose duty it was in the blaster's absence to attend to this dangerous work himself. He made no effort to do this, or to have anyone put in Rioux's place; but instead authorized the men to get the key of the powder-house and help themselves. This the men, unwilling to be idle, were in no way reluctant to do, and they procured the necessary dynamite to loosen the ore and proceeded to make use of it. Napoleon Sauve, Bouchard's neighbor on the ore heap, testified that after deceased had made a hole in the ore in which to place the cartridge, he pushed the latter home with a broom

Another fatal occurrence from the same cause.

An instruction disregarded.

and the fatal
consequence.

handle, when the charge at once exploded. Bouchard received terribly severe injuries, chiefly about the face and shoulders, the ball of one eye being completely destroyed, and the other nearly so. Blood poisoning set in at the end of a week, and death took place on the 3rd of January.

A thorough
investigation
ordered.

Owing to this second fatality following so closely upon the first, it was determined to make it the subject of a thorough investigation, and accordingly instructions were given to stipendiary magistrate Doran of North Bay to conduct a coroner's inquest on the body. Mr. J. H. Metcalf, Pembroke, Crown Attorney for the county of Renfrew, was detailed to assist in prosecuting the inquiry. A jury of twenty-two residents of Sudbory was impanelled, with Stephen Fournier as foreman, and the circumstances of the accident as given briefly above were fully brought out. The verdict of the jury was as follows:

The verdict.

That Alexander Bouchard did come to his death accidentally from his own careless handling of explosives. We also wish to strongly recommend that mining companies should not be released from the responsibility for the safety of their men, but should supervise their works in all its departments where men are exposed to danger, and not allow such lack of care as was shown by the contractor and his foreman on the roost beds at Copper Cliff, which may possibly have led to the death of deceased Alexander Bouchard.

Laxity of
supervision.

The jury, while satisfied that primarily Bouchard was responsible for his own death, evidently felt that there was a laxity in the supervision and management of this department of the company's operations which was inconsistent with a proper regard for the security of the men employed in it. Where blasting operations are carried on above ground, and in the light of day, it ought not to be difficult to surround the use of explosives with safeguards which will almost entirely do away with the possibility of such disasters. If a mining company can rid itself of responsibility for the safety of workmen by letting out to a contractor the work on which they are employed, such responsibility does not cease to exist, but devolves upon the contractor; and it is therefore the bounden duty of the latter to take every possible precaution, even if need be against the inclination of the men themselves, to prevent injury and loss of life. In this case the coroner's jury were of opinion that the contractor had not taken such precautions, and that his foreman, Smiles, showed great carelessness in the matter. The latter was indeed reprehensibly negligent, for although, to use his own words, he was fully aware that in the absence of Rioux he "was responsible for the powder and blasting," and that "none of these men should have been allowed to get powder from the powder-house that day," he nevertheless, according to the testimony of the workmen, expressly instructed them to get the powder for themselves and do their own blasting. While such gross and indeed almost criminal carelessness is permitted by mining companies and mining managers in the handling of dangerous explosives, we can expect nothing but a repetition of fatalities of this kind. Mining is at best a more or less hazardous occupation, and there are causes of accident which the exercise of the utmost caution and vigilance can hardly eliminate; but where a few simple rules rigidly enforced would almost wholly remove danger, as in this case, it is a pity that such safeguards are not adopted.

REMEDIAL MEASURES PROVIDED.

The Inspector's investigation of the Theophile Bouchard fatality having shown that the practice of blasting in hot ore was a dangerous one and ought to be discontinued, formal notice was served by him upon the general manager of the Canadian Copper Company and the contractor for roasting that company's ore, in the following terms.

Notice to discontinue practice of blasting hot ore.

Sir,— An investigation into the causes and circumstances of recent accidents at the mines and works of the Canadian Copper Company at Copper Cliff having convinced me that the blasting of hot ore on roast heaps is carried on at the risk of life or bodily injury to the persons employed thereat, I hereby notify you and any contractors or others employed upon or about the mines and works of said company under your authority, by virtue of the power conferred upon me by the sixty-fifth section of The Mines Act 1892, that such blasting of hot ores is a dangerous practice within the meaning of the Act, and to require that it be discontinued forthwith upon receipt by you of this letter.

Similar notice was given to the managers of H. H. Vivian and Company and the Dominion Mineral Company. The prohibition of blasting in hot ore was made permanent by a clause in the Act relating to Mines and Mining Lands passed by the Legislature in the session of 1894. Section 10 of this Act amends The Mines Act 1892 by adding to Rule 2, section 74 thereof, the following clause: "No gunpowder, dynamite or other explosive shall be used to blast or break up ore in roast heaps where by reason of the heated condition of such ore or otherwise there is any danger or risk of premature explosion of the charge." The said section was further amended by inserting in Rule 21 after the word "mine" in the sixth line thereof the words "or contractor or foreman employed in or about such mine." The effect of the latter amendment is to make a contractor or foreman liable in case of an offence against the Mines Act as well as an owner or agent, unless he can prove that he has taken all reasonable means to enforce the Rules provided by the Act and to prevent non compliance therewith.

Provision against the practice by legislation.

OTHER CAUSES OF ACCIDENTS.

The Inspector's inquiry and report on the case of Theophile Bouchard also covered the accidents to James Shedy and William McDonald, numbered 6 and 8 respectively in the table given above, both of which, though not fatal, were of a serious character.

On the 10th of October Shedy, who was employed in the underground workings of the Copper Cliff mine, wishing to descend from the third to the fifth level, leaned forward into the shaft for the purpose of pulling up a gate in order to clear the way for the cage. While in the act of doing this, the cage descended and doubled him up, inflicting injuries upon his spine. He was sent to the General Hospital at Toronto for treatment, where he recovered, the company paying all his expenses. It was clearly shown, and indeed admitted by the injured man himself, that the accident was entirely due to his own want of care. A hook was provided for the purpose of raising the gate in question, but it was a few feet away from its usual position at the

Accident in a shaft.

time, and rather than look for it Sheedy leaned forward and attempted to raise the gate by hand. The engineer was positive he received the usual signal of two bells to lower the cage, but it could not be ascertained who gave it.

Machinery
accident.

On the 31st of October William McDonald, 17 years old, had his right arm torn off in attempting to throw off the belt of the ore-crusher screen in the Copper Cliff rock house while the machine was in motion. This painful accident was due to his own lack of prudence.

Killed by fall-
ing down a
shaft at the
Dominion
Mineral Co.'s
mine.

Ennis Shrigley lost his life at 5.30 a.m. on the 9th of January, by falling down No. 4 shaft of the Dominion Mineral Company's mine at Blezard. The circumstances of the accident were as follows: This man, who was about 45 years of age, was employed at the head house emptying buckets which were being hoisted up through the shaft, the dimensions of which were 3 feet 6 inches long by 2 feet 5½ inches wide. With two others he was warming himself at a fire about three feet from the shaft opening. He stepped away from the fire to get some wood, and the others hearing a slight noise turned and saw him fall down the shaft head first. The opening is fenced at the front and back, but not at the sides, where the aperture is only large enough to admit of a car being run forward to receive the contents of the buckets. The man was instantly killed. It is supposed that he was either dazed by the cold, the weather being very severe, or was taken in a fit. An electric light was burning within two feet of the hole at the time. The coroner was advised, but declined to hold an inquest unless requested to do so by the company or some relative of the deceased. As such request was not made, no inquest was held.

Accidents of a
minor charac-
ter.

The other accidents were of a minor character, the most serious being those to D. McNaughton and John McIntyre, both of whom were injured at the Murray mine owned by H. H. Vivian and Company. The latter had his leg broken by a fall of rock. The former while walking backwards and wheeling a pot of molten slag and metal had the misfortune to sit down in a similar pot of slag and metal carelessly left in the way by a fellow workman. He was painfully burned, but not permanently injured.

CORONERS' INQUESTS.

Independence
of officers
holding in-
quests.

In connection with the investigation of mining accidents, it was felt that there were grave objections to the practice of allowing coroners to conduct inquests in the case of persons who had been in the employ of companies or firms by whom the coroner was himself either directly or indirectly employed as medical adviser or interested as a stockholder. It is a common arrangement with mining and other companies to engage a physician at a stated figure per man to attend upon their employes, such sum being usually deducted from the men's wages. It is obvious that when a fatal accident occurs in the operations of such a company a coroner who is also the company's physician is not in a position to conduct an impartial investigation. It is no reflection upon the integrity of gentlemen so situated to say that their independence would be open to serious question, and that the friends of a man

who met his death by accident would be inclined to view the actions and regard the motives of such a coroner with greater suspicion than in the case of one not connected by ties of interest with either side. The preliminary investigation conducted under the direction of a coroner is usually of a grave and important character, and it ought not to be open to attack on the ground of the real or alleged partiality of the coroner. Having these considerations in view, representations on the subject were made by the Bureau to the Attorney-General's Department, and in the session of 1894 provision was made in the Act respecting certain Duties of Coroners (57 Vict. chap. 31, section 4) by which a coroner under the circumstances described above is declared incompetent to act. The clause enacted is as follows :

Statutory
provision of
incompetency
in certain
cases.

It shall not be lawful for a coroner to conduct an inquest in any case where loss of life has been caused at or on railroads, mines or other works whereof he is owner or part owner, either as shareholder or otherwise, nor in any like case at or on works where he may be employed as medical attendant by the owner or owners thereof, or by any agreement or understanding direct or indirect with the employes at or on such works.

T. W. G.

XIII

KINGSTON SCHOOL OF MINING.

The Kingston School of Mining and Agriculture has been organized under an Act of the Legislature of Ontario. Its objects as stated in the calendar for 1893-4 are as follows :

Objects of the School.

1. To give a complete scientific education of both a theoretical and practical character to young men studying for metallurgists or mining engineers.
2. To give practical instruction to prospectors, mine foremen and others interested in the discovery and winning of minerals.
3. To lead prospecting excursions of the students as well as of those more directly interested in the development of mineral lands.
4. And to provide theoretical and practical instruction in subjects pertaining to modern agriculture, such as dairying, veterinary science and the chemistry, botany and zoology of the farm.

Its organization.

The School has been founded on a joint stock basis, being authorized to issue stock to the amount of \$100,000 ; but in addition it receives a grant of \$5,000 yearly from the Province of Ontario, and may also receive aid from local or county municipalities. The management is in the hands of a Board of Governors, composed of the following gentlemen :

J. B. Carruthers, Esq., Chairman	Kingston.
Hiram A. Calvin, Esq., M. P., Vice-Chairman	Kingston.
G. M. Grant, LL.D., D.D.	Kingston.
E. W. Rathbun, Esq.	Deseronto.
James Swift, Esq.	Kingston.
G. M. Macdonnell, Esq., B.A., Q.C.	Kingston.
E. J. B. Pense, Esq.	Kingston.
William Harty, Esq., M.P.P.	Kingston.
James S. Hayden, Esq.	Centreville.
M. H. Folger, Esq.	Kingston.
J. L. Whiting, Esq.	Kingston.
George Y. Chow, Esq.	Kingston.

The mining department opened.

Its scheme.

The Mining Department was opened on the 9th of October last year, but arrangements have not yet been fully completed for opening the Agricultural Department. The scheme of the School in relation to the mining courses will be readily understood from the following provisions, adopted by the Board of Governors previous to and during the first session :

I. The degree of Mining Engineer (M. E.) will be conferred on those who take the specified course and pass the required examination.

II. Unmatriculated students may take any classes and examinations that they wish, as it is desired to give opportunities to persons who do not intend to follow engineering as a profession to receive the benefit of courses likely to be useful in common life.

III. Special courses of instruction to mine foremen, assayers, prospectors and mining men generally, continuing for eight weeks.

iv. Evening lectures for persons desirous of learning something of the course, but unable to attend during the day.

v. Short courses, accompanied with experiments, specimens, diagrams, etc., by one of the staff in outside localities.

vi. A summer School of Science for Public and High School teachers Classes of the first session and others, continuing in session for five weeks.

The following memorandum of classes in the Mining Department of the School for the session of 1893-4 has been furnished me through the kindness of Rev. Principal Grant of Queen's University, a member of the Board of Governors :

i. *Number of Students*

		Fees paid.
(a) Number of regular students	102	\$1,506 34
(b) Number taking short courses	47	176 00
Total		1,682 34

ii. *Classes taken by the Regular Students :*

	Professor or Lecturer.	Number in Class.
Junior Chemistry	Dr. Goodwin	48
Senior Chemistry		43
Analytical Chemistry (Elementary)	Dr. Wood	29
Junior Practical Chemistry		39
Organic Chemistry		33
Quantitative Analysis	Mr. Walker	4
Qualitative Analysis		9
General Practical Chemistry		2
Honors, Chemistry of Fuel, Ores, Fluxes, etc.	Dr. Goodwin	12
“ Organic Chemistry		8
“ Crystallography		9
“ Physiological and Pathological Chem.		3
“ Quantitative Analysis		3
Mineralogy, 1st year	Mr. Nicol	14
Blowpipe Analysis		15
Honors, Mineralogy, 2nd year		4
“ Mineralogy, 3rd year, Descriptive Mineralogy		2
“ Mineralogy, Determinative Mineralogy		1
“ “ Blowpipe Analysis		1
“ Qualitative Analysis		5
“ Assaying		4
Geology, 1st year pass; Field work, Museum work and General Geology	Mr. Miller	12
1st Honor, Petrography, Physical Geography, Palaeontology, Dynamic Geology, etc., Laboratory work, Museum work and Field work		9
2nd Honor, Advanced Geology — Historical, etc., Economic Geology—Ore deposits, etc., Petrography, Geology of Canada, Museum work, Laboratory work	Mr. Miller	5
Drawing	Mr. Mason	6

iii. *Classes taken by the Short Course Men :*

Any of the above classes for which the men were fitted ; in addition, special instructions by the above-mentioned members of the staff ; also, courses of lectures, illustrated by diagrams, specimens and experiments, by W. Hamilton Merritt, M. E., on the application of the

principles of chemistry, mechanics, mineralogy and geology to the discovery and winning of valuable minerals, and to the usual methods and machinery in vogue to open up the deposits and exploit and prepare the ore.

Courses for
students.

It will be observed that the students are comprised in three distinct classes, viz.: (1) Mining students proper, who take the four years course; (2) students who take the eight weeks course; and (3) special students.

Six students are taking the full course of Mining Engineering, having entered upon it at the opening of the session in October.

The eight weeks course did not open until the 9th of January, when a class of seven men was formed, who took lectures in chemistry, mineralogy and blowpiping, geology and petrography, assaying, drawing, prospecting and mining. Class-room attendance occupied 300 hours in the 48 days of the course, or an average of $6\frac{1}{4}$ hours per day. The work was largely of a practical character, and the students entered into it very heartily. I had the honor of visiting the school towards the close of the first term, at the invitation of Principal Grant, and two days were spent in the several class-rooms. I cannot speak too highly of the spirit which prevailed in the school on the part alike of professors and students; and I have no doubt that this departure, which is a novel one in the educational institutions of Ontario, will in time be productive of very beneficial results on our mining industry.

The evening class had a registered attendance of 23, to whom lectures were given during the course, illustrated by experiments, diagrams and specimens.

Equipment of
the School.

The equipment of the School is modest as yet. Besides accommodation for 24 blowpipe students, there are three wind furnaces, one large muffle furnace, one charcoal furnace, one portable coke furnace and three gas furnaces, the object being to teach assaying with all kinds of fuel.

For the present the School is housed in the John Carruthers Science Hall—one of the solid buildings of Queen's University—but it is probable that ere long it will have a hall of its own, with a complete outfit for a well established School of Mines.

Outside
classes.

At the close of the short course in March of this year Mr. W. H. Merritt, one of the lecturers, conducted a special class at the village of Marmora. It was on the plan of the New Zealand schools, and the course extended over a period of two weeks. Seventeen students attended the lectures there.

REPORT OF THE INSPECTOR OF MINES.

TO THE DIRECTOR OF THE BUREAU OF MINES:

SIR,—I have the honor to transmit to you my fourth annual report on the Inspection of Mines, being for the year 1893.

The brevity of the report is in part due to the fact that a very considerable number of the mines have been lying idle during the year, notably those of iron, silver and phosphates. A large number of these mines have been worked extensively in former years, and, hoping along the line of our interests, we may anticipate a renewal of operations at not a distant date.

Inactivity
owing to the
financial de-
pression.

A number of causes have recently arisen which have combined to prevent an extensive development of our mines. Although Canada has been exempted in some degree from the heavy financial depression resting upon other countries, yet serious effects have been realized in this Province by reason of the capital which would otherwise have been expended in mining interests having been withheld, and especially is this the case when largely dependent upon the neighboring Republic for the capital required to push forward the work in the mines. The general suspension of business in many quarters in that country, and the repeal of the Sherman Act (which in effect shut down the silver mines in all the silver-bearing States), could not fail to have a depressing influence upon our mines. With the revival of silver mining in Colorado and other important producing centres, we may reasonably anticipate that the hitherto large yielding properties in the Thunder Bay district will again be vigorously worked, and that many of the encouraging discoveries of silver and other mineral deposits now lying undeveloped will be opened up.

Since the entire suspension of silver mining, much more attention has been given to gold mining in Ontario, which has an encouraging outlook.

I have made no report upon the gold and copper mines of the Province, as you have had the opportunity of personally examining them, and will no doubt give a full description of their present condition.

SILVER.

A special correspondent of the New York Engineering and Mining Journal in October says of Rabbit Mountain mine: "This mine, under option to a Duluth company, has been closed after shipping a car load of picked ore, the result of the season's work. It was the last of the Thunder Bay mines to remain in operation."

Rabbit Moun-
tain mine.

Mr. Hille, M.E., of Port Arthur, states: "Last year a number of gold veins were discovered not more than 50 miles west of Port Arthur which promise well. The veins vary in width from 2½ feet up to over 40 feet, and the ore assays from \$10 to \$50 in gold and silver. The ore is not free milling, but is through the occurrence of a large percentage of copper a very good material for Dr. Hoepfger's process."

New discov-
eries west of
Port Arthur.

Ogema mine. The Ogema mine was sold at public sale at Port Arthur, August 15th. The affairs of the company will be wound up on account of dissension among the stockholders. The mine, which has not been worked for some time, was bought by J. F. Ruttan of Port Arthur for \$925.

COPPER AND NICKEL.

*Canadian
Copper
Company.*

Work was being actively carried on in Copper Cliff mine at the date of my visit in June, under the charge of the late Captain James. Twenty men were employed on the day and night shifts, and about seventy-five tons of ore lifted daily. The principal workings were in the fifth, sixth and seventh levels, for a description of which see former report. Especially in the seventh, the lowest level in the mine, an excellent body of ore was exposed, and appearances would indicate its continuance to a much greater depth. The workings at this point, nearly 500 feet vertical depth from the surface, are the lowest reached in any of the mines in the locality. The excellent showings at the depth named should strengthen the conviction of the existence of large bodies of nickel ore at great depths, which if demonstrated must necessarily enhance the value of nickel properties throughout the Sudbury district.

*Copper
Cliff mine.*

*Progress of
mining opera-
tions.*

In view of the existence of this large body of ore and its probable continuance to much greater depth, as well as the long distance of the drifts to be run in from the incline hoist track, it has been determined by the management of the company to sink a vertical shaft directly upon the ore.

The work in the mine was being conducted with the usual care and safety. I directed the attention of the captain to the large original opening at the surface which required fencing, and he had this done at once.

In November this mine was under the care of Captain Davis, who had but recently assumed control. He accompanied me through all the parts of the mine then being worked. The usual force of men was employed both underground and above ground. The showing of fine bodies of ore in the mine was not less encouraging than at the time of my former visit, especially in the deepest workings. A large quantity of ore was being taken out and prepared in the usual way for the roast yard in the rock house, which is a convenient and substantial structure. The work, both in the mine and in preparing the ore for roasting, was being managed with apparent economy, and due care was paid to the safety of the workmen. The air receiver at the compressor, which was dangerously exposed at my former visit and to which I called the attention of the master mechanic, had been neatly and substantially protected by a sheath.

Mr. James McArthur, who formerly had charge of the smelting department, has now the general management for the company. In a recent communication he states: "As usual the cold weather in December compelled the stoppage of ore raising, and none has been produced since the middle of that month. Outside of this there is nothing new to report."

Accident.

An accident occurred in the rock house in this mine on the 31st of October, when William McDonald, a young man, had his right arm torn off near the shoulder by a belt. He was imprudently pulling it off the pulleys when part of the machinery was in rapid motion. The particulars of this accident

are given in a special report on accidents to the Honorable Commissioner of Crown Lands.

The smelters had been standing idle for some time, but started up in May, and in the latter part of June about seventy-five men were employed. They were running to their usual capacity and doing efficient work. One of the engines required railing put up to prevent accidents when passing it, which was done. In November they were also thoroughly manned, in excellent running condition and doing their full quota of work, averaging about 200 tons of ore daily. A large stock of wood was on hand. Nothing new to report by addition or change to the plant except the following, as stated in a recent note from the manager: "An enclosed overhead passage-way is running from No. 1 furnace to the outer slag dump. Our granulated slag is conveyed through this passage, which was built by the company for the comfort of the men as a protection against the weather." The smelting furnaces.

The ores from the three mines of the Canadian Copper Company, the Stobie, Evans and Copper Cliff, are taken to the large roast yard near the smelters for calcining. The yard is of sufficient size to hold eighty or ninety thousand tons of ore, and from fifty to sixty roast heaps containing fifteen or eighteen hundred tons each may be built upon it. These huge piles of ore require ten weeks or longer to burn, and a considerable period of time to cool off. The ore is roasted by contract, and the general manager disclaims control over this part of the work. The roasting yard.

During the season a departure from the usual custom of allowing the roast heaps to cool off before being removed had been adopted by the contractor, by breaking them up in their heated state with the use of explosives. This practice resulted in a series of accidents caused by unexpected or premature explosions, two of which proved fatal. Accidents due to the practice of blasting hot ore.

In pursuance of instructions, I made a careful examination as to the causes of these accidents, except the last, and submitted a special report thereon to the Honorable Commissioner of Crown Lands.

I regarded the practice of blasting in hot ore as dangerous and likely to cause personal injury and loss of life, within the meaning of the Mines Act, and accordingly gave notice to discontinue it.

Although believing that this practice was not followed at other roast yards, yet as a precaution against and for the purpose of preventing it, I issued similar notices to the managers of all companies at whose works ores were being roasted, which precaution I am informed met with their entire approval.

In November about fifty-six thousand tons of ore were on the roast beds, and from sixteen to eighteen thousand tons of green ore were on hand.

This pioneer company has produced up to December 1st 300,000 tons of ore and 40,500 tons of matte—equivalent to about 6,500 tons of copper and 5,600 tons of nickel.

Late in June but little work was being done in the Stobie mine. The walls were being trimmed and some parts of the interior fitted up under Captain John M. Jones, who had formerly been in charge of Copper Cliff mine. The large open pit was partially filled with water, but could be quickly emptied when necessary to resume lifting ore. The Stobie mine.

The new rock house and machinery.

The new rock house had been completed. It is a substantial structure, 40 by 50 feet and 70 feet in height, and superior to any other in the Province. It is supplied with a powerful Blake crusher capable of breaking 125 tons of rock in ten hours, and has space provided on the floor for placing three others of equal capacity when required. The dump floor was to be covered with three quarters inch steel plate, which was on hand and ready to be put in place. The whole is admirably fitted up with screens, chutes, etc., and a track underneath where the cars may receive the ore from the bins when sorted, crushed and screened, to convey it to the roast yard at Copper Cliff. In the building is placed a 30 h. p. engine to drive the crusher, screens, etc., the steam being supplied from the boilers placed in the adjoining engine house. This building, situated fifty feet east of the rock house, is also a fine structure in which are placed two boilers, each of 80 h. p. capacity, and a powerful engine to drive the large Ingersoll air compressor, capable of running seven three-inch drills. There are also two drums for hoisting ore, with engines attached of 40 h. p. each, capable of lifting with skip not less than four tons at each hoist. There is a large heater for heating the water before going into the boilers, and also an air receiver of large capacity.

A good incline skip track was being constructed from the dumping floor of the rock house to the open pit. From the drums in the engine house the strong steel cables pass over pulleys and reach the upper apartment of the rock house and connect with the skips, having a capacity of two tons each.

The machinery had not yet been started, but was put up in a thoroughly workmanlike manner and of the most approved class. The whole outfit presents a fine appearance, and the large outlay in the new plant has been warranted by the exposure of extensive bodies of ore. This mine, from present showings, may be regarded as one of the most valuable mining properties owned by the company.

Evans mine.

The last of June I spent considerable time in going through the Evans mine, accompanied by Captain Alfred James, and I found the workings in good condition. About fifty men were then employed in and about the mine. Since my previous inspection in September considerable work had been done in the first level, or large open pit, from which about 1,000 tons of ore had been lifted. An equal quantity had been taken from the second level, and a winze had been opened between the first and second levels. Stopes had also been made in the third level, from which about 1,000 tons of ore had been mined. In the fourth level considerable stoping had been done both north and south of the shaft, and some 2,000 tons of ore secured. A winze was opened connecting the third and fourth levels. On the fifth and lowest level a sump has been sunk eight by twenty-six feet and nine feet deep, to receive the accumulating water, at which point the pump is placed as described in the former report. Both north and south of the shaft limited stopes have been made and about 800 tons of ore removed. The total depth of the workings is 275 feet from the surface, and with a good showing of mineral. For process of treating the ore see former reports.

Extent of the workings.

In November I again inspected the mine and found it in a safe state, with the usual force of men employed, under the direction of Captain H. Davis,

who has but recently taken the place of the late Captain James, and who has had thirty-five years' experience in the management of mines. I directed the attention of the captain to the exposed condition of the large open pit adjoining the rock house, and the following day he had it securely fenced.

An accident occurred on the morning of October 23rd in the shaft of this mine, at the third level. James Sheedy, a young workman, was attempting to lift the gate by hand, when the cage descended on him and seriously injured his back. A hook was provided and generally used for raising the gate, and had Sheedy taken advantage of this the accident would have been averted. Due care was taken of the injured man, and after the lapse of a few days, upon the advice of the attending physician, he was sent to the General Hospital at Toronto. Three or four weeks after the accident the resident physician informed me that he was slowly improving, and that in time he would most likely entirely recover from the injury. Sheedy spoke in terms of highest praise of the consideration shown to him by the company, and also informed me that all his expenses were being defrayed by them. He stated that the accident happened through want of forethought on his own part.

I visited the Blizzard mine in June. The mining was being done in the open pit, in which were twenty five men on the day and night shifts, and about eighty-five tons of good ore were taken out daily. The main portion of the roof had been removed and all the pillars, excepting the shaft pillar, had been thrown down. Seven or eight thousand tons of mixed rock and ore were lying on the floor of the opening. The hoisting was being done by steam derrick. The standing walls had been well trimmed, and the work was being carried on with safety. It was intended during the summer to take out this large mass of material, and also to take down the shaft pillar. No work was being done below this point, and the shaft was covered over.

Dominion
Mineral
Company.

Blizzard mine.

The timbering in shaft No. 4 had been completed and a good cage put in for lifting ore. No additional sinking had been done. A cross-cut had been made in the west drift, about sixteen feet from the shaft, and a stope made from which a small quantity of ore had been taken.

The smelter was treating from 120 to 140 tons daily, varying with the different classes of ores: twenty-eight men were employed in this department. About 14,000 tons of ore, roasted, or in process of roasting, were on hand, 3,000 tons of which had been brought from the Worthington mine. The magazine is situated half a mile distant from the mine. About 7,000 cords of wood were in the yards.

Smelting
operations.

The work was being carried on with a total force of 140 men, economically and with safety, both in the mining and smelting departments.

The manager, Mr. Ian Cameron, rigidly enforces the sanitary rules, and no epidemic prevailed at the place.

In November, when I again visited this location, both mine and smelter were closed down, but I am informed by a recent letter that both will be reopened during the coming spring.

The Worthington mine was discovered at the time of the construction of the Canadian Pacific Railway, by the gentleman whose name it bears, Mr.

Worthington
mine.

James Worthington, who was then a contractor for building a portion of the railroad stretching by this property. He still continues to be one of the large shareholders and is a director of the company now owning and operating it.

Extent of the workings.

At the date of my inspection, at the end of June, Mr. Cameron, the manager, accompanied me to the mine, where a force of thirty-five men was employed under the direction of Captain R. McBride, chiefly engaged in development work and taking out about 15 tons of ore per diem on the day and night shifts.

Shaft No. 1 was sunk to the depth of 140 feet, and from the surface neatly timbered down fifteen feet to the solid formation. The first level, at fifty feet from the landing, was driven in thirty feet west, and a small stope made. Levels are driven in at 110 feet from the surface, both east and west, the former to the distance of twenty-one feet and a communication made with shaft No. 2, thus affording excellent ventilation. Shaft No. 2 was not being used, the ore being lifted in shaft No. 1.

In the west drift, at a distance of forty feet from the shaft, a cross cut was being made at this date. Work was also being done at the bottom of the shaft, thirty feet below these levels, sinking in an excellent body of ore. A ladder way was being put up, which was partly walled off from the shaft, with rests twenty feet apart. Steam power was used for hoisting the buckets. A good cage hoist would be provided as soon as stoping was done to any considerable extent.

Machinery

The machinery consists of two boilers, a double drum hoist and an engine to drive the large Blake crusher, capable of breaking 100 tons of rock in ten hours.

and buildings.

The buildings are a shaft house twenty by thirty feet, with adjoining rock house thirty by thirty-two feet, floored with steel plates; engine house thirty by forty feet; blacksmith shop and stabling, boarding house and office and six dwellings. The magazine is situated half a mile from the mine.

The ore shipped to Blezard mine.

After the ore is sorted and crushed it is loaded on cars and taken via the Canadian Pacific Railway to the roast yard at the Blezard mine, a distance of thirty miles, and prepared for the smelter. Smelting works, it is expected, will be constructed at this mine at a not distant date. A large percentage of the ore removed continues to be of high grade. Work was suspended at the mine for some time during the latter part of the summer, but was recommenced in November with a considerable force of men and has since been vigorously carried on.

A communication from the captain of the mine of recent date states that a third level has been run in a short distance, and also that the principal place of working was in the raising chute stope connecting shafts Nos. 1 and 2, from which place they were getting at present the bulk of the ore.

H. H. Vivian & Co.

My first visit this year to the Murray mine was in the latter part of June, and the management was the same as the previous year. Work had been suspended before the close of 1892, but was recommenced in April last. Sixty men were employed in the mining department under Captain Richards,—thirty-one on underground work and twenty-nine above ground.

Three improved Ingersoll-Sargent drills had been added, and five were in use in the mine. About the usual quantity of ore was being mined, and of similar grades as formerly reported. The ore is taken out by contract. The mine was in a safe condition. Murray mine.

In November I again examined this mine. Captain Richards had a special outside appointment, and foreman George H. Behenna accompanied me through the mine. The latter gentleman has had extensive experience in mining,—first in the Cornwall tin mines, and since in Alabama, Montana and Michigan mines. The mine was in a safe condition, and conveniently arranged for work in addition to its neatness. A short space of the ladder-way required walling off, which Mr. Behenna informed me would be immediately done. The work done since my previous inspection was in drifting and stoping, and large bodies of ore were exposed. It is intended to sink the shaft an additional fifty feet during the winter, and explore the mineral at greater depths. The deepest working at present is 100 feet from the surface. At this date fifty men were employed on the day and night shifts in the mine, and seventy-five tons of ore lifted daily. Four air compressor drills were being used. Extent of the underground works.

At my request, Captain S. Richards has kindly furnished the particulars of the nature of occurrences, method of operating the mine and the extension of work, bringing it up to the end of the year, together with the appliances used, the interesting descriptions of which are herewith inserted.

Respecting the nature of occurrences he says: "The ore body, which possesses an average thickness of seventy feet, strikes in the direction N. E. and S. W., and dips north-westerly forty-five degrees from the horizontal. This agglomerated mass of nickeliferous pyrrhoite and diorite is contained by diorite walls. The foot wall at certain points, as proved by mining operations, presents the appearance of a true fissured plane upon which, at some time or other, the ore body has moved, as evinced by the coarse flucan or attrited matter which separates the ore from the wall. In some places through the occurrence there exist large inclusions, horses or intrusions of diorite containing fragments of granite. These from their size and extent often render mining operations in their vicinity unsatisfactory when considered from a commercial standpoint." Occurrence of the ore.

On the method of operating he says: "Our system of mining has hitherto been a modification of the cross-cut method with solid pillars. A shaft is sunk vertically on the occurrence, and drifts at the different levels are extended along the foot wall, the drifts at one level being connected by winzes and rises with the level above. Cross-cut stopes are then advanced from the foot wall to the hanging, leaving solid blocks or pillars between levels, and from wall to wall. These are cut through at intervals, forming arched excavations and sufficient material remains in situ to support the roof and overhanging wall. When convenient the larger intrusions are allowed to stand as pillars, but as nature bestows some of her gifts at too frequent intervals some of these barren rock masses are found when and where they are not wanted." Method of working the mine.

Extent of recent working.

On recent work he says: "The company has at great expense installed a water supply from a lake one and a half miles distant, and contrary to former winters work has been carried on almost uninterruptedly during the present season. Since last report (printed) at the second 100 foot level we have further extended our n.e. drift ninety feet, thus making on this side of No. 6 shaft a drift 125 feet in length. The drift is being continued. About thirty feet from the mouth of the drift a rise has been put up to the first level, and stoping from its sides is being done. At thirty feet from the breast of the drift another rise has been started, which is at the time of writing half way or twenty feet through. Shortly this rise will be holed to the first level, and more stoping ground will then be available. On the other side of shaft No. 6, at the 100-foot level, the s. w. drift has advanced sixty feet, making on this side eighty-eight feet of drifting. At a suitable distance from the mouth of the drift a winze connects the workings of the first and second levels, and stoping is progressing. The s. w. drift is still going ahead. The small drift mentioned in former reports is in reality a cross-cut, and this has been driven thirty-five feet further ahead, making in all seventy feet cross-cut in ore. We have commenced to sink below the second level, and are now eight feet down. We purpose to sink down to another level and prove by cross cuts and drifts the nature and extent of the ore body at a lower depth. Stoping is being done at the first level as formerly."

Appliances.

On appliances he says: "We have in use five compressed air drills. Drifting is done by hand labor. The mine is worked both by day and night, whilst crushing and sorting at the surface is done in the day time. About seventy men comprise the force at the mine, and thirty-seven of these are employed underground."

Miscellaneous notes.

The smelter had been closed from the end of January to the beginning of May. At the date of my visit they were running at the rate of 1,600 tons monthly. The bessemerized matte was shipped weekly. Ten or twelve thousand cords of wood were on hand. A total force of from 120 to 150 men were employed at both mine and smelter. Nothing had been added other than repairs and what was necessary for efficiently carrying on the work. The sanitary condition of the place was good. In the day school seventy scholars were enrolled. A neat church edifice had been built recently, and religious services and a Sabbath school were conducted every Lord's day.

In November I again went through the whole of the works, when the smelters were in full operation and all apparently was in excellent shape.

Mr. Henry W. Edwards, metallurgist, who has charge of this department of the company's work, has supplied an interesting description of the management of the ore—the process and requisites for smelting, with improvements, and labor employed, which I am permitted to subjoin.

"The ore is received from the mine in small cars each carrying about one ton, running upon an elevated track raised by means of trestles some twelve feet above the level of the bottoms of the roast heaps. The floor of the roast heap is prepared by laying first a layer of six inches of small ore and upon this a layer of cordwood about eighteen inches thick. Upon this layer of wood the ore is dumped from the elevated track. About 1,000 tons of ore

Further details of processes at the Murray mine.

form a roast heap. The heap being completed, the wood is ignited and fire is soon communicated to the ore, which will burn on an average for ten weeks. There is always a stock of some 5,000 tons of ore in heaps being built, burning and cooling, and being broken up for delivery to the smelting shed. The cost of mining and burning this large quantity of ore and carrying it in stock for so many months is in itself a heavy charge upon operations here.

The roast
heaps.

“As soon as a roast heap has finished burning and has cooled off it is torn to pieces and is transported in convenient quantities to the smelting shed, where there are two furnaces having a collective capacity of 160 tons of burnt ore daily. The fuel used in these furnaces is coke from Pennsylvania, which is much cheaper than Nova Scotia coke on account of the heavy freight upon the latter. In order to put the Nova Scotia coke on a footing to compete with that of Pennsylvania, a protective duty of at least twice the value of the coke at the ovens would have to be imposed, the present duty of fifty cents per ton being only an annoying burden of no benefit whatever to the Canadian producers.¹ In its transit here the coke has to pass over several railroads, and is subject to so many delays that we have to carry a heavy stock of it to insure that there shall be no interruptions of the smelting for want of fuel.

Fuel for the
furnaces.

“The burnt ore is smelted in the usual manner in small blast furnaces, the fused products being two in number, viz., slag, which is thrown away, and matte, which is passed on to the Bessemer process. The Bessemer plant at the Murray mine is the first of its kind applied to the treatment of nickel matte, and great efforts have been put forth to bring it to a successful issue. One of the materials required in this department is a good quality fire clay, which we have not been able to find as yet within our reach in the Dominion; we therefore import it from Ohio by the schooner load during the navigation season. The bessemerized matte is shipped to H. H. Vivian & Co's. smelting and refining works in Swansea, Wales, where the concluding operations are carried out.

Application
of the
Bessemer
process.

“During the present year the following alterations and additions to the plant have been made: (1) A steam pump and boiler at a small lake a mile and a half to the south, and a pipe conveying the water thence to the smelting works. This has been forced upon the company by the very bad quality of the water near at hand. (2) An extension of the roasting floors to accommodate a further quantity of three thousand tons of ore. (3) A new multi-tubular boiler of 100 horse power.

Alterations
and additions
to the plant.

“The engines employed in the smelting department aggregate ninety horse power. There are sixty men employed, about two-thirds of whom are unskilled laborers; the remainder are skilled workmen.

“During the year 1893 there have been three casualties, two men slightly burnt and one man severely.”

Accidents.

Recently operations have been resumed on the property of the Drury Nickel Company, after it had been lying idle for nearly a year, with a force

Drury Nickel
Company.

¹ Under the amended Tariff Act of 1894, coke is put on the free list. This was done in response to petitions from mining companies and miners in the Sudbury District, and a memorial from the Toronto Board of Trade.

of about twenty-five hands under the direction of Mr. R. P. Travers. With the present output of ore and the quantity on hand when the mine was closed down the smelter will be kept constantly running. It is stated that the company's prospects are now encouraging, and that orders have been received for the entire quantity of matte to be produced for some time to come. For description of mine and plant see former reports.

Sheppard or
Beatrice mine.

The Sheppard mine is now called the Beatrice. This property comprises 320 acres, being lot 1 in third concession of Blezard, and is held in fee simple. A limited amount of prospecting on it had been done previous to the purchase by Messrs. Thomas Sheppard and E. H. Davis of Montreal, of the property from Mr. Babcock, who made the discovery of the nickel deposit in 1890 and immediately located it. The present owners have opened up the property by sinking a shaft 10 by 12 feet to the depth of 100 feet. At 40 feet from the surface two drifts have been run in east and west from the shaft, each about 10 feet. Below these drifts another has been run in 14 feet north. Mineral was followed in the shaft to the depth of the lowest drift. Each of the drifts has been in mineral, showing the existence of a large body of ore. Eight hundred tons of high grade nickel ore have been taken out and marketed in the United States, and there remains a quantity of lower grade on the dump at the mine.

Work was commenced by the present owners in 1891, and vigorously prosecuted in 1892 under the management of Mr. E. S. Townsend, who assumed control in February of that year. Work was continued with a force of about 30 men until April last, since which time the mine has been lying idle. In November, at the time of my second visit to that locality, it was expected that work would recommence at an early date.

The shaft is well timbered to the depth of 30 feet, at which point solid formation is reached. Work when resumed will be carried on in the drifts, as the lower part of the shaft was in barren rock.

A good road has been constructed to the Blezard mine, a distance of two miles in a southerly direction, over which the ore was hauled by sleighs in the winter to the point of shipment on the cars. For description of plant see former report.

Tam O'Shanter
mine.

In a recent issue of the Sudbury Journal it is stated that some English capitalists are negotiating for the purchase of the Tam O'Shanter property, which is in the township of Snider, three miles from the Copper Cliff and six from Sudbury. The discovery was made last season, and from present appearances there is a large body of mineral, the surface ore running as high as $3\frac{1}{2}$ to 4 per cent of nickel.

The October number of the Canadian Mining Review contains a description of "Our Mineral Exhibits at the World's Fair" from which the following interesting extract is taken :

"The whole of this section was well worth seeing. Ontario had a strikingly good exhibit. This go-ahead Province certainly did credit to herself. Mr. A. Blue, Director of Mines, Commissioner Awrey, and the able staff of

The mineral
exhibit of
Ontario at
Chicago.

which Mr. Boyle was a conspicuous figure, have reason to be proud of the result of their months of arduous labor. The Ontario court presented an attractive front, and the nickel trophy in the centre formed a unique and massive pyramid, impressive to the sight, and never to be forgotten by the passer-by. Iron ores, copper, mica, graphite, zinc, galena, asbestos, building stone, petroleum and its products, fire and brick clays, soapstone and apatite, or phosphate of lime, with its products, were shown in abundance and tastefully and artistically displayed. Due regard to the economic aspect of the exhibits was to be seen on all sides. The gold and silver ores also formed salient features in this court, whilst salt, marbles, sandstones, granites, clays and cement stones served to complete the exhibits of the Province whose mineral wealth is only now just being appreciated. Ontario's display of its mineral wealth was indeed an instructive one. To the economic collection was added a mineralogical one of considerable extent, furnished by a private collector in the person of Mr. W. G. Kidd of Kingston.

"The nickel trophy deserves more than a passing mention. It was undoubtedly the most complete and extensive display of the kind ever made in the world. The exhibit of the only country which could compete with Canada was New Caledonia, a colony of France, and whilst its exhibit was certainly instructive and interesting, yet it was small and inconspicuous. Some of Ontario's specimens of nickel ore weighed 6,000, 8,000 and 12,000 lb. respectively, and gave a capital idea of the extent and richness of our far famed nickel deposits. Nickel anodes, nickel shot plates and ingots of nickel were also exhibited."

The nickel trophy.

IRON ORES.

The following, taken from the Kingston Whig, is of interest, in view of the probable early access to the markets of the United States for our iron ores :

"To-day G. A. Longnecker and John Morris of Pennsylvania were in the city. They purchased a car-load of magnetic ore, which will be got at the Wilson mine near Calabogie. The ore will be taken to Pennsylvania, tried in the furnace, and if the test is satisfactory they will buy an iron ore property in the vicinity of the K & P R. It is thought a boom in the iron ore business is close at hand. It will begin when the duty is taken off iron ore going from Canada to the United States. This change may be made by the Cleveland Administration, and some iron men are confident the duty will be removed."

Wilson mine.

The iron ores on the Kingston and Pembroke railway.

"On valuable outcroppings of the Atik-okan iron range, lying along the Atik-okan river in Ontario, nearly a hundred miles north of the Minnesota boundary and fifty miles from the Canadian Pacific line, options were given three years ago to a Belgian syndicate, reported at that time to be of great strength. These options expire with October 31st, but arrangements are being made looking to a continuance. The Belgians are waiting for a decision in tariff changes, particularly on the import of iron ores, before closing their purchase." For the above I am indebted to the N. Y. Engineering and Mining Journal.

Atik-okan iron range.

The following excerpt is from an excellent article on iron mining in Ontario, which appears in the April number of the Canadian Mining Review : "No one who considers the situation with an unbiased mind can do otherwise

Freer trade
relations a
necessity.

than come to the conclusion that in whatever way freer trade relations with the remainder of this continent would affect other industries and interests in Ontario, they could have none but beneficial results upon iron mining. The close competition which the opening up of the new sources of supply within the past few years has given rise to in the United States markets has made it impossible to raise iron ore and ship it across the lines in face of a duty of 75 cents per ton, and the result is that the iron mines of central and eastern Ontario within easy distance of the great smelting centres in Ohio and Pennsylvania have been forced not only to cease raising ore to the surface, but have even in some cases been obliged to keep on hand considerable quantities which had accumulated at the mouth of the mines when last in operation. Were commerce as free between Ontario and the United States as it is between Michigan and the rest of the Union, it is surely reasonable to suppose that results would ensue in Ontario similar to those which have followed in Michigan. Not only could iron ore be exported, which in itself would be a very great boon, but with a large outlet for charcoal iron, for the production of which the facilities possessed by Ontario are unequalled, the business of smelting would receive an impetus which could not be imparted to it in any other way. The report of the Commission on the Mineral Resources of Ontario (1890) sums up this aspect of the situation very concisely in the following words: 'The beneficial influence to be exerted upon the interests of the Province by the stimulating effect certain to be the result of the breaking down of the hostile tariffs between Canada and the United States would, in the case of the export of iron ore, and probably of pig iron also, be certain to promote the prosperity of Ontario to an extent greater than any but the most sanguine would venture to predict.'

MICA.

Sydenham
mine.

The Sydenham mine is situated four miles by water and eight by road from the village of Sydenham. It was formerly owned and worked by Lacy & Smith, but has been lying idle for a couple of years past. The property embraces one hundred acres, and a part of it is worked for agricultural purposes by the present owners, Messrs. Webster & Co., who purchased it in December last.

The head office of the present company is in Kingston. Work was begun by Messrs. Webster & Co. on the 1st of January last, under the management of Mr. J. E. Chown of Sydenham, with Captain John Harris as foreman, who had the former charge for eight years when worked by Lacy & Smith. It was in fairly good condition, but required the refitting of some ladders, walling off the ladder-way from the shaft, and putting in a few additional timbers in insecure places, all of which the foreman assured me should have early attention. The recent heavy rains had caused a good deal of dripping, and the accumulation of a large quantity of water, but the Cameron pump in use discharged it with ease.

Extent of the
workings.

The main shaft had been sunk an additional 20 feet, making a total depth of 180 feet. In the 100-foot level the drift had been extended eight feet, making its total length in an easterly direction from the shaft 200 feet. A few tons of mica had been obtained from this cutting. Stopping had also been

done in this level, with a good yield of mica. At the distance of 95 feet from the main shaft an open cut had been made 8 by 24 feet and 30 feet deep, and the foreman stated that an excellent deposit of mica had been exposed, but the work at this point was abandoned on account of the inflow of water. Another opening south about 200 feet from the first, 10 by 25 feet and 18 or 20 feet deep, was being worked, from which about three tons of amber mica had been taken out. The mineral showing at this stage of the work was good. A horse derrick was used. Considerable prospecting on the lot had been done by stripping and cross-cutting, with excellent showings of mica. All surface drilling was done by hand. The old buildings and machinery are being utilized for present operations, and the boarding house and office have been nicely refitted. There is also a store, a shaft house with annex for boiler and engine, a cobbing house with bedrooms attached, a house for changing clothes, and a blacksmith shop, etc. The magazine is about 300 feet from the other buildings.

The hoist is by bucket with guides, and holds about 1,000 pounds at a lift. By an excellent automatic arrangement the mineral is dumped into a hopper, from which it runs into a car and is conveyed over a tramway to the cobbing house or to the dump. After being roughly sorted it is taken either by scow across the lake, or carted by road to the mica house in Sydenham, where it is carefully sorted and boxed or put up in barrels for shipment.

A 35 h. p. boiler with engine is used for pumping and hoisting. Two Ingersoll air compressor drills were in use. Twenty men were employed in May at the date of my visit, fifteen at mining and the others at outside work; the former receiving \$26 and the latter \$20 per month with board.

About 300 cords of wood were on hand, two cords being used per diem on the day and night shifts.

On May 22nd I visited the Levett & Davis mine on lot 3 in the fifth con-
 cession of Burgess, on the shore of Rideau lake, 7 miles south of Perth. Recently the mine has been purchased by Messrs. Levett & Davis, and they had been working it with a force of seven men for six weeks, during which time about twenty tons of amber mica had been mined and taken via the lake to the mica house at Perth. It is there dressed and boxed. About eight tons were on hand at the date of my visit, the rest having been sold. Excellent facilities are had for loading the ore, as the shore is so bold that the small steamer John Haggart which plies on the lake can moor at its edge.

In former years the property had been worked for both mica and phosphates, and considerable quantities had been taken out. The surface workings have been extended over 20 or 25 acres. The principal place of working is about twenty rods from the landing, where an open pit has been sunk about 25 feet, with surface opening 20 by 30 feet, and narrowed to 10 by 20 feet at the bottom. I examined several other openings on the property from which fine crystals had been taken, three of which were some thirty rods from the main workings. The vein of mica is from 8 to 10 feet in thickness, and some very large crystals have been removed, one lump being two by three feet and weighing 450 lb. The present developments indicate a large output as the work proceeds.

A good boarding house was in process of construction at the shipping point on the lake, to which would be annexed an office; also a building for storage with good stabling attached, a blacksmith shop, etc.

Mr. Levett has the general management, and Mr. A. Gibson charge of the ground work.

Martha mine. On May 22nd I visited the Martha mine, which is situated on the north-east half of lot 13 in the sixth range of North Burgess, a distance of ten miles south of Perth. Surface prospecting work had been done at intervals since 1871, extending over about 40 acres for phosphate, and a very considerable quantity had been taken out by the several operators. In December, 1892, the property was purchased from Mr. D. George MacMartin by the Lake Girard System, a company having its principal office in Ottawa. The present owners have worked the property since early in January last with encouraging results for both amber mica and phosphate under the management of Mr. MacMartin, with Peter Powers as captain of the mine. The mica is carefully culled, hauled to the town of Perth and shipped via the Canadian Pacific Railway to Ottawa. The phosphate obtained is of excellent quality.

Works and machinery.

The place of working at the time of my visit was on the rear of the lot, which contains 100 acres, the mineral right only having been purchased by the present owners. In an open pit, 33 by 40 feet and 32 feet in depth, sixteen miners were engaged at work, but the total force employed was twenty men. The rock was lifted by two whims worked by horse power. No brakes were used, but two suitable ratchets had been provided, which I was informed would be immediately attached to them. From 40 to 50 tons of mineral and rock were being taken out daily. This mine gives promise of an excellent yield. Six or seven hundred cords of wood had been provided, and suitable machinery with which the work could be conducted on a much larger scale would be brought on at an early date.

The old boarding house would soon be displaced by a large new one, then in process of construction, at the distance of a quarter of a mile from the other. A good magazine had been put up 200 yards from the workings. Good stables, a blacksmith shop, etc., had been built. Stanleyville P. O., Lanark County.

O'Connor mine.

Mr. Anthony O'Connor owns in fee 100 acres of lot 1 in the third concession of South Burgess, on which he was mining for mica with a force of five men when I visited the place in May. A little prospecting had been done the previous year. For about six weeks work had been carried on and an opening had been made 25 by 36 feet and worked to the depth of 22 feet. The mica vein at the place of working is about ten feet wide, and by about one hundred in length, and five or six tons had been taken out and sold. A derrick is used for lifting the rock and ore. Several other surface openings show mica, and in one a body of graphite has been exposed. This property is $2\frac{1}{2}$ miles south from Hagarty's Wharf, and $4\frac{1}{2}$ miles from Oliver's Ferry.

O'Mara mine.

The O'Mara property comprises 100 acres, being part of lot 5 in the first concession of South Burgess, and is owned by Mr. James Jones in fee simple.

The mineral right has been leased by Mr. Patrick O'Mara, and the mine has been worked by him with a force of four or five men since December last. Up to the date of my inspection in May, 25 tons of mica had been mined. The ore is culled at the mine, a part hauled to Perth, a distance of fifteen miles, and the remainder to Oliver's Ferry, six miles away. A portion of it has been marketed in Boston, Mass., and the rest in Kingston. The ore when culled is separated into three qualities, the value of which per ton is stated to be as follows: No. 1, \$250; No. 2, \$110; No. 3, \$25. About equal parts of No. 2 and No. 3 were obtained, and a lesser proportion of No. 1.

Work was being done on the northerly part of the lot, and an open cut had reached the depth of 35 feet, with some additional surface stripping, exposing a fair showing of colored mica. The lifting is done by derrick. Very little water interferes with the workings. Mr. Peter Adams supervises the work at the mine.

A mica house, blacksmith shop and stables have been built. Cranworth P. O. is within half a mile of the mine.

On May 23rd I visited the Canton mine, situated on lot 1 in the fourth Canton mine. concession of South Burgess. Mr. J. E. Chown of Sydenham has the general management for the owners, Messrs. Webster & Co., who have purchased the mineral right of 100 acres. Five men and the foreman, Mr. Samuel Cordick, were clearing out some old pits, preparatory for more extended work on the mine, which is now being worked chiefly for mica. Formerly a considerable quantity of phosphate had been mined. A portable boiler and engine had been brought on, to be used for pumping water, drilling and hoisting at the workings.

One opening of 22 by 37 feet at the surface and narrowing towards the Workings on the location. bottom had reached the depth of 40 feet, but was now nearly filled with water. Last fall 40 tons of phosphate, with some mica, were taken from this cutting, which was then worked for two and a half months with a force of fifteen men. Several other openings for over 100 feet on the surface had been made, on which work will be continued for mica, as the showing is good.

This property is about 100 feet above the surface of the lake, and yet the inflow of water in the cuttings is a serious impediment to the work.

I had the pleasure of meeting Mr. Watson of Boston, one of the principal members of the company, who was carefully examining the property, as well as the old Smith & Lacy mine, which the company had recently purchased.

The description of the two following properties is given in the Ottawa Mining Review for December:

"Mr. John McKay of Eau Claire is working his lot, No. 9 in the first White mica in Calvin. concession, township of Calvin, for white mica. The crystals are irregularly distributed in veins of a coarse granite, which have a general northeast-southwest direction, and vary in width from four feet up to 25 feet. One vein, with elliptical section shows a length of 110 feet, and an average width of 15 feet. The crystals taken out of this vein have a light green color, and the single laminae contain frequently green spots; they are not very large in

size but yield a good average of clear sheets. The vein has been tested by a shaft of 25 feet depth, and it seems to continue regularly. Another vein in the north part of the property has a width of 25 feet, and has been traced for about 450 feet. The output for three months, with an average labor of five men, amounted to 3,500 lb, which have yielded 25 per cent. of trimmed mica.

“Mr. F. B. Hayes of Ottawa has been working for about two months on lots No. 16 in the first and second concessions of the township of Calvin. Six parallel veins containing white mica crystals distributed have been uncovered. The principal opening consists of an open cut of 30 feet by 10 feet wide on a mountain slope. Work has been suspended for the winter on account of the heavy snow fall. The quantity and quality of the mica taken out give reason to believe that the property, if developed, can be worked with success. Operations will be resumed next spring.”

GRAPHITE.

Graphite in
North Elms-
ley.

At the time of my visit to a graphite property in the township of North Elmsley in May work was being conducted under the management of Mr. John F. Torrance, of Montreal, a graduate of the Arts and Science department of McGill College, as well as of the School of Mines at Freiburg, Saxony. He has visited the mining districts of East India and British Columbia, and has also acted on the Geological Survey of the Dominion.

Mr. Torrance informed me that application had been made by Montreal and Boston capitalists for a charter for a company to be known as the Northern Graphite Company, with a capital stock of \$95,000.

Six or eight men were actively engaged in sinking bores on lot 22 in the sixth concession of North Elmsley, which is out from Perth about six miles, and one mile from Oliver's Ferry. Bores have also been made on lot 21, and one bore on lot 23 in the seventh concession. The Company has leased 1,200 acres with the option of purchase, some of the lands lying on both sides of the Rideau. The formation is chiefly limestone. In all eight bores had been put down, averaging from 50 to 100 feet in depth. The surface showings were excellent, and the borings confirmed the existence of graphite to the full depth to which they had been sunk. Some of the cores also gave showings of considerable deposits of phosphate.

The rock is ordinary gneiss, associated with limestone. The bands of gneiss contain the graphite. On lot 22 the formation is anticlinal. There were good surface showings of graphite on lot 1 in the sixth concession of Burgess, which were going to be fully tested.

GYPSUM.

Paris mine
and mills.

Early in December I visited the Paris plaster mine and mills. At the latter about a dozen men were employed. No change has been made in the process of manufacturing alabastine. The demand for it has increased fully 50 per cent. during the year. It is prepared in the form of a fine powder, then put up in 5-lb. packages and is ready for use with the addition of cold water only. It is largely taking the place of kalsomining, papering and other

finish upon house ceilings, walls and other surfaces, making a permanent and neat coating. It is as hard as the wall itself, and when necessary can be replenished by another coating of the same material without the old being removed. Before being put into packages it is prepared in different colors to suit the taste of those using it. Directions accompany each package, and it may be applied by any party needing it. Another article, used for the extermination of potato bugs, is prepared at the mill. It consists of plaster, Paris green, and other material ground together, a product new in Canada but widely used in the United States and extensively prepared at Grand Rapids, Mich. It is put up in barrels containing 300 lb. each and labelled "Church's Potato Bug Finish."

A new plant for calcining the plaster, of about one ton capacity per hour, has been put in the mill during the year by Mr. Hare, who has charge of the milling department. After the plaster is ground by the buhr stones it is elevated into a hopper, from which it is introduced by a feeder into the long fire box, and by a lateral worm conveyor it is slowly carried along about 40 feet and returned by a similar process through the fire box, making its transit of 80 feet subject to an intense heat. The plaster is thus evenly and thoroughly calcined by a continual flow. The fire box is heated by gas oil, of which a barrel containing 40 gallons is used in ten hours. The demand for this article has largely increased during the year. It is now being shipped in car lots to Toronto and other places for sale. The white gypsum from which this is manufactured is brought from the beds on the Grand river in the vicinity of Cayuga. This is the only plaster calcining establishment in Ontario.

I directed that an open cage entrance on one of the flats with a stairway and one belt should be fenced off with proper railings.

Three men were working in the mine by contract at 90 cents per ton, taking out about five tons daily. The new drift referred to in the former report had been abandoned on account of the inflow of water. An important change has been made in the old drift by which the present approach to the face of the deposit was shortened to half the distance of the old one, and much better ventilation in the mine secured. At the place of working the layer of plaster was about four feet in thickness and opened to the distance of 200 feet. I advised that a cross-cut be made to ascertain the extent of the deposit, and if the field of mineral was found to be extensive then to reconstruct the drift at once. It is low and inconvenient, and requires additional supports. The roof at the place of working was fairly well supported. Some parts of the old workings had broken down. About 1,000 tons of gray plaster had been taken out and ground during the year for fertilizing purposes. Some 300 tons ready for sale were still on hand. It was expected that double the quantity would be mined in the coming year.

Mr. T. W. Wheeler continues in the management of the company's operations in Canada.

Excelsior mine is on lot 2, Grand River road, 2½ miles east of Cayuga. It is owned by the Adamant Manufacturing Company of Syracuse, N.Y., and is now leased by the Alabastine Company of Paris. This lease expires

on August 1st, with option of renewing. Mr. John A. Nelles has the management of the mine, and had been working it on contract with a force of four men since September 1st. At the date of my visit, December 12th, 200 tons of white plaster had been mined, and was being delivered at the Cayuga station on a contract of 1,000 tons to be used at Paris for adamant purposes. Mr. Nelles provides all the material for operating and keeping the mine in a safe condition. Some parts of the mine required repairs, as the property had been lying idle for three years until the recent working. The small quantity of water that runs into the mine is drained into two sumps, over which pumps driven by windmill power at the surface are used. These when in good condition for work have proved sufficient. At each pump shafts have been sunk from the surface, and are well timbered up, affording a safeguard against accident as well as excellent ventilation to the mine. The tunnel is run in from the level surface in a northerly direction at a dip of one foot in ten for the distance of 175 yards, where it intersects the bed and continues an additional 200 yards, following the layer of plaster. At the foot of the incline 175 yards from the entrance another drift has been extended on an easterly course for 200 yards to the place of the present workings, which is at a depth of 60 feet from the surface. The gypsum is hauled out by horse car over the tramway.

Teasdale
mine.

Teasdale mine is situated four miles east of Cayuga, on the Grand river. Three men were engaged at the mine and were taking out about six tons per day of white gypsum at the date of my visit in December. Only one ton of waste rock was broken out to ten tons of plaster. The drift is started in a ravine three or four feet above high water in Nolan's creek, and is driven in at an incline of one foot to the 100 feet. At the distance of 100 yards from the entrance a pump is placed, driven by a windmill on the surface, which is 35 feet above the workings at this point. The drift is continued in the same south-westerly direction another 20 yards to the present place of working, at a slight incline upward, giving drainage in both directions to the pump, which is of sufficient capacity to keep the mine free from water when running. The uncertainty of the power prevents working the mine continuously. Great care has to be exercised in not breaking up the floor of the drift, which is of solid rock, as there appears to be a fountain of water some two feet below, which upon being opened quickly floods the mine.

The continuance of the drift with its present upward incline may overcome the water inflow which has hitherto seriously impeded the work. The layer of gypsum, which is from three to four feet in thickness, follows to some extent the surface incline upward. It is supposed that the large quantity of water underneath the plaster is retained by the dam placed across the river at Dunnaville, ten miles below the mine.

Two test shafts on the top of the hill have been sunk to the bed, some distance apart, which would indicate that the plaster extends over a wide area. About 400 tons have been taken out of the workings, of which nearly 100 tons remain at the pit's mouth ready for shipment. A horse tramway is used in taking out the mineral, a car load being 1,500 lb.

The property is under lease by the Alabastine Company of Paris and the mining is done under contract by Mr. John Walton, who furnishes all requisites to keep the mine in order. The drift is well timbered and the work carefully conducted.

I inspected the Martindale mine on the 13th of December, when but two ^{Martindale mine.} men were employed in mining. About 250 tons had been taken out during the year, and about five tons daily were being removed at this date. Some parts of the old workings had settled down, and others had been abandoned on account of their unsafe condition. A few places in the long drift leading to the present working ground required refitting, the timbers having become weakened by decay. This mine requires a thorough overhauling, the expense of which the workmen, though mining by contract, claim should be borne by the owner, who apparently is indifferent about it. I requested that some of the more dangerous places in the drift should be secured at once, which the men consented to do. The immediate place of working was well supported.

At the date of my visit to the Garland mine in December, two men were ^{Garland mine.} employed by contract at the works. The place of working was 150 yards from the entrance, and the mineral was taken out by horse tramway at the rate of six or seven tons daily. It is ground in the mill at Caledonia, and is used largely as a fertilizer. The layer of gypsum of about four feet in thickness is overlaid with a bed of firm clay or hard pan, which in places as the gypsum is removed softens on coming in contact with the air and settles down into the space below. Much care has to be taken to secure the roof at the places of working, which is done by building up walls of the waste rock and timber supports.

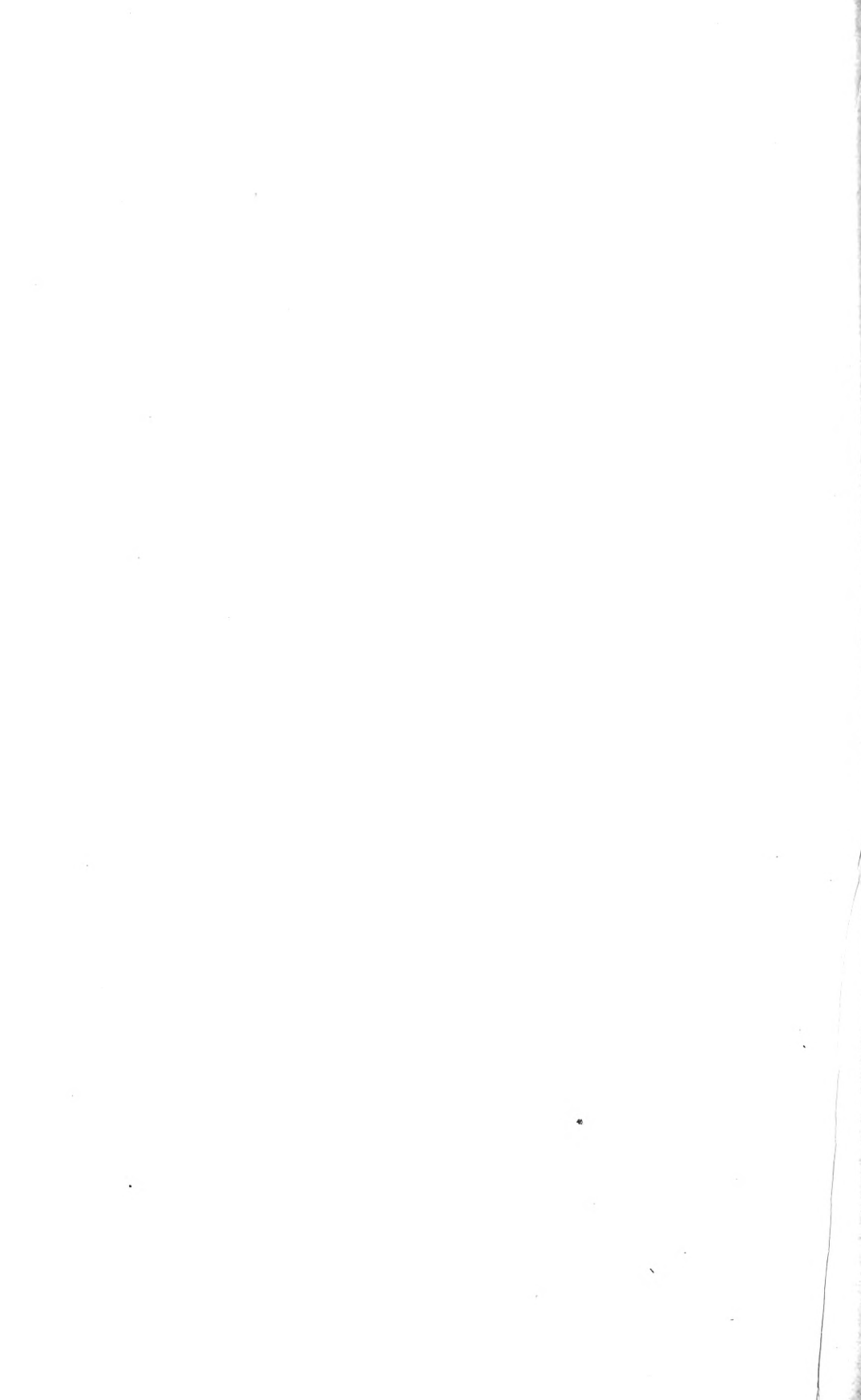
Upon close examination I found many of the small timbers in the entrance drift in a very decayed state. I gave instructions to the contractor to have them replaced with firm supports, and also wrote to the owner of the property, Mr. Nicholas Garland of Toronto, stating the dangerous condition of this part of the mine. There is yet a large field of gypsum in this property.

The Merritt, the Glenny and the Mount Healey mines are lying idle.

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

A. SLAGHT, Inspector.

Waterford, February 10, 1894.



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REPORTS
ON THE
ALGONQUIN NATIONAL PARK
OF ONTARIO
FOR THE YEAR 1893.

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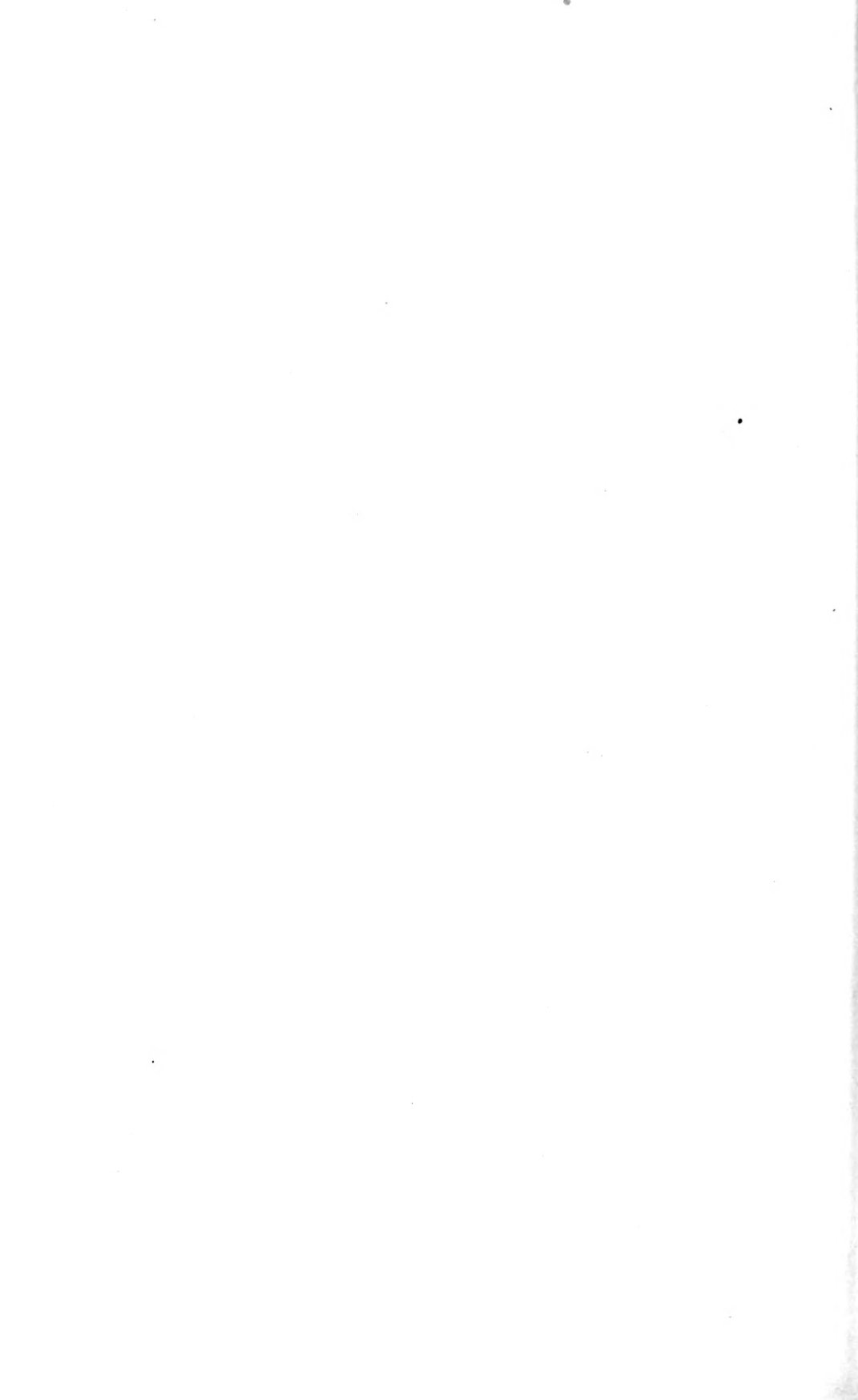
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REPORTS

ON THE

ALGONQUIN NATIONAL PARK
OF ONTARIO

FOR THE YEAR 1893.

To His Honor the Honorable GEORGE AIREY KIRKPATRICK,
Lieutenant Governor of the Province of Ontario :

SIR,—I beg to submit herewith, for the information of Your Honor and the Legislative Assembly, the following reports, one by Mr. Peter Thomson, Chief Ranger, and the other by Mr. James Wilson, Superintendent of Queen Victoria Niagara Falls Park, in connection with The Algonquin National Park of Ontario.

Mr. Thomson's report gives a brief account of the preparatory and other work done in the Park since it was set apart by Act of the Legislative Assembly last year.

Mr. Wilson, who has had long experience as Superintendent of the Queen Victoria Park at Niagara Falls, was requested to visit the Park in the autumn of last year and make a report thereon. In his report Mr. Wilson gives an interesting description of portions of the Park traversed by the principal waterways, and also makes a number of suggestions as to its management and administration. On the map accompanying his report the position of the Park headquarters, shelter-huts, etc., is indicated.

The Algonquin National Park Act (56 Victoria, chapter 8) is given in full so that the objects for which the Park was established, the conditions under which it is administered, the penalties for hunting or trespassing therein, etc. may be more widely known.

Respectfully submitted,

A. S. HARDY,
Commissioner.

DEPARTMENT OF CROWN LANDS,
TORONTO, 1st March, 1894.

CHIEF RANGER THOMSON'S REPORT.

The Honorable A. S. HARDY,

Commissioner of Crown Lands, Toronto.

SIR,—I beg to submit the following report in connection with The Algonquin National Park of Ontario, from its inception up to the end of 1893.

On being appointed Chief Ranger of the Park, 21st July last, I received instructions from yourself to proceed thither in company with Mr. James Dickson, O.L.S., and to begin at once the erection of a house for headquarters and a number of small shelter-lodges in various portions of the Park for the accommodation of the rangers while on duty. Having made arrangements for the purchase of such provisions, tools, etc., as would be required, I left for the Park on the 23rd of July. I was joined at Orillia by Mr. Dickson, and on reaching Huntsville we found the supplies from Toronto, together with four canoes and three tents, which Mr. Dickson had previously procured and forwarded from Peterborough. Messrs. Stephen Waters of Huntsville, William Geall of Port Sydney, and Timothy O'Leary of Uptergrove, reported for duty here, having been appointed as under-rangers for the season on trial. The party was completed by the engaging of Robert Dinsmore of Huntsville and William Morgan of Port Sydney, as carpenters and builders, and Samuel Barr of Fenelon Falls as assistant.

After packing our outfit we proceeded from Huntsville to Dwight. On arriving at the latter place we transported our effects by wagon to Oxtongue lake, seven miles distant, and thence continued our journey in canoes up the Muskoka river to Canoe lake, in the township of Peck, which we reached on the 2nd of August, making no less than fifteen portages *en route*. At a point on the north side of Canoe lake we determined to build our headquarters, the lot chosen being the south half of 19 in the second concession of Peck. After setting the men to clear the place, get out the timber, etc., Mr. Dickson and myself, accompanied by one of the rangers, set out on a trip of inspection for the purpose of locating sites for the shelter-lodges and of obtaining an idea of the connections of the various water systems of the Park. We returned after a week's absence, having gone as far as Great Opeongo lake on the east and Cedar lake on the north, and touching on most of the lakes lying between. Shortly afterwards Mr. Dickson returned to Toronto.

The house at headquarters was finished about the latter part of August. It is a substantial, hewed-log building, 21 by 28 feet, with hewed timber floor and "scoop" roof. We selected this site for headquarters because of its accessibility to Canoe lake and the chain of waters of which this lake forms a part, its nearness to the proposed line of railway from Arnprior to Parry Sound, and also because of the fine grove of balsam, spruce and a few pine trees which stood upon it. During the absence of myself and staff in October, the employes of Messrs. Gilmour & Co., who own the pine timber in this part of Peck, built a lumber camp (doubtless through some misunderstanding) immediately alongside

and within ten or twelve feet of our head-quarters. They also entered the grove and took out the pine, at the same time cutting down a great number of other trees, and marring the beauty of the place, which I had hoped to preserve.

During the course of the summer and fall we erected, in addition to headquarters, fifteen shelter-lodges, on previously selected sites throughout the Park. Following are the situations of same :

- (1) Cache lake, north side of Madawaska river, lot 5, con. 6, Canisbay.
- (2) North side of lake of Two Rivers, south-east corner lot 50, con. 8, Canisbay.
- (3) West side of south bay of Great Opeongo lake, township of Sproule, half a mile west of mouth of Mud creek.
- (4) Southernmost point of south-east bay of Great Opeongo lake, township of Preston.
- (5) South side of head of McDougal lake at entrance of Opeongo river, township of Preston.
- (6) North end of Burnt lake at mouth of Petawawa river, lot 27, con. 1, Osler.
- (7) North side of Great Opeongo lake, lot 22, con. 7, Bower.
- (8) North side of Little Nipissing branch of Petawawa, lot 30, con. 10, Lister.
- (9) East end of Cedar lake, near mouth of Petawawa river, lot 13, con. 7, Deacon.
- (10) Foot of Horseshoe lake, township of Boyd, immediately adjoining north boundary of Lister.
- (11) South side of Cauchon lake, lot 34, con. 6, Pentland.
- (12) Head of Mink lake, lot 22, con. 7, Pentland.
- (13) North side of Kioshkoqui lake, near head of Amable du Fond river.
- (14) Grass bay, White Trout lake, lot 13, con. 13, McLaughlin.
- (15) East side of Island lake, lot 16, con. 16, McLaughlin.

These shelter-lodges or huts are erected at such points as will be convenient for the purpose of preventing the entrance of poachers and trespassers into the Park, and will command the passage from one chain of waters to another, as well as other lakes or waters within a radius of half a day's journey. They vary in distance from one another from seven to ten miles, the limit being a day's journey on snowshoes in winter. The lodges are of a uniform size of 14 by 16 feet, and are made of unhewed logs and covered with hand-made shingles. There is no sawn lumber used in their construction. Each has a door and a window of four panes of glass, and inside are a small table and sleeping berths for four men. A small sheet-iron stove, made specially for the purpose, will be placed in each. The outlay for labor, which is almost the only item of cost of these lodges, was perhaps from \$20 to \$25 apiece. In erecting them, as well as the larger house at Canoe lake, we not only had to find our raw material in the forest, but we were obliged to haul the logs by hand, frequently for considerable distances. As will be seen, the lodges built so far are mainly in the southern, central and eastern portions of the Park. In order to provide a chain of communication to and from all parts of the Park, and to permit of an efficient patrol being kept up summer and winter, a number of additional lodges will be required in the northern and western sections.

It was necessary to spend considerable time and trouble in cutting trails and clearing portages along the lines of water communication from one shelter-lodge to another. In all we cut out upwards of 25 miles of portages and trails, and cleared many stretches of river and creek beds from floating timber, brush and other obstructions, in order to secure free passage for our canoes.

I may say that I have found a tendency on the part of the public in general, and more particularly of men who have been in the habit of hunting and trapping in the territory now included in the Park, to acquiesce in the new state of things. I came in contact with a number of trappers who were removing their traps from the Park, and who appeared to have given up any idea of further trapping there. While regretting the loss of their trapping grounds, they acknowledged that the fur-bearing animals were gradually becoming more scarce, and recognized that the preservation of game and fur animals within the Park would eventually be to their benefit, as the animals would increase in number and could be taken in their proper season outside the Park limits. We found a trapper's camping ground on the north side of Horseshoe and Mink lakes and seized several traps and a few beaver skins. The man himself could not be found. This is the only violation of the law which came under my notice. During the hunting season deer were several times pursued up to within a short distance of the Park, but so far as I know, the chase did not extend into it.

I received from the Department notices printed on linen, warning hunters, trappers and others, against trespassing in the Park. I had these nailed up at conspicuous places in the Park, and also at points in the neighborhood where they would be seen and read.

With regard to game, both moose and deer are plentiful, particularly in the northern and western townships of the Park, notwithstanding the reckless slaughter of late years. In my opinion, there are as many moose as deer, and in the township of Butt, just outside the west boundary, the moose are very numerous. Signs of beaver are seen in various places, but the families appear to be small. In very many localities where these animals have evidently existed in large numbers in times past, there is now no indication of their presence. They are, however, I am convinced, still sufficiently numerous to replenish the Park, if properly protected for a few years. Mink, otter, fisher and martin are plentiful, and muskrat abound. There are many bears and wolves. The former do little or no damage, but the wolves are very destructive to deer. The bonus of \$10 per head for killing wolves does not seem to have had much effect in reducing their numbers, either here or in the surrounding country. Foxes are numerous, and prey upon the partridges. The latter are abundant, and wild ducks are often seen on some of the lakes. There are many shallow, soft-bottomed lakes that seem suitable for the growth of wild rice, the favorite food of ducks, which does not at present appear to occur in the Park. The experiment of procuring some wild rice and sowing it in such places would be attended with very little cost.

Following your instructions, I have taken steps to obtain a quantity of white pine seed, in order that some experiments in forestry may be attempted.

The water in the rivers and lakes in the Park was last year unusually low. The snowfall this winter has so far been heavy, and up to 31st December, according to measurements made by myself, amounted to 55 inches.

Messrs. Gilmour & Co., whose headquarters are at the foot of South Tea lake, are carrying on extensive lumbering operations in Peck township. They have built a dam at the lower end of this lake, and have raised the water four feet. I understand that it is their intention to construct a dam at the foot of Joe lake as well. Lumbering is also being conducted in the Park by Messrs. Barnet & Co., Whitney & Co., Fraser & Co., and others; and I am pleased to say that from all these firms and their employes I have experienced the best of treatment, and a general desire has been shown to co-operate with myself and staff in furthering the objects for which the Park was established.

I have the honor to be, Sir,

Your obedient servant,

PETER THOMSON,

Chief Ranger.

CANOE LAKE,

ALGONQUIN NATIONAL PARK OF ONTARIO,

3rd January, 1894.

MR. JAMES WILSON'S REPORT.

To the Honorable A. S. HARDY,
Commissioner of Crown Lands, &c.

DEAR SIR,—In compliance with your request I spent some time in the late autumn of last year in visiting the territory which has been set apart by the Province as a National Park and Forest Reservation, under the title of The Algonquin National Park of Ontario ; and in further compliance with your wishes, I beg to make some observations thereon, and also to offer a few suggestions in respect to its care and management.

The territory set apart under the Act of 1893 comprises some eighteen townships in the Nipissing District, and covers an average breadth from east to west of nearly thirty-six miles, by an average of some forty miles in length from north to south ; or more correctly, two tiers of five townships on the west and two of four townships on the east.

ROUTES INTO THE PARK.

Access to the Park is at present somewhat difficult, as it is remote from railway connection, and the only roads leading in from any direction are those which have been opened up by lumbermen to take in supplies to their winter camps. These are mere paths or trails through the woods, wretchedly made, and of course very rough and tortuous.

Huntsville, a station on the Northern and North-western branch of the Grand Trunk Railway, and distant 145 miles from Toronto, appears to be the best point of debarkation at present for any party going in from the south or west. From Huntsville there are two routes now available ; one *via* Dorset on the Lake of Bays, with a 22-mile drive over a newly opened lumber road to Gilmour's camp on South Tea lake, or the old route *via* the North River, a branch of the Muskoka, by canoe from Dwight, also on Lake of Bays to the same objective point. The latter route was the only one open to me, as the road from Dorset was not completed at the time of my visit. On the west side of the Park there is a lumberman's wagon road from Sundridge on the G. T. R., 37 miles north of Huntsville, leading into the depot of Messrs. Barnet on Burnt lake, some 36 miles distant. On the north a much used wagon road enters from Dieux Rivieres on the Canadian Pacific Railway to the Hawkesbury Lumber Company's Depot on Cedar lake, some 24 miles ; and another from Eau Claire, also on the C. P. R., to Kioshkocqui lake, of nearly the same length. Besides these, there are said to be several wagon trails on the north-east and south ; but in all cases they are not desirable routes to travel over when it is possible to avoid them. As an instance, it may be stated that on some of these so-called roads a load for a team is frequently limited to two barrels of pork. The only means of transportation in the Park during the open season is afforded by canoes, and

these must be had by intending tourists before proceeding inland. A supply of suitable provisions should also be provided, as it will not be possible to obtain these in the Park, and a guide must be selected who is familiar with the ground to be travelled over.

Possibly a brief outline of the tour I was able to make through the Park may prove of interest; and at the same time it will afford me an opportunity of dealing with questions relating to the property or its management, as they were presented from time to time *en route*.

HUNTSVILLE TO CANOE LAKE.

Through the good offices of Dr. Howland of Huntsville a good canoe man who had hunted and trapped over some of the ground now included in the Park, and who could therefore act as guide, was secured at that place and the "pack" got ready. On October 31st we started in by steamer up Fairy and Peninsula lakes to Portage, where passengers and baggage are transferred over to Lake of Bays, a distance of one mile. Lake of Bays is a fine sheet of water reaching out its arms into five townships. It has two steamers plying from Portage on the north to Baysville on the south, Dorset on the east and Dwight on the north-east. In this instance in order to get to Dwight the steamer ran down the whole length of the lake to Baysville, remained there over night and returned up the lake in the morning. This necessitated a late start from Dwight, a small hamlet on the confines of settlement, which since my visit has been favored with telegraphic communication with the outer world. From Dwight there is a seven-mile portage to Oxtongue lake, and a team can be had to portage canoes and packs across. Two and one-half hours are required for this service. There are a few scattered settlers on Oxtongue lake, which lies in the township of McClinton; but beyond this there is no habitation of any kind excepting at a few points in the Park where a lumberman's depot has been established, and at Manitou lake where there is a settler.

Thirty minutes' paddling on Oxtongue lake, and the mouth of the North river is entered. North river, so called, is one of the principal branches of the Muskoka, and at this point is a winding stream of dark water some three chains in width. Forty minutes of paddling against the stream, and Ragged Falls is reached, where there is a short but steep portage over which the canoes and pack must be carried. At this place a timber slide has been newly erected by Messrs. Gilmour to facilitate the "driving" of logs from their timber limits in the Park on towards that company's mills at Trenton on Lake Ontario.

Less than half an hour's paddling from the head of Ragged Falls, and the long portage at High Falls is reached. This portage requires fully thirty minutes to pack over when the loads are light and can be carried in one trip. When several trips are necessary much time may be required before all is ready for a new start.

Beyond High Falls (at which place also the Gilmours have built a slide) there is a long reach of river with numerous small portages or "lift outs," and requiring fully six hours of continuous work at the paddles before the west boundary of the Park is gained. From this point there is another hour's hard work to get to the outlet of South Tea lake, where the Gilmours have erected a new and extensive lumber camp and supply depot. As this point is the chief centre of their timber limit and the starting point for the river drive

of logs, a substantial dam with sluiceway has been built, by means of which the water-level of the lakes draining into the North river at this point can be raised several feet, and the quantity of water passing down the river regulated to suit the requirements of the drive.

South Tea lake is near the southwest corner of the Park. It is a beautiful sheet of water some two miles in length. Its broad smooth waters and expanding scenery afford a welcome change to the tourist after battling with the long and tortuous river from Oxtongue lake. This lake is connected with Canoe lake by another reach of the North river.

THE PARK HEADQUARTERS.

Canoe lake is a more pretentious sheet of water than South Tea lake, and has been selected for the site of the headquarters of the Park rangers. Headquarters consist of a well-built log shanty 21 x 28 feet in dimensions with a good floor and roof, and standing well up from the level of the lake. Six sleeping berths of the customary lumber-shanty pattern are ranged along one end of the single room, and a sheet-iron stove affords rather inadequate facilities for cooking and other general purposes. Sheds for storage of canoes and for firewood will of course be built in due time. The site for headquarters was chosen on account of its position commanding the route to the chains of waters which lie to the north and east, and is convenient on that account; and also for the facilities it has of getting in supplies and mail matter when the lumber camps are in commission, as it is distant but an hour and a half by water from the depot on South Tea lake. Another reason which probably weighed in the selection was the projected location of the Arnprior and Parry Sound Railway near to its northern shore. This railway, if built as proposed, would bring this part of the Park into more immediate connection with the outer world, and would therefore require special supervision on the part of the Park rangers. As however the Park domain is entered on every side by hunters and trappers, some of whom have for many years followed their calling on the margin of its streams and waters, it will probably be found desirable to have the *chef lieu* moved to a point nearer to the centre of the territory.

Northwards from Canoe lake, and still following the main branch of the Muskoka river, there is a series of waters known as Joe, Little Joe and Island lakes—the last named above five miles in length and two in extreme width, though of very irregular shape. In point of fact all the lakes in the Park are of irregular outline, and many of them are extremely tortuous. From Island lake a short portage over the height of land circumscribing the Muskoka waters leads into Little Otter Slide lake, one of the headwaters of the great Petawawa river, which drains almost one-half of the territory comprising the Park, and flowing eastward empties into the Ottawa river at the head of Allumette island. Little Otter Slide and Otter Slide lakes are connected by a broad stream without rapids, but there is a very rough bit of river from Otter Slide to White Trout lake, and a four-mile portage to Grassy bay, which notwithstanding its many discomforts and severe labor is frequently made in preference to following the course of the stream.

THE PETAWAWA AND AMABLE DU FOND LAKES.

From White Trout lake there is a magnificent chain of navigable waters with comparatively few portages intervening, extending to the north-east angle of the Park; and from thence across the northerly end of the Park to and beyond its westerly limits. This chain embraces White Trout, Longer, Red Pine, Burnt, Perley, Catfish, Narrow, Cedar, Little Cauchon and Cauchon lakes—all in the Petawawa series of waters, and Mink, Kioshkoqui, Manitou and the two Tea lakes on the Amable du Fond series. There are but three portages on the whole of this noble reach of waters that can be considered in any way objectionable. One of these is at the "Five Mile" on the Petawawa between Narrow and Cedar lakes, where there is a somewhat trying portage of a mile and a half. The other two are between Kioshkoqui and Manitou lakes, and are each about three-quarters of a mile in length. All the others, including the one over the height of land separating the two water systems, are comparatively easy, and are rather welcome than otherwise to the tourist, as they afford a chance to stretch the limbs after the cramped position incidental to a canoe journey. The western boundary of the Park crosses the Tea lakes at their point of junction.

From an examination of the accompanying map it will be observed that the route outlined above closely follows the main course of the waters of the Petawawa and Amable du Fond. There are numerous streams and rivers flowing into this main channel that are well worthy of being visited. In fact the territory is literally covered with lakes and ponds of great natural beauty but the time at my disposal forbade lingering, as the lateness of the season and the constant prospect of frost threatened at any time to close up the only means of communication. As it was, a good deal of time was lost in breaking a channel for the canoes through the ice on some of the sheltered streams.

WHITE TROUT TO GREAT OPEONGO.

Retracing our way to the outlet of White Trout lake a new course was taken in order to see the Great Opeongo lake. Traversing a bad portage of some three miles we reach Merchants' lake, another of the headwaters of the Petawawa, and a very pretty sheet of water some two miles long. A short portage over the height of land from Merchants lake and Green lake is reached, another beautiful basin, whose sandy shores present a pleasant contrast to the rugged, rocky outlines so generally characteristic of these inland waters. Green lake is the extreme northerly source of the great Madawaska river, which drains a very extensive reach of country to the east and south of the Park and finally enters the Ottawa river at Arnprior. The outlet from Green lake is very rough, and a long portage of some two miles is necessary in order to reach the Great Opeongo lake.

This is the largest sheet of water in the Park, and is truly a noble expanse of many square miles in extent. From north to south its extreme limits embrace some twelve miles, while in width it measures seven miles at one point. The outlet is at the south-east angle, where a large stream carries its waters into McDougal lake and thence to the east limit of the Park, which is crossed at a point a couple of miles from the southern boundary, several large lakes adding their quota to its volume near that point. Great

Opeongo lake is very irregular in shape, the extensive east bay being separated from the main body of the lake by a narrows limited to a few feet in width, and the narrows dividing the north and south bays being but a few chains wide. The lake has numerous islands and presents many picturesque features. When seen in the hazy dawn of an Indian summer morning its beauties make a lasting impression on the mind, even though the larder may be empty and one has to seek far for somewhat to stay the cravings of hunger.

Great Opeongo is not always safe for canoe navigation, as in fact is the case to a greater or less degree with all the larger lakes in the Park. The great expanse of water gives scope to the wind, so that frequently a few minutes suffice to change the surface from the proverbial sea of glass to foam-crested billows, when the frail canoe must quickly find a haven of refuge or be swamped beneath the turbulent waters. Fortunately the irregularity of outline, already referred to, usually affords an opportunity of shelter when storms arise: but escape is often protracted until the storm abates, as through all this territory the waterway is the only available route from place to place.

GREAT OPEONGO BACK TO CANOE LAKE.

From the south end of Lake Opeongo the best known route to the west is by a rough portage to Welcome lake of about four miles—a trying ordeal even in November, when packs are heavy and the uneven ground wet and slippery. From Welcome lake the trail leads the west branch of the Madawaska at a point some distance above Whitefish lake. *En route* there is a series of small lakes with portages intervening of from one-quarter to three-quarters of a mile in length, some of them being difficult. Following the course of the Madawaska against the stream for two miles Lake of Two Rivers is reached: crossing it to the west end ($1\frac{1}{2}$ miles) the Madawaska is again followed for about ten miles to Cache lake. At this part of its course the Madawaska is a small stream and remarkably crooked. The distance measured in a straight line from Lake of Two Rivers to Cache lake is not over four miles, while as above stated the course to be gone over is fully $2\frac{1}{2}$ times that distance. Between Cache and Smoke lakes there are several large ponds or lakes, the chief one being Little Island lake, a goodly sized water with a large island in the middle. The four portages aggregate about one mile in length, the last one being over the height of land dividing the Madawaska waters from those of the Muskoka. Smoke lake has a length of about four miles, and receives at its southern extremity the waters of Ragged lake on the south boundary of the Park with its several tributaries, and outflows into the north branch of the Muskoka *via* South Tea lake. A half mile portage leads from Smoke to Canoe lake at its extreme southern limit, whence it is but a two mile paddle up the lake to headquarters.

The lake scenery throughout is very beautiful. Each expanse of water has some charm peculiarly its own. On every side the forest primeval clothes the hills and mountains with verdure of varying hue down to the very shore: deep shades are thrown across the dark waters of the lake, whose placid surface mirrors to perfection every outline of cloud or hill, tree or rock; while the baby ripples from the bow of the canoe, or the congeries of air bubbles from each stroke of the paddles glisten in the sunlight like

diamonds, or as the stars on a December night. To the tourist the continual change from lake to river, from river to portage, and from portage to river and lake again, make a delightful panorama which captivates the eye and the senses, and provides abundant opportunity for the cultivation of the tastes in the study of all the varying phases of the landscape, and impels a seeking after more perfect knowledge of the many varieties of animal and vegetable life which have their habitat in the territory.

It may be mentioned *en passant* that the time required to make the trip outlined above and beginning at Oxtongue lake, where the canoe was put into the water and back to the same point, actually took thirteen days to accomplish—or from 1st to 14th November. In summer when the days are longer less time would be required. The distance travelled was about 230 miles of canoe navigation and over 30 of land portages.

All the lakes are well stocked with fish. Grey or lake trout, salmon and brook trout are the principal kinds found; brook trout weighing from one pound to two pounds and the others varying from four pounds to thirty pounds or over. Large numbers of the young of these fish are annually destroyed by gulls and loons, and it might be advisable to consider the propriety of waging war upon the latter, as neither bird is of much commercial value, and their depredations largely outweigh other considerations.

EFFECTS OF LUMBERING IN THE PARK.

One cannot proceed far upon Park property without encountering some of the many evidences of the presence of the lumberman; and certainly at first sight the effect is depressing. All the lands embraced in the Park limits are now covered with licenses to cut timber. In fact, pine timber has been cut on some of the territory for nearly fifty years, and on a very large area licenses were issued before Confederation. The south-west corner has been under license but two years. There are quite a number of firms who have an interest in the standing timber of these lands, and several of them are busily engaged in removing the timber, principally the pine. One firm, Messrs. Gilmour, have ten camps located on their limit, each camp numbering from thirty to thirty-five men. In all, probably 600 men may, at the present time, be at work lumbering in the Park; and the total output representing this winter's work will certainly amount to many millions of feet. The felling of every pine tree means the maiming or destruction of several other trees; and the aggregate loss entailed by these operations in the forest wealth of the limits is very large. It must be understood that the pine is not totally cleaned out by the lumbermen, the specifications of the firms varying in respect to the size, but as a rule nothing less than ten inches in diameter is taken. Doubtless on some of the limits every sound pine tree down to these dimensions will be removed. It will be many years before the Park can, under existing contracts, be freed from these operations, so that any scheme for the preservation or development or supervision of the property must take the lumberman into account. This condition of affairs has however some redeeming features, one of these being the improvement of the waterways, by the erection of dams at the outlets of the lakes and at some of the rapids or falls, the effect of which is to raise the level of the water, and also by removing obstructions in

the streams and rivers. The making of roads, such as they are, into the territory may also be mentioned, but the chief offset is the fact that the Province realizes large revenues from the timber cut from year to year, as well as from the bonus paid at the time of granting the license. It must be steadily borne in mind that it is practically impossible to secure the preservation of the forest, although it be allowed to remain in a state of nature. No amount of precaution on the part of the authorities can guarantee total immunity from this destroyer, and one fire may cause more damage in a couple of days than an army of lumbermen in years. When the limits are under license the assistance of the lumbermen in preventing and quenching fires is assured. The lumberman must be borne with until all the limits are denuded of their merchantable pine, whenever that may be. Some portions of the Park are now practically "cleaned out," and abandoned lumbermen's camps, of which there are many scattered through the Park, are mute evidences of where his axe held sway.

HOW TO PROTECT THE GAME.

With respect to the protection to be afforded the birds and animals now found in the Park, it would appear from a careful consideration of the question that the only possible means at command for preserving these and giving them an opportunity to increase is to put down poaching with a strong hand. It will be absolutely necessary for some years to come, or until public sentiment has been aroused and sympathy with the objects in view on the part of those living of the confines of the Park secured, to strengthen the hands of the Chief Ranger by putting in a strong force of capable men as rangers or constables—men familiar with all the devious ways of trappers, and who can be relied on to faithfully carry out their instructions. During my visit to the Park it was evident that the regulations were being disregarded; and while the rangers under Chief Thomson were busily engaged in the necessary work of getting shelters provided at different points in the wide field for the men when on patrol during cold or stormy weather, trappers were plying their vocation on the remote waters, and escaping by the numerous trails to where a safe market for their catch could be had. The presence of large numbers of lumbermen, many of them more or less skillful in trapping, will add to the difficulty of the rangers in enforcing the regulations, particularly in the vicinity of the numerous camps. The constant communication by teams with the various supply depots for these camps will make the smuggling of a catch of furs from the Park to market a comparatively easy matter.

The force of rangers needed for the protection of the fur-bearing animals will be all the more necessary if the moose and deer are to be preserved. Undoubtedly these noble specimens of animal life are becoming scarce, and it will be a matter for sincere and lasting regret if strong efforts are not made to prevent their practical extermination from this section of Ontario. To many men it appears strange that with all our boasted civil-

ization these animals are still often wantonly slaughtered even by so-called sportsmen. Hunting them with dogs and canoes in the vicinity of large waters can at the best be considered but a sorry sort of sport.

PARK LIMITS SHOULD BE EXTENDED.

I am informed on reliable authority that the territory lying to the west of the present Park limits has long been a favorite run for deer, more especially the townships of McCraney, Butt and Paxton. Settlers in these townships are as yet few and far between, and I would assume the responsibility of suggesting to the Commissioner that he consider the advisability of adding to the territorial limits of the Park the range of townships on the west, viz :—Ballantyne, Paxton, Butt, McCraney and the eastern portion of Finlayson. The westerly line of these townships is the dividing line between the districts of Parry Sound and Nipissing, and will make a most desirable line of demarcation between the lands reserved for the Park and lands open to settlement. These townships are all in the height of land where deer are wont to roam and where they seek shelter in stormy weather. Again, over considerable ranges of this territory the water-ways do not afford ready means of travel, and consequently fewer tourists and hunters invade it. Altogether it would be a most desirable addition to the Park domain; and unless there be very strong reasons why it should not be set apart for this purpose, its early designation as part of the reserve may be hoped for. Provision is made in the Park Act for such a proceeding. The southerly half, if not the whole, of the township of Boyd could also with great advantage be added to the reservation. The principal chain of the north branch of the Petewawa waters, by which access is had to the fine range of the Amable du Fond waters on the northwest corner of the Park, runs through this township and outside of the present limits of the Park. For this reason it would appear to be almost a necessity that this connecting link, which must form one of the main routes of the Park rangers for all time, should be wholly within the Park—a matter to which the attention of the Commissioner is respectfully directed.

From the fact that the townships above referred to were not embraced in the limits recommended by the Royal Commissioners appointed to report on the Park project, it is assumed that there may be objections to including them which may indeed possibly be insuperable; but on the other hand there can be no manner of doubt that every square mile of territory added to the limits will favor the preservation of the deer and moose; and this result alone is well worthy of an effort to overcome surmountable difficulties. In addition to this result, however, all the aims had in view in the establishment of the Park will be made more stable and secure.

DESTRUCTION OF NOXIOUS ANIMALS.

Wolves are said to be very numerous in the Park. They are the natural enemies of every desirable form of animal life. A determined effort should be made to destroy them; and to this end the energies of the rangers should be directed, especially during the winter months, when the lakes are frozen over and poison may be readily used without endangering other forms of life. It may also be worth considering whether the

bounty presently paid for the destruction of wolves within the Province might not be increased with advantage. Bears and foxes should also be destroyed without mercy; and it is equally worthy of consideration whether a Government bounty should not be paid for the heads of these pests.

The Park Act provides that a special license may be issued by the Commissioner of Crown Lands upon the recommendation of the Superintendent for the destruction of wolves, bears, and other wild and noxious animals. It would certainly be to the interest of the Park to take advantage of the provisions of the Act and secure a few good men for extra service in this way under the supervision of the Chief Ranger.

ACCOMMODATION FOR RANGERS AND TOURISTS.

Reference has been made to the necessity of removing headquarters from its present location on Canoe lake. Were it not for the difficulty of getting in supplies, Great Opeongo lake would be an ideal location for this purpose. Quite likely a route to the latter place may be found which will be reasonably favorable, but for the present the wisdom of the choice of Canoe lake can hardly be questioned. As, however, a new site must be selected, a fairly good one can be had at some point on the same lake but nearer to the south end, where a commodious building with the necessary sheds should be erected.

I am decidedly of the opinion that in addition to headquarters on Canoe lake three substantial sub-depots should be built at points not remote from the four corners of the Park, and if possible easy of access for the purpose of getting in supplies, say at Opeongo lake on the east and at Kioshkoqui and Trout lakes on the north, each of these to be fitted up for occupation by married rangers. A small piece of land in connection with each of these depots could be cleared for the raising of a few vegetables, etc., and in time sufficient for the pasturage and maintenance of a cow. By this means, and with night-shelters scattered over the territory at intervals of a day's journey apart, something like comfortable accommodations could be afforded the rangers, and the Park more readily brought under a system of efficient patrol. Already some fifteen small night-shelters have been put up at suitable locations. Others can be built from time to time as found to be needed.

There is no question that the many attractions of the Park will ere long be eagerly sought out by parties of tourists from all the cities of Ontario. For many years camping parties from Buffalo and Rochester have been visiting the territory and spending some time each season revelling amid its health-giving charms; and doubtless, the new and improved conditions will awaken a much wider interest and attract many others. For this reason the design of the depots should provide some spare room for the shelter of tourists in case of need (until such time as hotel accommodation is provided) as well as the lodging of such of the rangers as may be required to rendezvous there from time to time. Food supplies might also be obtainable at the depot, under regulations of the Chief Ranger.

At the foot of Manitou Lake there is an Indian half-breed settler located, who has a very intimate knowledge of the waterways of the Park, the family having for genera-

tions hunted and trapped in this neighborhood. He is said to be a reliable man, having employment for some months of the year as fire ranger. As he has title to some land there it may be a prudent course to designate him as an official guide for the benefit of tourists who may wish to enter the Park from the west.

Possibly it would be desirable for the Chief Ranger to have authority to license guides to the Park and have some sort of authority over them.

In order to facilitate the movements of the rangers in patrolling the streams and rivers, I would suggest the advisability of the erection of simple timber dams at points where there are small rapids and shallows so as to reduce the length of the portages to a minimum. The larger portages to avoid rapids usually take a winding course away from the water and consequently at present such portions are not readily examined by the rangers. Every additional bit of river that can be navigated by canoe will make the work of the rangers more effective, and at the same time the toil incident to the long portages will be avoided and their movements appreciably expedited. There were many places *en route* on the occasion of my visit where such work could be done with but little expenditure of labor, and doubtless on the side streams and inland waters, where poachers will now cause most trouble, there are numerous instances which will present themselves to the Chief Ranger where such work would be of great assistance, particularly at periods of low water.

The nomenclature of the lakes in the Park requires revising; and it would be judicious to have this done authoritatively before maps of the territory on a reasonably large scale are published for the use of tourists and visitors. For instance there are Tea lakes at either extremity of the Park, numerous Wolf lakes, Trout lakes, Long lakes, etc., etc., all of which is confusing to the visitor. Such maps should also show the positions of all the portages to aid those who may venture into the territory without a guide.

In conclusion permit me to say that the map which accompanied this letter has been reduced from the maps of the several townships, and it should therefore be reasonably correct. Two of the townships have not been surveyed, and I have been unable to secure data for filling in the waterways on this portion. Possibly there may be some maps in the possession of the Department which will permit of this being done with tolerable accuracy.

The map indicates the additional territory which I have taken the liberty of suggesting should be set apart for Park purposes.

I have the honor to be, sir,

Your obedient servant,

JAMES WILSON,

Superintendent Queen Victoria Niagara Falls Park.

NIAGARA FALLS, February, 1894.

THE ALGONQUIN NATIONAL PARK ACT.

AN ACT TO ESTABLISH THE ALGONQUIN NATIONAL PARK OF ONTARIO.

(56 Victoria, chapter 8)

Whereas it is expedient and in the public interest that a national park and forest reservation should be set apart and established in the territory lying near and enclosing the head waters of the Muskoka, Madawaska, Amable du Fond and Petawawa and South rivers;

Therefore Her Majesty by and with the advice and consent of the Legislative Assembly of the Province of Ontario, enacts as follows :—

1. This Act may be cited as *The Algonquin National Park Act*. Short title.
2. The tract of land comprising the following townships, being the lands of the Crown, and lying within the Nipissing district, that is to say, Peck, Hunter, Devine, Biggar, Wilkes, Cainsbay, McLaughlin, Bishop, Osler, Pentland, Sproule, Bower, Freswick, Lister, Preston, Dickson, Anglin, and Deacon, is hereby withdrawn from sale, settlement and occupancy under the provisions of *The Public Lands Act*, *The Free Grants and Homesteads Act*, and *The Mines Act, 1892*. Boundaries of park.
Rev. Stat. c. 24.
Rev. Stat. c. 25.
55 V. c. 9.
- 3.—(1) The said tract of land is hereby reserved and set apart as a public park and forest reservation, fish and game preserve, health resort and pleasure ground for the benefit, advantage and enjoyment of the people of the Province, subject to the provisions of this Act and of the regulations hereinafter mentioned, and shall be known as the Algonquin National Park of Ontario. Dedication of park.
- (2) The Lieutenant-Governor in Council shall have power to add to the park any adjoining townships or parts of townships in which no lands have heretofore been granted, and in case of any such addition this Act shall be read with respect to such townships or parts of townships as if the same were mentioned in the section 2 of this Act. Lieutenant-Governor may add other townships to Park.
4. No person shall, except as hereinafter provided, locate, settle upon, use or occupy any portion of the said public park. Lands not to be located or settled upon.
5. The park shall be under the control and management of the Department of Crown Lands, and the Lieutenant-Governor in Council may make regulations for the following purposes :— Control of Park.
Regulations.
- (a) The care, preservation, management and improvement of the park, and of the watercourses, lakes, trees and shrubbery, minerals, natural curiosities and other matters therein contained. Care and preservation.
- (b) The lease for any term of years of such parcels of land in the park as he deems advisable, for the construction of buildings for ordinary habitation, and such other buildings as may be necessary for the accommodation of visitors or persons resorting to the park as a sanitarium or health or summer resort. Leasing lots for erection of buildings.

- Issuing timber licenses. (c) The issuing of licenses to cut timber within the limits of the park in respect of timber berths heretofore sold, and for the improvement of the park, and for firewood for the use of persons engaged in and about the park.
- Mining. (d) The working of mines and the developing of mining interests within the limits of the park, and the issuing of licenses or permits of occupation for the said purposes; but no lease, license or permit shall be made, granted or issued under this or the next two preceding paragraphs of this section which will in any way impair the usefulness of the Park for the purposes for which it is designed.
- Fires. (e) The prevention and extinguishment of fires.
- Licensing shops and inns. (f) The issuing of licenses for shops, and for houses for the accommodation of visitors and places where trade and industries necessary for the accommodation of persons resorting to the park may be carried on.
- Preservation of game and fish. (g) The preservation and protection of game and fish, of wild birds generally and of any and all animals in the park, and for the destruction of wolves, bears and other noxious or injurious or destructive animals.
- Trespassers with firearms. (h) The removal and exclusion of trespassers, and the confiscation or destruction of guns or other firearms or explosives, traps, nets, spears or other weapons or implements for hunting or fishing found within the limits of the park without proper authority.
- Appointment of superintendent and wardens. (i) The appointment of a superintendent and wardens, rangers, or other officers to see to the carrying out of the provisions of this Act and the regulations made thereunder, and the prescribing of their powers and duties, and providing for their salaries or other remuneration, out of any moneys which may be set apart for the purpose by the Legislature.
- Penalties. (j) The imposition of penalties for any violation of the provisions of this Act or of the regulations made thereunder, not exceeding in each case the sum of \$50, or in default of payment with costs, imprisonment for not more than three months.
- General purposes. (k) And generally for all purposes necessary to carry this Act into effect according to the true intent and meaning thereof.
- Publication of regulations. 6. Every regulation made as aforesaid shall after publication for four consecutive weeks in the *Ontario Gazette*, and in any other manner that may be prescribed by the Lieutenant-Governor in Council, have the like force and effect as if herein enacted, and such regulations shall be laid before the Legislative Assembly within fifteen days after its first meeting thereafter.
- Penalty for unauthorized use of firearms hunting, etc. 7. Carrying or using firearms or explosives within the said park, except as provided by the regulations for the government and maintenance of the park, hunting with or without firearms, or explosives, or trapping or spearing within the limits of said park, is prohibited under a penalty for each offence not exceeding \$100, except under special license for the killing of wolves, bears, wolverines, wild cats, foxes or hawks, to be issued by the Commissioner of Crown Lands upon the recommendation of the superintendent.
- Penalty for unauthorized fishing. 8. Fishing with net, trap, spear or night line in the waters within the limits of said park is strictly prohibited under a penalty not exceeding \$100

for each offence. No person shall fish within such waters with hook and line without a license therefor and then only for the purpose of supplying food for visitors or officers of the park or rangers or labourers therein employed by or under the control of the superintendent, and no fish caught within the waters of the park shall be sold, bartered, or trafficked in, either within or outside its boundaries, under a penalty not exceeding \$50 for each offence. Such license may be issued by the Commissioner of Crown Lands or by such other person as shall be duly authorized in that behalf by the Lieutenant-Governor.

9. The superintendent or any park ranger or provincial constable, or other person appointed by the Lieutenant-Governor for that purpose, may, on view, without warrant or legal process, arrest and bring before a justice or before the superintendent to be dealt with according to law, or he or they or the superintendent may, on view, arrest and remove from the limits of the park, any person found violating the provisions of this Act or carrying or having in his possession fishing nets, traps, spears or night lines, or firearms or other explosives, or other weapons or instruments for catching or killing fish, other than hook or line, or for the destruction of game or animals. The said park rangers shall have all the power and authority of constables.

Power to
arrest on view
of offence.

10. In any of the cases mentioned in the three next preceding sections any such officers may seize, take possession of and retain or confiscate any such nets, traps, spears, firearms, explosives, weapons or instruments as aforesaid, or any justice of the peace, police or stipendiary magistrate having jurisdiction in the district may direct or order such seizure, confiscation or sale thereof. Such articles shall be sold in such manner as shall be provided by regulation, and the proceeds thereof, after deducting the necessary expenses, shall be applied towards the expenses of maintaining said park. Such arrest, removal, seizure or confiscation or sale shall not relieve the offender from any other penalty to which he has rendered himself liable under this Act or otherwise.

Seizure,
confiscation
and sale of
weapons or
implements.

11.—(1) No timber or wood shall be cut within the limits of said park except pine cut under the authority of a timber license issued under the provisions of *The Act respecting Timber on Public Lands*, or any regulations made thereunder, or by the authority of the Commissioner of Crown Lands, or under the regulations to be made by the Lieutenant-Governor in Council for the government and maintenance of said park, provided nevertheless that nothing herein contained shall have the effect of withdrawing the pine timber upon such territory from any timber license, nor shall anything herein contained prevent the operation of any Act or regulation passed or made, or which lawfully may be passed or made in respect of any timber license affecting the said territory or the timber thereupon.

Cutting
timber.

Rev. Stat.
c. 28.

(2) A timber license over or in respect of any territory or lands being part of the said park shall not entitle the holder thereof to exclusive possession of such land or territory as against the Crown or the agents or servants thereof, nor shall any such license exempt the holder thereof, his agents or employees, from the prohibitions relating to fishing or hunting or the carrying or using of firearms within the limits of the said park.

Rights of
timber license.

Mining
exploration.

12. Mining exploration or prospecting for minerals within the said park is prohibited, except under and in accordance with the provisions of the regulations to be made in that behalf.

Sale of
intoxicating
liquors within
the park.

13. No license for the sale of intoxicating liquors within the said park shall be issued, and any intoxicating liquor found within the limits of the said park and held for the purpose of sale contrary to the provisions of *The Liquor License Act* may be seized and destroyed by any park ranger or by any constable or license inspector having authority within the district of Nipissing, and the said rangers shall have all the powers and authority of a license inspector for the purpose of enforcing the provisions of *The Liquor License Act* therein and the provisions of this Act.

Rev. Stat.
c. 194.

Territory not
withdrawn
from opera-
tion of 55 V.
c. 10, Rev.
Stat. c. 221,
55 V. c. 58.

14. Nothing herein contained shall withdraw the said territory comprising the said park nor that within a mile from any part thereof from the operation of *The Act for the Protection of the Provincial Fisheries, 1892*, or *The Act for the protection of Game and Fur-bearing Animals* and any Acts amending the same except where it is therein otherwise provided, but the said Acts shall be and remain in force therein unless otherwise provided herein, but the provisions of said several Acts shall in so far as they are applicable apply and be in force, and prosecutions thereunder may be had as heretofore.

Offences to
which no
special
penalty at-
tached.

15. Any person violating any provision of this Act shall, where no penalty is herein or by law otherwise provided, be liable to a penalty not exceeding \$50, and in default of payment thereof, to imprisonment for a period not exceeding three months with or without hard labor.

Offender's
liability for
damages.

16. In addition to any penalty provided by this Act for the violation of any of its provisions, the offender or offenders shall be liable for all damages caused by them, and the same may be recovered in any court of competent jurisdiction.

Authority of
Superinten-
dent to act as
police magis-
trate.

17. The superintendent shall, within the limits of said park and for one mile from any part thereof, for the purposes of enforcing law and order and the provisions of this Act, and of any regulations which may be made by virtue thereof, have all the powers, rights and privileges of a police magistrate, and shall have as such superintendent jurisdiction over and within the said park and the territory surrounding the same for the distance of one mile therefrom or from any part thereof, unless and until otherwise provided by the Lieutenant-Governor in Council or the Lieutenant-Governor in Council may appoint another person as police magistrate with such jurisdiction. But nothing in this section shall interfere with the jurisdiction of other magistrates.

Committal of
offenders.

18. Any person arrested for violation of any of the provisions of this Act or of any regulations punishable upon summary conviction by a justice of the peace, stipendiary or police magistrate may, either before or after conviction, be committed to the common gaol or any lock-up within the districts of Nipissing, Parry Sound or Muskoka or the county of Renfrew, whichever may to the committing justice or magistrate appear to be the most convenient.

19. In default of the payment of any penalty imposed by this Act, and costs by any person convicted of any offence under this Act, the offender may be committed to a common gaol or lock-up in the district of Muskoka and Parry Sound or Nipissing or the county of Renfrew for a period not exceeding three months, unless the penalty and costs and the costs and charges of the commitment and carrying the defendant to prison are sooner paid, and the amount of such costs and charges of commitment and carrying the offender to prison are to be ascertained and stated in the warrant of commitment; but no such commitment or warrant shall be void or be quashed or set aside by reason of such costs being incorrectly stated, but the same shall be amended by the insertion therein, at any stage of proceedings, of the correct amount.

Imprisonment in default of payment of fine and costs.

20. Upon the hearing of any information or complaint exhibited or made under this Act, the person giving or making the information or complaint shall be a competent witness, notwithstanding such person may be entitled to part of the pecuniary penalty on the conviction of the offender, and the defendant shall also be a competent and compellable witness.

Complainant and defendant to be competent and compellable witnesses.

21. All prosecutions for the punishment of any offence under this Act, not specifically otherwise provided for, may take place before any stipendiary or police magistrate, or one or more of Her Majesty's justices of the peace having jurisdiction in the district of Nipissing, or before the said superintendent or other person appointed under the authority of this Act.

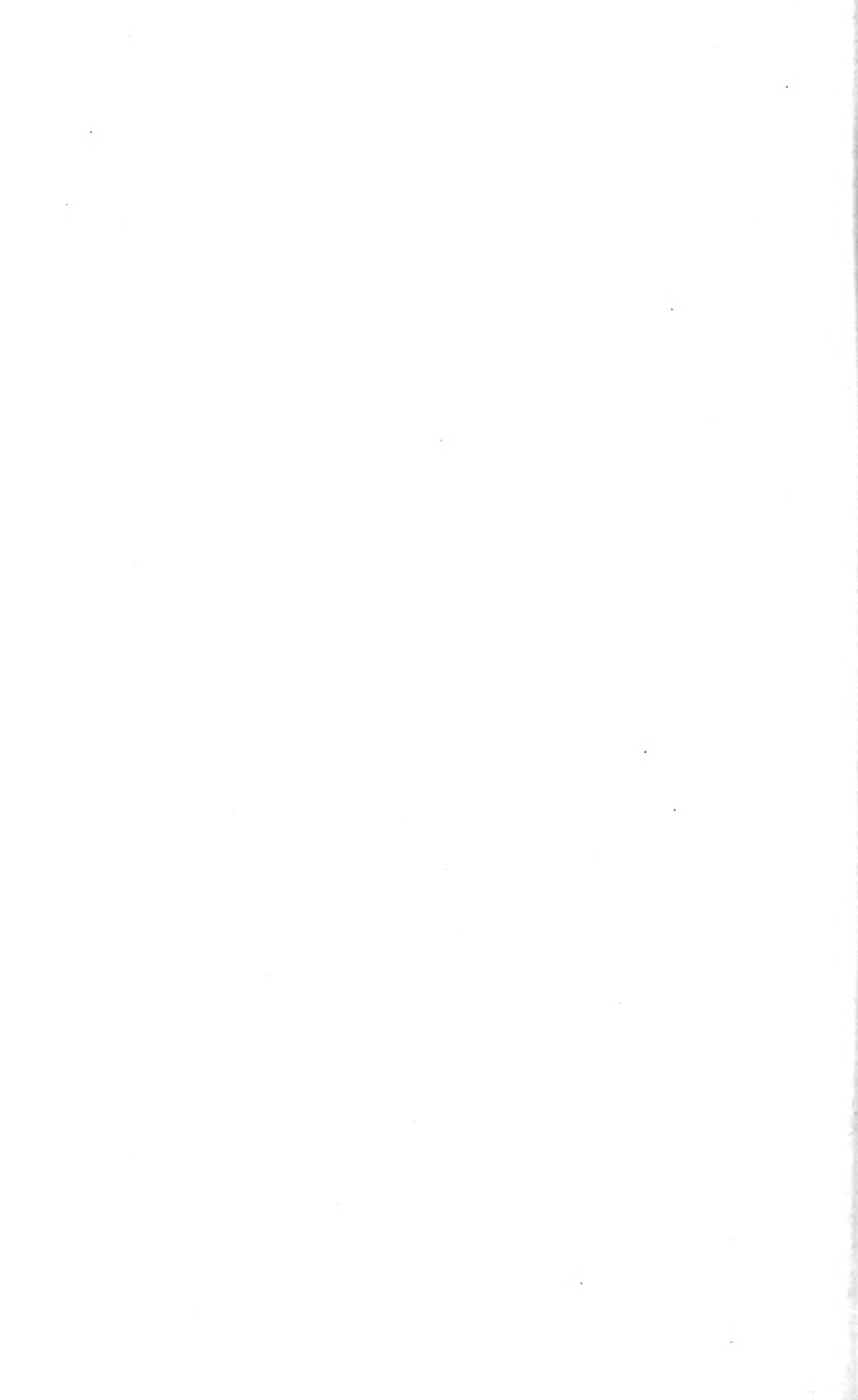
Who may try offences.

22. One-half of every fine or penalty imposed by virtue of this Act shall belong to Her Majesty and may be devoted towards paying the expenses incurred in carrying out the provisions of this Act, and the other half thereof when collected shall be paid over to the prosecutor or informant, together with any costs which he may have incurred and which may be collected. But nothing herein shall entitle the superintendent or rangers or other of the park employees to a share of, or to participate in any fine or penalty.

Application of fines.

23. Save where otherwise provided by this Act, in so far as they are applicable, the provisions and forms of the Act intituled *An Act respecting summary convictions before Justices of the Peace and Appeals to General Sessions* shall apply to prosecutions and proceedings under this Act except in proceedings on appeal and the practice and procedure upon and with respect to appeals and all proceedings thereon and thereafter shall be governed by the *Act respecting the Procedure on Appeals to the Judge of a County Court from Summary Convictions*, and no other appeal shall be had or shall lie save under the Act last aforesaid.

Application of Rev. Stat. c. 74, and Rev. Stat. c. 75.



EIGHTH ANNUAL REPORT

OF THE

COMMISSIONERS

FOR THE

QUEEN VICTORIA NIAGARA FALLS PARK,

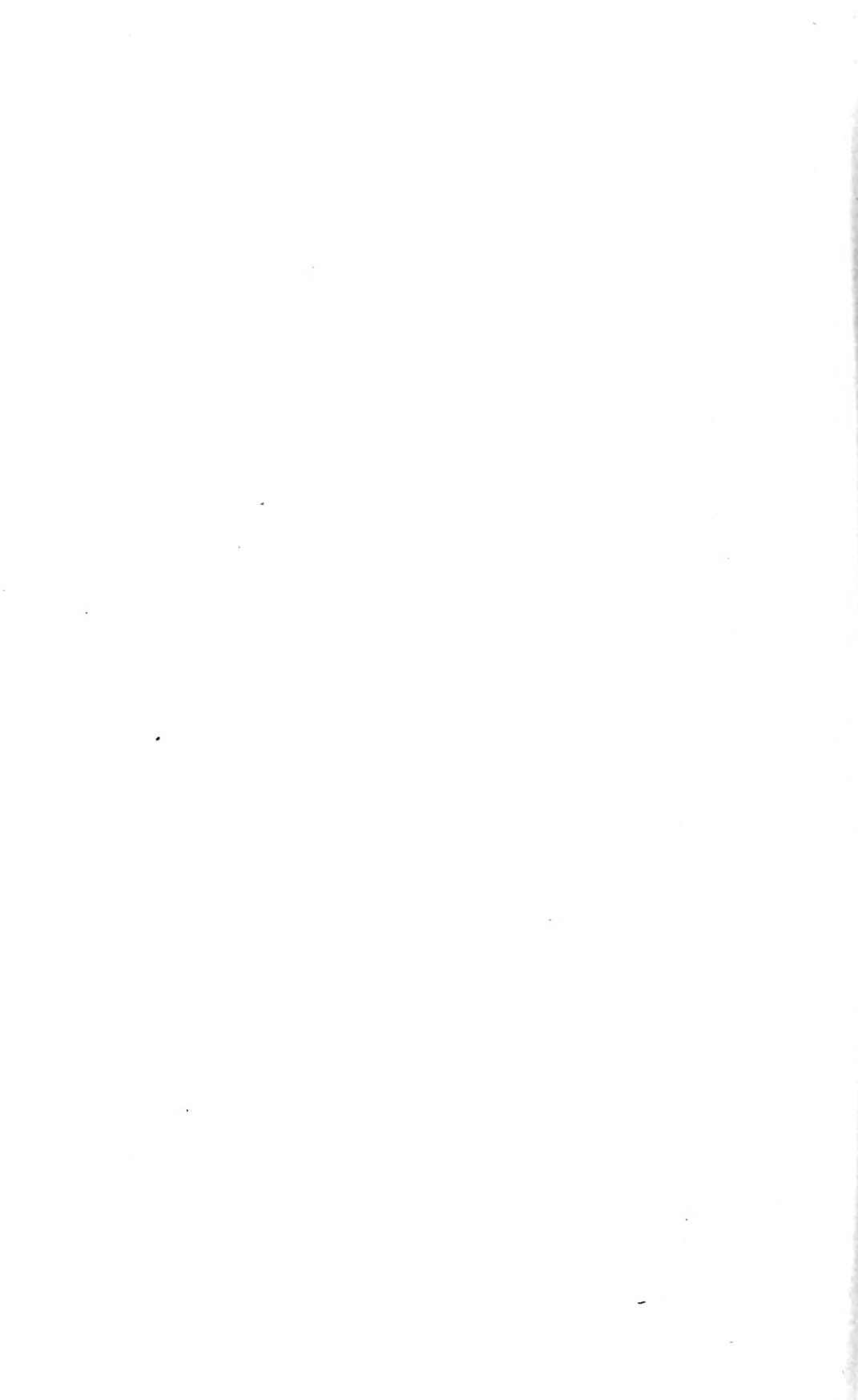
1893.

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1894.



QUEEN VICTORIA NIAGARA FALLS PARK,

COMMISSIONER'S OFFICE,

TORONTO, 17th March, 1894.

SIR,—I have the honor to transmit herewith, to be presented to His Honor the Lieutenant-Governor, the Eighth Annual Report of the Commissioners of Queen Victoria Niagara Falls Park, being for the year ended 31st December 1893.

I have the honor to be, Sir,

Your most obedient servant,

J. W. LANGMUIR,

Chairman

The Honorable

J. M. GIBSON, Q.C., M.P.P.,

Provincial Secretary.



EIGHTH ANNUAL REPORT OF THE COMMISSIONERS OF THE
QUEEN VICTORIA NIAGARA FALLS PARK.

To the Honorable GEORGE AIREY KIRKPATRICK,
Lieutenant-Governor of Ontario.

MAY IT PLEASE YOUR HONOR :

In conformity with the provisions of the Act, the Commissioners of the Queen Victoria Niagara Falls Park beg to submit their report for the year ended 31st December, 1893.

Since the last annual report the *personnel* of the Commission has been materially changed by the retirement of the Chairman, Col. Sir Casimir Gzowski, A.D.C. From the creation of the Park Commission, Sir Casimir Gzowski has borne the chief responsibility in the arduous task of framing and carrying out the policy which has guided the Commissioners in the execution of their important trust, ever bringing to the work a wealth of resource and experience essentially his own, and it was a cause of unfeigned regret to his fellow Commissioners that he found it necessary to press his resignation, which was ultimately accepted by the Government.

The vacancy on the Board was filled by the appointment by Order in Council of Mr. George H. Wilkes, of Brantford, as a Commissioner, and of Mr. J. W. Langmuir as Chairman.

In their report for last year the Commissioners referred to the forward condition of the works of construction which had been energetically carried on during the season of 1892 by the Niagara Falls Park and River Railway Company.

In the early months of 1893 the work of construction was resumed and sufficiently far advanced by the beginning of June to admit of the opening of the road for traffic.

The Commissioners are happy to state that the predictions which they ventured to make in their last report as to the results likely to follow from the active operation of the road have been fully borne out. Many thousands of visitors have been daily brought to the Park over the railway; the Park and its historic environment have been vastly more appreciated, while the surpassing beauty of the scenery of the river below the Falls and down to Queenston Heights—much of it hitherto practically a sealed book to the ordinary tourist—has been fully opened up and made accessible to every one at a trifling cost and with a maximum of personal comfort.

The wisdom of granting a franchise for the construction of the electric railway over the Chain Reserve lands vested in the Commissioners is amply borne out by the results already attained. It is publicly stated that over 400,000 passengers were carried during the seven months of 1893 that the railway was in operation, and when steamer connections with the city of Buffalo are fully established at Chippewa, the stream of travel will doubtless be very largely increased.

The gratifying success attendant on the opening of the road speedily demonstrated the fact that the large traffic offering could not be handled with convenience or safety upon a single line of rails. "Excursion" business formed a very large proportion of the local traffic, and that class of business, in order to be successful, must necessarily be handled with despatch. It was found that long and vexatious delays were inseparable from the attempt to transfer tourists *en masse* from the steamers at Queenston, or the railway station at Clifton, to the Park, without serious interference with the regular service of the railway.

On the 10th of August last formal application was made by the Company to the Commissioners for permission to double track the line in and through the Park and to be either terminal at Chippewa and Queenston.

This application required grave consideration on the part of the Commissioners; the need for a double track was readily recognized, and indeed had been provided for (under certain regulations) in the original agreement made with the promoters of the railway. There are points, however, within the Park and in front of the town of Niagara Falls where the available space is limited and where the construction of a second line of rails would unduly hamper and crowd the ordinary vehicular and pedestrian travel, and precautions had to be taken in order to sufficiently protect these interests. The Railway Company were required to furnish plans showing clearly what changes were covered by their application. On receipt of these maps and plans from the Company the Commissioners went over the ground and carefully considered on the spot the question in all its various aspects, arriving at conclusions in respect to certain particulars which involved amendments in those respects to the plans as furnished; they also defined certain limits where there should only be a single track, and embodied in a specification the various works which were considered to be indispensable to the completion of the line in a manner compatible with the exceptional character of the place.

These conclusions have been embodied in a resolution which, together with the plans and specifications referred to, have been formally laid before the Honorable the Commissioner of Public Works for his approval, as required under the Act incorporating the Railway Company.

The roadbed of the railway in the Park, and at many points of the line outside of the limits of the Park proper, has not been put into the finished condition required by the Commissioners. Care will be taken to see that in the progress and completion of the additional work involved in double tracking, and also over those portions where a single track only will be permitted, a proper and satisfactory degree of finish shall be given, and everything put into good shape before the next season's business commences.

The improved facilities for reaching the Park to be afforded by the opening of the electric railway, and the consequent great increase expected in the number of visitors, afforded the Commissioners a most favorable opportunity for re-arranging the terms under which the photographic and restaurant privileges were leased. On mature consideration it was decided to combine the business of conducting visitors "under the Falls" with the others named, and to advertise for offers from responsible parties for a lease to cover a term of years. This was done with the result that an agreement was entered into with Messrs. Zybach & Brundage on the 6th of June last, by which a yearly rental of \$8,200 is secured for a period of ten years, with right of renewal under conditions as to rental to be arrived at by arbitration.

The agreement, which was made with the consent of the Government, is as follows:—

"This indenture made the sixth day of June in the year of our Lord one thousand eight hundred and ninety-three, in pursuance of the Act respecting Short Forms of leases, between the Commissioners of the Queen Victoria Niagara Falls Park, and hereinafter styled the Commissioners of the first part, and John Zybach of the Town of Niagara Falls, Ontario photographic artist, and James T. Brundage of the City of Niagara Falls, State of New York, gentleman, of the second part, and hereinafter styled the lessees.

"Witnesseth that in consideration of the rents, covenants and agreements, hereinafter reserved and contained on the part of the lessees jointly and

“ severally for themselves, their executors, administrators and assigns to be paid,
 “ observed and performed. The Commissioners have demised and leased and by
 “ these presents do demise and lease unto the lessees, their executors, administrators
 “ and assigns, all these messuages or tenements situate in the Town of Niagara
 “ Falls within the Queen Victoria Niagara Falls Park, in the Province of Ontario,
 “ known as the Table Rock House, and all the building known as the Museum
 “ Building except the rear wing thereof (which is reserved from the operation
 “ or effect of these presents), together with the rights and privileges hereinafter
 “ specified but subject to the conditions and stipulations hereinafter specified, the
 “ said rights and privileges to be held and enjoyed by the said lessees their
 “ executors, administrators and assigns, as appurtenant as a whole to the demise
 “ and lease of the said buildings.

“ To have and to hold the said demised premises together with the said rights
 “ and privileges as aforesaid for and during the term of ten years to be computed
 “ from the first day of June one thousand eight hundred and ninety three and
 “ from thenceforth next ensuing and fully to be complete and ended.

“ And it is hereby agreed by the parties hereto that the rights and privileges
 “ hereinbefore mentioned, to be held and enjoyed as appurtenant as a whole, to
 “ the demise and lease of the said buildings, and the stipulations to which the
 “ said rights and privileges are subject, are as follows:—

HYDRAULIC LIFT AND TUNNEL.

“ 1. The exclusive right of the lessees to use the present hydraulic lift at the
 “ Falls, together with the right to take visitors under the Falls by means of the
 “ existing tunnel, with the use of dressing rooms in the Table Rock House, and
 “ the collection of tolls from visitors for such uses.

“ 2. The tolls collectable from visitors for the use of the hydraulic lift tunnel,
 “ etc., including charge for guides and suitable apparel, shall not exceed, for each
 “ visitor going under the Falls (provided by the lessees with oiled dress and guide)
 “ fifty cents.

“ 3. For each visitor going under the Falls, including the use of the elevator,
 “ without guide or dress, twenty-five cents.

“ 4. Subject to the following stipulations, to be observed, kept, and performed
 “ by the lessees.

“ 5. To keep the present hydraulic lift in a good state of repair, and to pro-
 “ tect the same from frost during the winter.

“ 6. To keep the tunnel and the paths approaching the same, and the shore
 “ between the lift and the tunnel, in good order and condition.

“ 7. The foregoing repairs, protection, order and condition to be kept and
 “ maintained to the satisfaction of the Superintendent of the Park, as also the
 “ protection afforded to visitors, and the method of conducting the business.

“ 8. The tunnel and paths under the cliff may be extended and improved
 “ from time to time by the lessees, but such extension and alterations are to be
 “ made according to plans approved of by the Park Commissioners.

PHOTOGRAPH BUSINESS.

“ 9. The exclusive right to take and produce, for purposes of sale within the
 “ Park, photographs of scenery and of persons, individually and in groups.

“ 10. The photographs and pictures may be exposed and offered for sale in
 “ the Table Rock House, or museum, or both, and this right shall include the right
 “ to sell fancy goods in the Table Rock House in the room allotted to the sale of
 “ photographs, but such sales of photographs, pictures and fancy goods shall not
 “ be elsewhere within the Park, than as herein specified.

“ 11. Solicitation for taking photographs of scenery, and of persons, and for the sale of photographs and photographic views, to be confined to the rooms and premises occupied by the lessees and for the sale of fancy goods to be confined to the room allotted for sale of photographs, and not elsewhere within the Park.

“ 12. The line and description of fancy goods sold or offered for sale, shall from time to time be subject to the approval of the Superintendent, and lessees shall not sell nor offer for sale fancy goods or any line or class of fancy goods which he may forbid the lessees to sell.

RESTAURANT IN THE MUSEUM, AND REFRESHMENTS.

“ 13. The exclusive right to keep a restaurant in the building known as the Museum, except any part of the rear wing, which is reserved.

“ 14. The lessees to be allowed to alter that part of the Museum building allotted to them, but such alteration to be first approved of by the Commissioners.

“ 15. No other restaurant shall be permitted by the Commissioners in the Park, but the lessees shall have the exclusive right to sell refreshments at such points within the Park, other than the Museum, as they may deem desirable, but the manner of doing such business, as well as the location of the points for sale of such refreshments, and the accommodation to be furnished to visitors at such points shall be on an application made from time to time by the lessees to the Superintendent in writing, and shall not be deemed allowed until the Superintendent shall have signified his assent in writing.

“ 16. The lessees shall not be permitted to take boarders or lodgers in any of the premises to be occupied by them under these presents, nor shall they permit any person to reside or lodge in the said premises except such as are employed in the occupations to be carried on under these presents.

“ 17. Nor shall the lessees permit a greater number of persons employed as aforesaid to reside or lodge in the said premises than such number as may from time to time be deemed unobjectionable by the Superintendent.

“ 18. The persons employed by the lessees coming in contact with the public shall be clothed in proper uniform, and if their conduct, or the conduct of any other person employed by the lessees shall be such as to be disapproved by the Superintendent, the lessees shall forthwith dismiss such person from his employment upon being required to do so by the Superintendent.

“ Yielding and paying therefor, yearly and every year during the said term hereby granted, unto the Commissioners, their successors or assigns the sum of eight thousand and two hundred dollars, to be payable quarterly in advance on the following days and times in succession, that is to say, the sum of two thousand and fifty dollars.

“ On the first day of January, on the first day of April, on the first day of July, and on the first day of October in each and every year, the first of such payments to become due and be made on the first day of July next. But on the day of taking possession the lessees shall pay to the Commissioners, the proportionate amount of rent from such day to the said first day of July next.

“ That the said lessees covenant with the Commissioners jointly and severally in manner aforesaid to pay rent, and to pay all municipal taxes or school rates which are legally chargeable against the lessors by reason of their occupation of the premises in manner and form hereby demised to them and to repair and in manner and as hereinbefore provided. And that the Commissioners and the Superintendent of the Park or either of them may enter and view state of repair and that the said lessees will repair according to notice, and that in respect of the repair of the hydraulic lift or the protection thereof from frost

during the winter, on such notice as the Superintendent shall fix and leave in writing on the premises.

“ And that the lessees will not assign or sub-let without leave, and that they will leave the premises including the hydraulic lift, tunnels, paths, and shore, in good repair.

“ Proviso for re-entry by the Commissioners on non-payment of rent or non-performance of covenants.

“ The said Commissioners covenant with the said lessees for quiet enjoyment.

“ And it is hereby agreed by and between the parties hereto, as follows, that if the lessees shall have duly observed and performed the covenants and agreements hereinbefore by them agreed to be done and performed, they shall at the expiration of the term hereby demised, have the right to have the said lease extended for a second period of ten years on the same terms and stipulations and provisions save as to the amount of rent to be paid by them to the said Commissioners, the amount of which to be determined as hereinafter provided.

“ If the lessees desire to exercise their right of extension for such further period of ten years, notice of such desire shall be given by the lessees to the Commissioners in writing at least six months before the expiration of the first period of ten years hereby demised.

“ If the lessees and the Commissioners cannot agree upon the amount of rent to be paid for such further period of ten years, within two months after the period at which the lessees shall have given notice of their desire to have the term extended for the second period of ten years, the amount to be paid for such further period of ten years, and the manner and terms of such payment, shall be ascertained by three arbitrators, or a majority of them.

“ One of whom shall be named and appointed by the Commissioners, another by the lessees, and the third by the Master-in-Chambers, High Court of Justice for Ontario, and the award of such arbitrators shall be subject to the same provision of law as if the said arbitrators had been appointed by the said parties upon a voluntary reference under the revised statute of Ontario respecting arbitrations and references.

“ Either party to such arbitration may appeal from the award upon any question of law or fact to the Court of Appeal for Ontario, and the said Court shall have the same jurisdiction therein as a judge has on an appeal from a report or certificate under section 4, of the aforesaid revised statute respecting arbitrations and references.

“ And the Commissioners covenant with the lessees their executors, administrators and assigns, that they will not grant or confer upon any other person, or upon any company, any of the rights and privileges contained in the paragraphs numbered one to eighteen inclusive, provided that the lessees, their executors, administrators or assigns, shall duly observe and perform upon their part all matters and things by them or any of them undertaken to be done, observed and performed in and by these presents.

“ In witness whereof the parties of the second part have hereunto set their respective hands and seals on the day and year above written on which day also the parties of the first part have affixed their corporate seal, and John Woodburn Langmuir, one of the Commissioners hath set his hand.”

Signed, sealed and delivered by

JOHN ZYBACH and JAMES T. BRUNDAGE,

In presence of JAMES WILSON.

Signed, JOHN ZYBACH (Seal.)

Signed, JAS. T. BRUNDAGE (Seal.)

Signed, J. W. LANGMUIR (Seal.)

Chairman.

It will be observed that by the terms of this agreement Messrs. Zybach and Brundage have to put and keep in repair the large buildings known as the Table Rock House and a part of the Museum. These structures were much out of repair, as is shewn by the reports of the Superintendent of the Park for the last four years, and a very large sum already has been spent by the lessees under the agreement in effecting the needed improvements. The Museum building has been most elaborately fitted up, at great expense, as a high class restaurant, and it is manifestly the intention of the lessees to make this service worthy of the situation and surroundings.

In the lease, a portion of the old Museum building was reserved by the Commissioners as a waiting-room, or shelter, for the large picnic parties who eat their lunch at the Gardens. A considerable expenditure was required to fit up this place and make it suitable for the purpose.

But little could be done in the way of permanent improvement of the grounds during the past year, owing to the want of funds. In their report for the year 1891, the Commissioners drew attention to the desirability of spending not less than \$10,000 a year for several years in "reclamation and artistic treatment of the 154 acres of lawn and meadow and the beautifully wooded islands, hillsides and sloping shores within the Park boundaries." When to this area we add the 320 acres comprised in the Chain Reserve and talus lying between the Park and Queenston Heights, which is now accessible to the public by the opening of the railway, it becomes the more necessary that adequate provision be made for carrying out the object had in view in the creation of the Park.

The Commissioners would here draw attention to the great desirability of having the lands comprising the military reserve at Queenston Heights put under the control of the Park Commissioners. Practically all the land fronting on the Niagara River, from its head at Fort Erie, to its mouth at Niagara on the Lake, is now vested in the Commissioners as Trustees under the Crown; and from the Falls down to the Heights at Queenston the whole of the beautifully wooded slope is under their control. It would therefore appear to be desirable that the small portion of this slope forming its northern limit, and now comprising the military reserve, should also be under their jurisdiction; subject of course to its use being required for military purposes at any time. We would therefore beg to suggest that steps may be taken looking to the accomplishment of this end.

In the meantime it is suggested that that portion of the reserve known as Brock's Monument grounds, which is presently administered by the Government of Ontario, might advantageously be brought under the control of the Commissioners and some much needed works of improvement and reclamation effected. The outlook from these grounds is remarkably beautiful. Standing on the escarpment at an elevation of nearly 300 feet above the surrounding country, the eye commands a magnificent reach of the most highly cultivated lands in all Ontario, through which the noble Niagara River, resting after its mighty conflict with the "Munitions of Rocks" pursues its placid way to Lake Ontario, bearing on its broad bosom many a noble steamer and tiny craft, and shimmering in the sunlight like a ribbon of silver fringed with jasper. The traditions of the spot, its historic memories so dear to every loyal Canadian heart, and the great natural beauty of the place, alike demand, whether the matter be considered on patriotic or on æsthetic grounds, that proper care be taken not only of the grounds immediately around the monument but of the surrounding territory as well, and this can certainly be best accomplished under responsible control.

An interesting point, and one well worthy of notice, is the fact that notwithstanding the large number of visitors brought into the Park by the electric rail-

way—over 150,000—the carriage travel did not exhibit a falling off as had been generally anticipated, but on the contrary was more than double that of the preceding year, or 256,694 against 109,412 in 1892. The pedestrian travel was also in excess of the previous year. The total number of visitors to the Park in 1893 was 543,924 against 238,495 in 1892 and 272,485 in 1891. These figures show that the Canadian Park is now regaining its position as the chief centre of attraction and interest to the tourists who visit Niagara. The greater the tally of visitors, however, the greater the necessity for providing proper facilities for their convenience and accommodation, and it will be necessary to make a considerable expenditure for this purpose in 1894.

The Commissioners have now good grounds for expressing a belief that the Park revenues will soon be sufficient to meet all charges for coupon interest, as well as ordinary maintenance, and therefore consider it opportune at this time to urge the sanction of the Government to the undertaking of some of the works of reclamation and improvement which are the most urgently needed.

The receipts and expenditures for the year ended 31st December, 1893 are exhibited in the following summaries, the details of which will be found in the statements attached to the Superintendent's report.

RECEIPTS.

Receipts from sundry sales, etc.		\$66 50
“ photo privileges (5 months)	\$625 00	
“ hydraulic lift tolls (5 months)	543 25	
	<hr/>	1,168 25
“ island tolls (12 months) . . . . .	.	2,559 55
“ Niagara Falls Park & River Railway Co., annual rent		10,000 00
“ elevator, restaurant and photographic privileges (7 months)		4,783 33
“ Imperial Bank, interest on deposits . .		388 19
“ overdraft, Imperial Bank, Toronto, as at 31st December, 1893		35,721 90
		<hr/>
		\$54,687 72

EXPENDITURES.

Imperial Bank, being overdraft on 31st Decem- ber, 1892		\$15,673 79
Salaries and wages, including laborers' wages		12,097 99
Material and supplies		3,889 80
Commissioners' expenses		128 55
Coupon interest on bonds	\$21,000 00	
Interest on bank overdraft	1,897 59	
	<hr/>	22,897 59
		<hr/>
		\$54,687 72

From the foregoing statement it will appear that the expenditure for Park maintenance for the year was \$16,116.34, which sum includes the cost of several permanent improvements that should be charged to a capital account. The debenture coupons and bank interest on overdraft amounted to \$22,897.59, making a total outlay of \$39,013.93. The revenue receipts were \$18,965.82; consequently,

in order to pay the debenture interest, it was necessary to increase the bank overdraft during the year by the sum of \$20,048.11.

In the report which the Commissioners had the honor to submit last year, reference was made to the agreement entered into with the Canadian Niagara Power Company, by the terms of which agreement, in consideration of the right to use the water power of Niagara Falls in the Park, the sum of fifty thousand dollars was paid in to the Commissioners, and an annual payment of twenty-five thousand dollars provided for, commencing with the year 1895, and increasing by one thousand dollars a year after 1902, until the amount of rental becomes thirty-five thousand dollars per annum, at which sum it will remain for a long period of time. In the meantime, and until that rental is realized, the revenues will be little more than sufficient to meet the expenditure for ordinary maintenance, leaving the large sum required to pay debenture interest unprovided for.

Should the negotiations now being carried on under the authority of the Government for the acquiring of Foster's Flats, below the Whirlpool, be successfully closed, the funds to meet the amount determined on by the official arbitrators for that property will also have to be provided; and a considerable sum is urgently needed to carry out the works of improvement and reclamation, to which attention has already been drawn.

After a careful consideration of all these conditions and requirements, and in view of the extended territory now vested in them, the Commissioners recommend that the authority of the Legislature be obtained for the issue of debentures to the extent of \$75,000, these to run concurrently with the issue of 1887 and to bear the same rate of interest.

The realization from the sale of this additional issue of debentures would enable the Commissioners to pay off the indebtedness to the bank, make provision for all requirements essential to the care of the property, and also permit of payments being made to the sinking fund account, which have heretofore necessarily been deferred.

The Commissioners have no hesitation in making this recommendation in view of the substantial position, financially, which has already been secured to the Park by the several agreements they have entered into, and which provide for a permanent income sufficient for not only the maintenance of the property but for the interest on the existing and on the enlarged debenture capital, as well as the commencement of payments on account of the sinking fund, as the following estimate will show:—

ESTIMATE OF RECEIPTS AND EXPENDITURES AFTER 1895.

<i>Estimated Receipts</i>	<i>Estimated Expenditures.</i>
Canadian Niagara Power Co.....	Coupon interest on bonds.....
Electric Railway Co.....	Maintenance of Park.....
Refreshments and other privileges.....	Payment on account of sinking fund ..
Carriage tolls on islands.....	
\$45,000 00	\$45,000 00

That this result has been attained without in any way burdening the Province is a matter for sincere congratulation, and the Commissioners trust that the amount of the debenture issue now asked for, which is necessary to tide over the Park until the enlarged income is available, will be readily granted by the Legislature. In this connection it should be pointed out that there is a very large amount of water power remaining unused between the Railway Suspension Bridge and the Whirlpool; and again, between the Whirlpool and Queenston. In

each case very large blocks of power could be developed, and doubtless the time is not far distant when capitalists will eagerly seek after these powers, and a substantial revenue may be expected therefrom.

In the appendix will be found the report of the Superintendent, and the financial and statistical tables usually submitted.

All which is respectfully submitted,

J. W. LANGMUIR,
Chairman.

JOHN A. ORCHARD,
GEORGE H. WILKES,
Commissioners.



APPENDIX.

REPORT OF THE SUPERINTENDENT.

To the Commissioners of the Queen Victoria Niagara Falls Park :

GENTLEMEN,—I beg to submit my report for the year ending 31st December, 1893.

Unlike the winters which have for five years immediately preceded it, the winter of 1892-3 was remarkable for its long period of cold weather, and the consequent accompaniments of ice and frozen spray. It was also noted for its magnificent ice bridge, the first since 1888, which formed on January 3rd and lasted for many weeks, attracting to Niagara Falls hosts of visitors, many times more numerous than in any year since the Park was established. The ice scenery in the vicinity of the Falls was often very beautiful, the accumulated masses of frozen spray on every twig or branch of the trees and shrubs near Table Rock, bending them over into all manner of graceful arches and wreaths, crowns and grottos; while even the sturdy stems of the eupatoriums and golden rods, standing in defiance of storm and tempest, had each its wonderful accretion of gnarled and polished ice many times its natural size, perfect in whiteness and glistening in the sunlight like myriads of pearls wet with dew. In the gorge, the winter effects were also remarkably beautiful. At Table Rock the severe weather had the effect of shutting off some 500 feet of the extremity of the Horse Shoe Fall, revealing the dark face of the cliff under the famous "Sheet of Water." The freezing spray, driven by the fierce whirlwind of the Falls, attached itself to the bare cliffs in the form of great icicles or pendants, and hung in seriate array like mighty fringes of alabaster draped to the varying courses of the overarching limestone. This beautiful white drapery of dazzling purity, marvellous for its wealth of fantastic forms and glittering in the morning sunlight, was a constant source of wonderment and delight to the visitors who cared to don the waterproof suits and venture out on the ice mounds. In front of the mouth of the tunnel, by which visitors are conducted under the Falls in summer, fully twenty feet of solid ice had accumulated from the constant freezing of the spray, and this mass had to be pierced in order to make a passage way to the ice cone in front of the Falls.

The ice formations at the base of the American Fall were much larger and more perfectly formed than for many years, and when wreathed in the spray of the Fall made a charming picture when viewed from the Park.

ELECTRIC RAILWAY.

Active operations were early resumed on the electric railway, and the work pushed forward as rapidly as possible. The ballasting was completed throughout, and sidings put in, at stated distances between Chippewa and Queenston, including four in the Park proper. The erection of the power house was proceeded with as fast as the varying moods of the spray allowed of work being done at that point, and the extensive plants for the hydraulic and electric works were brought on the ground and got into position as rapidly as the importance of the work would admit of. At Queenston a steam plant was installed to generate electricity for working the cars on the grade up Queenston Heights and for some distance

towards the Falls. This power was ready for use before the main plant at the Falls could be depended on, and the cars were at first driven from that end of the line. The line was first opened for traffic on the 24th of May, the anniversary of Her Most Gracious Majesty's Birthday, but a full service was not put in until June.

The electrical and rolling stock equipment of the line is very good and fully up to the requirements of the Commissioners.

The permanent way in the Park, however, has not been properly completed, and several works which the Company have been required to perform are still in an unfinished condition: consequently that part of the Park on which the railway is located is in many places marred by objectionable features.

Doubtless one reason why more expedition has not been shown in fully repairing all damages caused by the construction of the railway, and in making all its works fully up to the requirements of the Commissioners, has been the great success of the enterprise, and the necessity for double tracking the line, which the Railway Company has declared to be essential to the safe and efficient handling of its numerous patrons. The question of double tracking is now under the consideration of the Commissioners, and no doubt ample measures will be taken to preserve the rights of the Park authorities to require the proper and satisfactory degree of completion by the Railway Company of all its works in the Park and on the whole line generally.

PARK PRIVILEGES.

Early in the season the Commissioners determined to lease the privileges in the Park for a term of years, the lease to include the elevator and "Under the Falls" business, in addition to the photographic and restaurant privileges hitherto under lease. In consequence of this, the elevator was taken over by the successful tenderers, Messrs Zybach and Brundage, on the 1st of June last, and the services of the subordinate officials required in connection with the handling of the business were transferred to the new lessees, thus effecting a saving in the maintenance expenses. By the terms of the lease, which runs for ten years, with right of renewal under certain conditions, the lessees, Messrs. Zybach and Brundage, have to keep in good repair the elevator and its subordinate works, as well as the large stone structures known as the Table Rock House and Museum buildings, which form so striking a feature of the Park at its most attractive point. In each case these buildings have been allowed to go from year to year without repair, owing to the necessity for strict economy in expenditure, and very extensive repairs and renewals were absolutely necessary in order to preserve the integrity of these imposing structures.

Immediately on the execution of the lease active measures were taken to renovate the Table Rock House, both inside and out, and also to make some necessary repairs to the elevator. These works were executed in a satisfactory manner, and both building and elevator are now in good order and condition.

In the Museum building, the rear part of which was reserved for Park purposes, a very elaborate system of repair and renewal was determined on by the lessees, in order to make the building suitable for a first-class restaurant. With the sanction of the Commissioners, extensive changes were made in the arrangement of the rooms, and those set apart for the use of the public were finished in polished hard woods and ornamented in the most artistic manner. On the principal facade the heavy wooden pilasters of the ground floor were removed and smaller but substantial oak pillars were substituted, and the balcony

extended on the north. All the interior furnishings are now complete, and only the painting of the exterior woodwork requires to be done in order to fully complete this important addition to the attractions of the Park.

The rear portion of this building was reserved in the lease in order to provide suitable shelter room for the pic-nic parties who frequent the Park in mid-summer. Of course this portion of the building was out of repair, in harmony with the balance of the structure, and a considerable expenditure had to be incurred in order to make it weather proof. Facilities had also to be provided for the better accommodation of the largely increased number of visitors brought to the pic-nic grounds by the electric railway. Sanitary conveniences on a more extensive scale were needed, and an abundant supply of hot water for excursions numbering several thousands, had to be provided, and machinery therefor devised.

A good beginning was made during the past year towards the accomplishment of these several works, but much remains yet to be done in order to afford all the facilities which it is desirable to furnish to visitors to the Park.

The grounds hitherto used for pic-nic purposes are now found to be much too small, and additional space must be reserved and prepared before the next season opens up. Fortunately this can be done with comparatively little expenditure of time or money, and a reasonably extensive area allotted to this use.

As much of the popularity of the Park as a pic-nic resort necessarily depends upon the accommodations given to church, sabbath school and society excursions, and the electric railway now affords every facility for access to the Park from any rail or lake point in Ontario, it will be very manifest that every reasonable effort should be made to retain our present position in the favor of the travelling public by providing shady grounds, tables and benches, and an abundant supply of hot and cold water at some convenient point; with space for children's games at some short distance, and away from dangerous places.

BRIDGES.

The bridges have been maintained in good repair during the year. In addition to the needed renewal of timbers, a sidewalk was made over the Suspension Bridge near Clark Hill, and has proved a decided improvement permitting of visitors passing across without danger from vehicles. A similar walk will be put on the other Suspension Bridge in 1894. The Cedar Island Bridges should be made to carry two carriages abreast in addition to the sidewalk, and the length of these structures can be shortened with great advantage and at comparatively little initial expense. The saving in annual repairs would more than justify this outlay.

RUSTIC SHELTERS AT VARIOUS POINTS.

Owing to the continued necessity for strict economy in the expenditure of money, which has been a characteristic of the last few years, no effort could be made to provide much needed shelters at several points in the Park, notably at Inspiration Point, and at Tempest Point near the Gardener's house. If at all possible, substantial structures should be placed at these delightful spots without delay. A large increase should also be made to the number of rustic seats for visitors. Some of those we have in use are many years old and they have been so often repaired that they are now past mending. The rustic seats are much more in harmony with the place than combination ones of iron and wood, and do not cost so much.

 PROTECTION OF SHORES.

At many points along the bank of the river above the Falls, where the trend of the stream is towards the shore, crib-work protections have been placed in the days gone by to prevent the ice from damaging the banks by erosion. Much of this work has become useless by reason of age, or by the bottom on which the cribs rested being undermined by the swift waters, or as in some cases by the ice cutting through the outer timbers of the crib-work and allowing the rock filling to be lost. At several points the banks are now being rapidly worn away for want of a protection of this kind, and an immediate outlay of a considerable sum is now needed to save them from further, and perhaps irreparable, damage.

LANDS OUTSIDE THE PARK PROPER.

In addition to the 154 acres of land in the Park proper, there is a much larger area under the control of the Commissioners, being the strip of land known as the "Chain Reserve" along the west bank of the Niagara River from the Village of Fort Erie, on the south to the Town of Niagara on Lake Ontario, and covering nearly the whole of this distance of some thirty-five miles. Additional to this there is a very considerable area of broken land between the Falls and Queenston Heights, comprising the talus or rocky slope under the cliff. At one point this talus expands into a very uneven bit of ground, known as Foster's Flats, remarkable for the richness and variety of its flora. Many years ago a portion of these flats was alienated from the Crown. Steps are now being taken to recover possession and thus make complete the control of the Commissioners in and to the whole of this interesting portion of the river bank. This narrow strip of territory, comprising some 320 acres in area, is a very valuable adjunct to the Park, and when some cleaning up is done, and a reasonable measure of restoration and planting attempted, the value of the property as a whole will be much enhanced.

At many points along the lands just described, the erosion of the shore by the river, especially at periods of high water and storm, is very manifest, and a scheme for its prevention will soon have to be considered if any part of the "chain" is to be preserved.

VISITORS TO THE PARK.

From the tabulated statement appended hereto it will be seen that there was a very great increase in the number of visitors to the Park in 1893. This is accounted for in several ways. The Ice Bridge brought great numbers in the winter months, and the electric railway swelled the tally by over 15,000 in the last seven months of the year, while the World's Fair traffic extended the season well on into November.

Altogether we had some 543,924 in 1893, against a total of 233,495 in 1892. A comparison of the numbers of visitors for each period of three months will be interesting and instructive. It is as follows:—

	1892.	1893.
First quarter	15,899	55,732
Second "	51,449	97,427
Third "	132,032	308,584
Fourth "	34,115	82,181
	<hr/>	<hr/>
	233,495	543,924

While there was an increase for every month of the year except December, the greatest absolute increase was in August when we had 65,000 more than the year before, and the greatest relative increase was in January, when we had between five and six times as many as in 1892. Notwithstanding these numbers good order was preserved throughout.

TREES AND SHRUBS.

A very small selection of trees and shrubs was added in the spring, and a few herbaceous plants introduced. A considerable number of cuttings from the better kinds of shrubs now in the Park, and also some obtained by exchange, were transferred from the nursery and made to fill up some bare spots. We have a stock of others ready for planting out in the coming spring, but what is required most urgently is a good collection of the various kinds of ornamental trees and shrubs not now found in the Park, but, which, from the favorable conditions here found, should flourish under the humid atmosphere of the Park. There are many bare spots which require filling up, and as this work has been put off from year to year waiting for more auspicious times, it may not be inopportune to express a hope that something worthy of the name may be attempted in 1894.

The whole respectfully submitted.

JAMES WILSON,
Superintendent.

QUEEN VICTORIA NIAGARA FALLS PARK,
NIAGARA FALLS, February 24th, 1894.

QUEEN VICTORIA NIAGARA FALLS PARK.

Statement shewing the number of visitors and the money received at the Park for the year 1893.

1893.	Number of carriages entering Park		Number of visitors.			Receipts from visitors.			Receipts from—			Total Receipts.	
	In carriages and Electric Railway.	Pedestrians.	Total.		At Elevator.	At Islands.		Total.	Rentals of privileges.	Sundries.			Interest on Bank deposits.
			§	c.		§	c.			§	c.			§	c.
January	6,400	24,227	6,674	30,901	79 00	27 75	106 75	125 00	.....	.....	.....	.....	231 75
February	2,928	9,860	6,875	16,735	91 50	57 00	148 50	125 00	.....	.....	.....	.....	273 50
March	1,275	3,485	4,611	8,096	38 25	12 00	50 25	2,625 00	.....	5 00	.....	.....	2,680 25
April	349	3,774	5,933	9,707	84 25	14 50	98 75	125 00	.....	.....	.....	.....	223 75
May	3,564	12,314	9,795	22,109	250 25	160 00	410 25	125 00	.....	.....	179 88	.....	715 13
June	8,419	42,576	23,035	65,511	The elevator was leased on 1st June. Its receipts after that date being included in "rental."			374 25	3,183 33	16 00	.....	.....	3,573 58
July	10,089	79,332	24,375	103,707	450 75	403 25	853 00	2,050 00	.....	.....	.....	.....	2,500 75
August	10,019	92,461	26,643	119,107	537 80	360 00	897 80	2,500 00	.....	.....	.....	.....	403 25
September	11,251	69,690	16,080	85,770	122 75	39 50	162 25	2,050 00	.....	.....	.....	.....	3,045 80
October	8,355	50,382	10,309	60,691	.....	.....	.....	2,050 00	.....	.....	.....	.....	2,422 00
November	2,398	11,198	4,323	15,521	.....	.....	.....	.....	.....	.....	.....	.....	339 06
December	894	3,436	2,533	5,969	.....	.....	.....	2,500 00	.....	.....	.....	.....	2,557 00
Totals	65,921	402,738	141,186	543,924	543 25	2,559 55	3,102 80	15,408 33	66 50	388 19	.....	.....	18,965 82

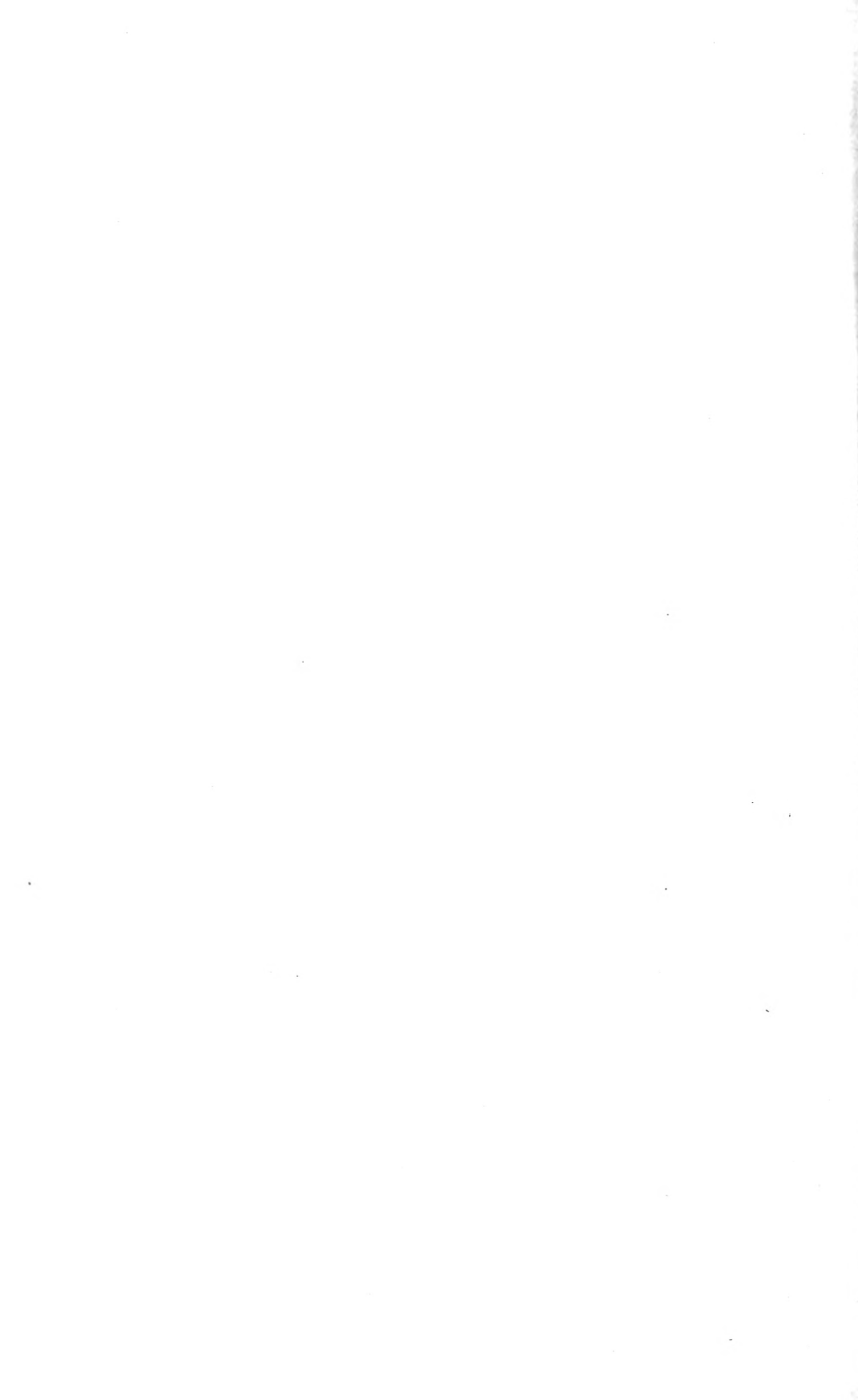
JAMES WILSON,
Superintendent.

REPORT
OF THE
INSPECTOR OF LEGAL OFFICES
1893.

PRINTED BY ORDER OF THE LEGISLATIVE ASSEMBLY



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1894.



ELEVENTH ANNUAL REPORT
OF THE
INSPECTOR OF LEGAL OFFICES.

*To His Honour the Honourable George Airey Kirkpatrick,
Lieutenant-Governor of the Province of Ontario:—*

SIR,—I have the honour to present the eleventh annual report of the Inspector of Legal Offices on his inspection of the county judicial offices throughout the Province for the year ending 31st December, 1893.

In the early part of the year, I made a special examination of all the bonds of the various officers filed in the Provincial Treasurer's Department, and have, from time to time during the year, required new bonds to be furnished, in cases where the existing securities had become unsatisfactory for any cause.

During the year the following officers have been appointed :

Sheriffs.—Donald M. Cameron, Esquire, to be Sheriff of the County of Middlesex in the room and stead of William Glass, Esquire, deceased, gazetted 23rd September, 1893.

Local Masters.—His Honour Judge Creasor and His Honour Judge Morrison were gazetted Local Masters for the County of Grey on 19th July and 9th September, respectively, in room of Alfred Frost, Esquire, deceased. His Honour Judge Maemillan was gazetted Local Master for the County of Haldimand on 25th March, in room of Judge Upper, resigned. His Honour Judge Snider was gazetted Local Master for the County of Halton on 21st April, in room of the late Judge Millar. His Honour Judge Robb was gazetted Local Master for the County of Norfolk on 14th January, in room of C. C. Rapelje, Esquire, resigned. W. T. McMullen, Esquire, was gazetted Local Master and Deputy-Registrar for the County of Oxford, in room of H. B. Beard, Esquire, Q.C., deceased. His Honour Judge Fitzgerald was gazetted Local Master for the County of Welland on 15th April in room of the late Judge Baxter.

Local Registrars.—W. H. R. Allison, Esquire, Q.C., was gazetted Local Registrar, and Clerk of the County Court, and Registrar of the Surrogate Court for the County of Prince Edward on the 11th November, in room of John Twigg, Esquire, deceased. On the resignation of John Hough, Esquire, as Deputy-Clerk of the Crown, A. M. McKinnon, Esquire, the Deputy-Registrar, became Local Registrar for the County of Wellington. William Carroll, Esquire, was gazetted Clerk of the County Court of the County of Wellington on the 18th February, 1893, in room of John Hough, Esquire, resigned.

County Crown Attorneys and Clerks of the Peace.—A. H. Clarke, Esquire, was gazetted County Crown Attorney and Clerk of the Peace of the County of Essex on 21st July, in the room of S. S. Macdonald, Q.C. James Magee, Esquire, Q.C., was gazetted County Crown Attorney and Clerk of the Peace for the County of Middlesex on the 11th of February, in the room of Charles Hutchinson, Esquire, deceased. J. W. Curry, Esquire, was gazetted County Crown Attorney for the City of Toronto on the 10th June, under Ontario statute, 56 Vict., Cap. 19; and William Armstrong, Esquire, Clerk of the Peace, became County Attorney for the County of Grey, on the death of Alfred Frost, Esquire.

SHERIFF'S OFFICES.

The work of these offices has been most satisfactory during the past year. In only one case did I find that moneys collected on executions had not been immediately paid over, and in that case no great delay had occurred, and on my pointing the matter out to the sheriff the omission was immediately remedied. In several cases I have been appealed to by solicitors in reference to sheriff's charges, and have been able to settle the difficulties satisfactorily. I found in most cases that the charges referred to were correct and in no case was it even suggested that intentional overcharges had been made. By the system of keeping the books now in operation in these offices, I have a ready view of all charges made for services for private suitors, while the charges for administration of justice are all revised by the duly appointed Boards of Audit. The entering of the jury panels in the jury books, since I drew attention to it last year, has been regularly done, and I now feel that there need be no apprehension, in case of challenge, of the regularity of these panels.

Appendix A contains the statistical returns for the year 1893 of all business done in the offices of the Sheriffs of the Province.

LOCAL MASTERS.

The duties of these officers have on the whole been very satisfactorily discharged during the past year. In one case I found the Master's book not entered up, and the papers in considerable confusion. In cases where the Local Masters

have commuted their fees for a salary, there is considerable difficulty in getting payment in stamps in all cases. In the hurry of a reference, the amount of the fees, and the proportion payable by the different solicitors, cannot be ascertained until the conclusion of the appointments, and the promises of the solicitors to provide the stamps are not always made good. In one office I found \$40.60 lacking and in another \$5.10; in the latter case the Master immediately, on my drawing his attention to the matter, furnished the stamps, which I thereupon cancelled. In the other case an appeal was made to the solicitors concerned, but it was not wholly successful. The Master in this case is called on to make good the amount still due. It is very unfair on the part of solicitors to put the Master in the position of taking their references, and paying their fees as well.

In Appendix B is set forth the statistical returns of the business done by these officers for the year 1893.

LOCAL REGISTRARS, DEPUTY-REGISTRARS, DEPUTY CLERKS OF THE CROWN, AND CLERKS OF THE COUNTY COURTS.

I have had occasion in a few instances to point out errors on the part of Local Registrars and Clerks of the County Courts in the taxation of costs. I have given specific directions in the cases where the correct principles of actions could be pointed out, and trust in future their violation will be avoided. But in most of the doubtful cases, where the particular circumstances have to be considered and given due weight to, I have advised the striking off of doubtful items, leaving the solicitor who is present, to appeal in case he feels aggrieved, rather than that the absent suitor should be burdened with more costs than he is clearly liable to pay. In two offices I found the work behind, owing to the illness of the officers. In such a case it is difficult for the officer to get skilled assistance for the short time he may be incapacitated, and, in consequence, the entries in the books I found had got behind. As soon as the officer is able to be at work again these defects are remedied, either by himself, or by assistants under his personal direction. The stamps on the proceedings in the High Court of Justice I have found to be properly affixed in all cases, except when omissions of trifling amounts are made by mistake.

In Appendices C and D I have set out the statistical returns of business done in these offices during the year 1893.

SURROGATE REGISTRARS.

In these offices the work is on the whole very satisfactorily done, but in nine of the offices I have had to direct the supply of omitted stamps on proceedings, to the amount in all of nearly \$300. Sufficient supplies of stamps are not always kept on hand by the distributors, and in consequence delays are neces-

sitated. I have urged these officers to avoid giving occasion for this inconvenience. The illness of two of the Registrars during the year has occasioned some arrears in the copying of wills into the registers. Last year in my report I pointed out that in some counties a fee of \$1 for the judge for a special attendance, had been charged in every case on the order for probate or letters of administration, when only a fee of 50 cents for the order ought to be charged. I am sorry that this practice has not only not been discontinued, but the evil example has been adopted in some places where the better practice formerly prevailed. As these and similar fees are under the direction of the judges, over whom I, of course, have no control, I must content myself, for the present, with again drawing attention to the matter. In some cases the judges are in the habit of ignoring Rule 5, and making an order in all cases for the filing of the account within twelve months of the date of the grant. For this order, which I cannot help thinking ought only to be made in special cases, a fee of 50 cents is also charged. By reason of these charges the expenses of obtaining probates and letters of administration is made higher in some counties than in others. Legislation may be necessary to supply a remedy for this evil.

In Appendix E is set forth the statistical return of business done in the surrogate courts for the year ending 31st December, 1893.

COUNTY ATTORNEYS AND CLERKS OF THE PEACE.

The fees and emoluments of these officers arise almost wholly from services for the administration of justice and are subject to the scrutiny of the County Boards of Audit. Such as are payable by the Province are further subject to taxation by an officer of the Provincial Treasurer's Department. The Boards of Audit consist of the County Judge and two members appointed by the County Council. It has several times been brought to my attention that there is great diversity of opinion on these Boards in regard to the proper allowances to be made to the officers whose accounts they are appointed to audit. In some cases larger fees are allowed than in my opinion are warranted by the tariff, but I have no power to interfere with the orders of the auditors, to whom alone the counties must, as the law now stands, look for protection. I fear the County Councils are in the habit of making too frequent changes in the membership of the boards.

This year I found the books kept in a much more uniform way than formerly. The jury books are now well kept and the panels properly entered and certified.

GENERAL REMARKS.

Last year I had occasion to draw attention to the delay of some of the officers in making their annual returns. I am happy to say that I have had this

year very little to complain of in this respect. The delays that have occurred being nearly all occasioned by the illness of the officers.

In Appendix F I have set out a detailed statement of the fees and emoluments of the various officers under my inspection.

The work of this office by correspondence is steadily increasing. I have encouraged the officers to appeal to me in all cases of perplexity about questions of practice, and I have during the year been able to assist them in solving difficulties of various kinds. Many of the questions thus submitted were important and intricate, and in giving satisfactory answers to them I have had the benefit of consultation with officers in Osgoode Hall whose large experience has rendered their opinions of special value.

I have the honour to be, Sir,

Your obedient servant,

JAMES FLEMING,

Inspector.

OSGOODE HALL, TORONTO,

March 27th, 1894,

APPENDIX A.—Containing in Tabulated Form Statistics as returned

Counties or Districts.	Number of Services of Writs of—						Miscellaneous Process Served.	
	Summons.		Subpœna.		<i>Ca Re & Ca Sa.</i>		H. C. J.	C. C.
	H. C. J.	C. C.	H. C. J.	C. C.	H. C. J.	C. C.		
Algoma	7	15	1	9			3	16
Brant	50	38	68	82			10	
Bruce	25	14	13	33			12	6
Carleton	132	53	44	26			43	35
Dufferin	21	3	1				5	4
Elgin	32	25	17	31			9	2
Essex	32	23	163	123			13	3
Frontenac	37	21		4			13	
Grey	35	13	9	13	2			
Haldimand	10	6	5	18			8	
Halton	13	10	3	27			4	2
Hastings	50	21	17	13			15	3
Huron	30	16	12	29			9	3
Kent	46	53	30	34			13	7
Lambton	27	13	8	21	3		11	3
Lanark	24	10	3	7			5	
Leeds and Grenville	47	18	13	8	1		10	4
Lennox and Addington	24	7	3		1		10	1
Lincoln	40	21	9	29			5	11
Middlesex	36	33	19	50	1	1	7	7
Muskoka	20	11	24	112				
Norfolk	23	8	4				6	2
Northumberland and Durham	27	12	53	89			35	2
Ontario	49	17	5	28			12	6
Oxford	75	28	31	103			47	23
Parry Sound	15	8	1				3	
Peel	29	15	7	9			12	2
Perth	22	10	18	2			11	5
Peterborough	40	18	10	1			17	5
Prescott and Russell	23	16	8	8	1		5	3
Prince Edward	16	5	3				8	4
Raimy River	19	27	14	19			41	24
Renfrew	26	22	5	7	1		7	
Simcoe	54	26	15	20	2	2	23	12
Stormont, Dundas and Glengarry	33	34	10	15			8	4
Toronto	529	191	80	17	4	1	185	28
Thunder Bay	25	26	15	4			21	24
Victoria	29	9	6	1			15	1
Waterloo	37	25		1			10	16
Welland	24	13	10	21		2	3	
Wellington	34	13	11	33	2		9	12
Wentworth	51	29	11	3		2	10	4
York	87	31	5	123	1		30	6
Totals	2,005	1,007	784	1,173	19	8	723	290

by the different Sheriffs for the year ending 31st December, 1893.

Total Number of Services.	Number of Estreats Received.		Number of Writs of Execution.				Number of Renewals of Writs Received.			
			(1) Against goods.		(2) Against lands.		(1) Against goods.		(2) Against lands.	
	H. C. J.	C. C.	H. C. J.	C. C.	H. C. J.	C. C.	H. C. J.	C. C.	H. C. J.	C. C.
51			19	36	15	30	12	14	24	33
248			16	37	12	28	7	14	10	26
103	2		47	40	34	34	7	3	22	38
333			57	51	37	49	25	17	28	25
34			13	39	4	35	8	20	7	30
116			34	45	48	32	14	14	14	27
357			61	66	33	57	1	5	5	23
75			43	34	34	26	18	14	16	19
72			54	54	36	60	12	14	24	66
47			9	9	7	8		1		1
59			22	39	19	32	3	8	11	15
119			41	55	34	46	42	51	54	62
99			27	27	19	17	11	42	22	61
183			31	94	26	87	12	19	33	45
86			45	83	36	73	20	43	31	78
49			12	24	12	22	5	4	3	9
101			23	37	18	35	11	16	13	22
46			16	12	9	11	3	7	6	8
115			34	36	15	33	16	13	14	19
154			57	77	41	68	15	14	29	31
167			8	10	7	8		3	8	1
43			10	16	5	15	3	10	4	18
218			41	66	27	62	26	34	26	68
117			49	39	41	31	9	14	15	36
307			56	69	33	56	8	16	7	25
27			14	9	11	3	10	7	14	12
74			14	23	12	20	11	4	12	13
68	1		28	34	11	30	13	13	12	18
91	1		25	52	19	44	6	20	10	30
64			15	27	12	25	5	9	15	23
36			15	13	15	13	5	10	8	8
144			12	13	9	13	1	3	2	3
68			28	43	24	30	3	7	2	11
154			57	89	38	89	15	22	49	87
104			28	51	20	41	21	20	24	53
1,035	3		608	404	477	312	60	35	316	276
115			22	50	16	24	9	30	42	35
61			19	36	12	31	14	29	16	50
89			28	17	16	13	1	2	5	13
73			17	31	13	29	6	9	11	18
114			44	41	27	40	11	16	30	33
110			69	68	57	53	34	20	57	55
283		4	141	81	117	74	16	5	113	98
6,009	7	4	2,007	2,177	1,508	1,839	529	671	2,164	1,622

APPENDIX A.—Containing in Tabulated Form Statistics as returned by the

Counties or Districts.	Number of Sales under Writs of Execution.				Number of cases entered under the Creditors' Relief Act.	Number of Certificates received under this Act.	Assignments to Sheriffs under R. S. O., 1887, Cap. 124.
	(1) Against goods.		(2) Against lands.				
	H. C. J.	C. C.	H. C. J.	C. C.			
Algoma		3		5	2	12	
Brant	3	3		1	6	4	
Bruce	2		2		2	7	
Carleton	3	2	1	1	7	2	
Dufferin	2	1		2	4	1	
Elgin	1			1	2		
Essex	1	4		5	2	2	1
Frontenac	4	1		1	2	1	1
Grey	1	3		2	11	5	1
Haldimand	1	1			2		
Halton	4		1		3	2	1
Hastings	5		1		3	1	5
Huron	2		2		4	1	
Kent	5	13	1	3	13	5	1
Lambton	2	2			4		
Lanark	1	1			2	5	1
Leeds and Grenville	1	2	1	4	8	12	5
Lennox and Addington	1	1			2	3	3
Lincoln	2			1	2	1	
Middlesex	3	4	2	2	10	1	1
Muskoka	2		1		1	3	
Norfolk	1	1			1		2
Northumberland and Durham	5	4		2	8	6	
Ontario	6			1	7	2	5
Oxford	7				7	26	1
Parry Sound	2	1	1				
Peel	3	1			4	1	
Perth	1	1			4		3
Peterborough	2			1		2	
Prescott and Russell	1		1	1	3	4	1
Prince Edward	1				3	17	1
Rainy River	1			1			
Renfrew		1		3	1		
Simcoe	6	7	2	2	13	30	1
Stormont, Dundas and Glengarry		8	1	1	1	2	2
Toronto	17	7	2		21	18	
Thunder Bay		2		1	4	10	
Victoria		2	1	1			
Waterloo	2	1			4		3
Welland		2		3	5	1	
Wellington	3	3	1				1
Wentworth	7	3	1	1	9	4	
York	6	1		2	9		
Totals	117	86	22	48	196	191	40

different Sheriffs for the year ending 31st December, 1893.—Continued.

Amount endorsed on Writs of Execution against Goods (not Renewals).				Amount Realized by Actual Sales under Writs of Execution.			
(1) For Debt or Damages.		(2) For Solicitors' Costs Taxed.		(1) Against goods.		(2) Against lands.	
H. C. J.	C. C.	H. C. J.	C. C.	H. C. J.	C. C.	H. C. J.	C. C.
§ c.	§ c.	§ c.	§ c.	§ c.	§ c.	§ c.	§ c.
13,697 25	6,954 74	739 22	1,046 43	843 12			230 02
18,676 17	5,800 28	2,096 14	843 27	856 27	197 75		310 00
36,458 10	6,812 29	2,024 03	572 78	803 35		423 00	
53,162 44	11,493 74	1,735 90	1,284 79	309 00	576 00	725 00	75 00
9,189 03	3,301 56	658 24	231 17	1,606 10	77 85		255 69
69,778 52	7,763 70	3,249 22	733 87	53 00			20 00
51,682 00	11,803 00	3,175 04	838 96	1,939 58	706 03		427 35
64,367 68	735 38	523 17	399 13	1,839 18			10 00
31,015 51	10,163 58	2,023 46	979 69	66 08	590 37		328 14
36,221 99	1,511 42	143 69	73 53	573 25	75 95		
21,997 15	6,470 90	672 16	932 89	2,163 87		120 00	
1,196,674 49	9,600 60	2,774 89	850 87	1,070 93		20 00	
19,192 84	3,976 43	699 82	471 02	510 73		470 00	
13,076 57	13,912 95	2,800 64	1,241 22	1,829 79	2,042 37	615 00	484 00
62,176 54	13,076 52	2,732 48	1,066 99	815 44	388 25		
8,577 28	3,246 02	1,404 33	389 35	203 25	220 00		
22,839 57	6,831 21	2,399 18	694 05	247 53	783 55	215 00	457 00
27,290 54	2,714 52	1,196 93	222 93	85 25	496 00		
33,835 71	5,272 48	640 41	405 28	805 09			76 47
64,351 10	14,613 43	1,772 28	829 29	479 57	97 49	93 45	311 65
6,313 35	1,658 90	184 64	127 91	360 94		300 00	
7,855 54	5,686 94	224 11	91 90	2,155 73	356 16		
825,448 51	11,553 79	2,039 94	702 46	314 65	2,469 34		1,625 52
68,625 72	5,170 40	1,578 13	382 48	3,274 78			230 00
199,563 45	11,840 83	3,030 87	570 17	8,898 81			
47,722 22	1,979 77	863 22	294 77	114 09	102 91	615 00	
17,592 22	952 94	2,993 86	268 93	451 04	51 89		
28,865 24	4,861 12	1,007 89	307 90	144 75	833 15		
11,683 58	5,178 94	450 68	764 65	328 56			5 09
6,032 49	3,819 06	838 41	442 83		84 30	213 00	256 00
775,776 35	1,031 03	1,175 29	17 54	142 00			
2,535 22	4,902 79	1,705 22	424 59	35 00			250 00
87,263 12	8,486 66	1,405 76	785 87		285 23		247 35
31,825 09	18,869 13	3,231 55	1,663 91	1,191 39	287 36	460 09	330 00
24,299 11	6,883 46	2,095 75	925 26		701 15	1,606 09	38 00
1,410,813 97	69,842 64	22,124 78	5,888 62	65,606 73	674 67	15 00	
19,697 93	20,429 20	1,044 72	1,153 26		842 51		65 00
19,687 68	5,592 34	655 68	523 57		210 16	62 51	183 58
48,460 06	2,898 82	646 21	254 30	4,091 48	27 35		
14,361 30	5,492 04	787 92	366 29		1,284 87		1,421 60
37,503 57	7,077 59	2,016 48	765 03	45 60	192 00	70 00	
104,962 56	12,027 05	6,898 50	1,717 14	4,880 46	216 41	11 60	148 95
266,765 05	14,964 94	3,263 55	651 21	10,302 67			75 52
5,917,913 81	379,315 13	93,774 39	33,198 10	118,595 76	15,764 19	6,034 56	7,890 55

APPENDIX A.—Containing in Tabulated Form Statistics as returned by the

Counties or Districts.	Amount received for Fines, Penalties, etc.		Amount Received under Writs of <i>Ca. Re</i> and <i>Ca. Sa.</i>		Amount Realized under Writs of Execution Without Sale.	
	H. C. J.	C. C.	H. C. J.	C. C.	H. C. J.	C. C.
	§ c.	§ c.	§ c.	§ c.	§ c.	§ c.
Algoma						1,266 18
Brant					732 35	763 95
Bruce	85 56				682 89	578 58
Carleton	1,000 00				2,250 25	1,349 30
Dufferin						
Elgin					874 63	680 91
Essex		30 00			2,185 14	2,666 98
Frontenac					2,025 67	
Grey					1,722 51	1,197 20
Haldimand					307 87	
Halton					1,857 64	1,023 82
Hastings					1,851 55	928 54
Huron					1,935 83	1,398 71
Kent		400 00			1,121 75	100 50
Lambton					97 38	488 09
Lanark					421 23	
Leeds and Grenville					2,603 82	2,039 63
Lennox and Addington					512 98	
Lincoln		50 00			631 82	362 18
Middlesex					1,673 18	1,575 26
Muskoka						
Norfolk						827 59
Northumberland and Durham						557 55
Ontario					1,948 50	1,196 66
Oxford					725 40	372 97
Parry Sound					675 79	650 17
Peel					815 50	829 26
Perth					832 21	227 50
Peterborough		40 00			820 28	375 86
Prescott and Russell					580 00	281 32
Prince Edward					123 30	2,895 29
Rainy River					967 50	2,685 61
Renfrew				165 00	2,684 20	611 72
Simcoe		10 00			1,539 79	2,520 40
Stormont, Dundas and Glengarry	25 00				3,024 50	2,185 22
Toronto					5,019 35	494 84
Thunder Bay					601 55	169 58
Victoria					25 24	602 72
Waterloo					26 83	
Welland						
Wellington					884 41	763 66
Wentworth					1,027 25	155 66
York		280 25			1,679 78	672 05
Totals.....	1,110 56	810 25		165 00	47,489 87	35,495 46

different Sheriffs for the year ending 31st December, 1893.—*Concluded.*

Amount of Fees earned for the Administration of Justice payable by the Provincer.		Amount of Fees so earned payable by the County.		Amount of Fees otherwise earned.		Amount paid by the Provincer as salary.		Total amount of Fees earned.		Total amount of Disbursements.		Net amount due to for earnings of 1893.		Remarks.
£	c.	£	c.	£	c.	£	c.	£	c.	£	c.	£	c.	
792	85			864	37	1,000	00	2,657	22	1,590	48	1,066	74	
1,095	22	476	16	772	85			2,344	23	608	36	1,735	87	
988	30	615	72	1,796	08			3,400	10	1,424	46	1,975	64	
1,221	90	539	26	2,956	10			4,717	26	2,372	82	2,344	44	
595	27	374	81	1,072	40			2,042	48	624	08	1,418	40	
1,284	85	772	54	1,067	08			3,124	47	1,467	00	1,657	47	
1,540	55	471	60	1,347	05			3,359	20	1,583	40	1,775	80	
703	66	467	15	767	75	100	00	2,038	57	525	33	1,513	24	
855	03	687	73	1,368	90			3,111	66	1,457	87	1,653	79	
679	80	329	38	369	78	100	00	1,478	96	569	74	909	22	
691	18	339	75	544	37			1,575	30	460	00	1,115	50	
1,075	40	645	40	2,595	69			4,316	49	2,261	40	2,055	09	
876	95	468	66	1,409	29			2,754	90	1,719	51	1,035	39	
1,225	43	649	29	1,807	65			3,682	28	1,060	71	2,621	57	
955	40	439	10	1,114	43			2,508	93	1,160	77	1,348	16	
522	59	410	24	402	14			1,334	97	460	78	874	19	
1,184	65	677	95	1,330	49			3,193	09	835	30	2,357	79	
713	47	365	09	453	08			1,581	64	993	97	537	67	
1,159	29	561	58	797	22			2,518	09	594	26	1,923	83	
1,328	90	1,260	48	1,382	20			3,971	58	2,110	40	1,861	18	
1,399	41			254	54	500	00	2,153	95	632	47	1,521	48	
620	71	609	01	523	93			1,753	65	632	84	1,120	81	
798	60	660	74	1,920	87			3,380	21	1,754	33	1,625	88	
888	20	562	05	883	31			2,333	56	1,111	52	1,222	04	
833	69	518	16	1,379	76			2,731	51	848	73	1,882	78	
863	79	1,297	59	497	28	500	00	2,294	87	1,014	00	1,280	87	
788	82	376	43	767	43			1,932	68	1,041	92	890	76	
808	20	434	22	1,114	12			2,356	54	1,158	64	1,197	90	
244	31	118	22	1,566	39			1,928	92	702	33	1,226	59	
466	93	385	78	653	60	500	00	2,006	31	859	87	1,146	44	
487	50	454	44	209	99	200	00	1,351	93	901	34	450	59	
845	06			431	76	1,000	00	2,276	82	543	52	1,733	30	
809	32	555	18	1,576	87			2,941	37	1,027	56	1,913	81	
1,142	00	595	23	1,959	43			3,696	66	2,704	92	991	74	
900	15	940	82	1,298	44			3,139	41	1,162	56	1,976	85	
502	89	2,853	17	13,413	69			16,769	75	9,185	59	7,584	16	
946	29			1,175	54	1,000	00	3,121	83	1,007	80	2,114	03	
601	09	639	16	907	49			2,147	74	387	60	1,760	14	
1,041	25	490	44	518	30	100	00	2,149	99	900	00	1,249	99	
668	10	620	45	928	00			2,216	55	630	31	1,586	24	
914	20	493	87	1,066	51			2,474	58	1,567	64	906	94	
2,365	20	460	48	1,958	46			4,784	14	2,836	28	1,947	86	
3,795	85	653	35	3,465	65			7,914	88	4,038	31	3,876	57	
42,162	25	24,270	59	62,890	31	5,000	00	133,519	27	60,530	72	72,988	55	

APPENDIX B.—Being a Return of Business transacted by Local Masters throughout the

Counties or Districts.	Number of orders made for the following purposes.					Number of examinations taken as special examiners or otherwise before trial.
	For the administration of estates.	For the partition or sale of property.	Relation to infants under R.S.O., chap. 40, s. 76 (examination only).	Under the Winding-up Acts.	Other orders made in Chambers.	
	(1)	(2)	(3)	(4)	(5)	(6)
Algoma						
Brant	1	1				
Bruce					3	8
Carleton		1			87	26
Dufferin					37	1
Elgin	6	2				56
Essex	1	1			1	62
Frontenac	1	1				12
Grey					26	10
Haldimand						
Halton					1	
Hastings	1				65	34
Huron					10	8
Kent	2	2			26	31
Lambton				1	4	
Lanark	1					
Leeds and Grenville	4	2			18	8
Lennox and Addington	2	2			13	3
Lincoln	2			1	11	
Middlesex	1	5				17
Muskoka and Parry Sound						4
Norfolk						
Northumberland and Durham	2				29	7
Ontario	1				3	1
*Oxford						
Peel	1					
Perth	2	2				21
Peterborough	3					66
Prince Edward					2	21
Prescott and Russell					2	
Renfrew		1				2
Simcoe	1				30	29
Stormont, Dundas and Glengarry	1				54	
Thunder Bay						1
Victoria		2			50	
Waterloo				1		
Welland	1				1	
Wellington	1	3			67	58
Wentworth	1	3			31	
Totals	36	28		3	571	428

* No returns, Mr. Beard died in December.

Province of Ontario, other than Toronto, during the year ending 31st December, 1893.

Number of Judgments or Orders brought into the Master's Office for taking the following accounts, etc.

(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Administration of estates.	Executors, trustees or committees' accounts and compensation.	Foreclosure of mortgage or bond.	Redemption of mortgage or bond.	Sale under mortgage or agreement.	Account on any charge or lien on land, other than Mechanics' Lien Act.	Account under Mechanics' Lien Act.	Specific performance.	Partnership accounts.	Alimony.	Partition or sale.	Damages for breach of contract or covenant.
1		1									
1		3								1	
1		1	1								
2	1	15								3	1
1				3				1			
1		3	1					2			1
	1				2					2	1
		14			2	1				1	
2		3									
1			1	1							
3		3		8		2	1		1	1	
6		1			1			1			
2	1	2								3	1
	2										
1		3		7							
4		2									
3				3						1	
2		3						1		2	
3					2	1		2		1	
	1	2		1						1	
1	1	3		3				1			
1	2	1		4				2			
						2					
	1	1				1					
3		1			2			1			
	2	3			3	1					2
	1	4			2						
		2									
1										1	
2		3		4							
3	5		1	1				1			
											1
2		2								1	
7	6	6	12								
						5				2	1
4		1		1		2		1		5	
3	1	3	1	2	1	1				3	1
64	25	85	17	51	7	23	1	14	1	28	9

APPENDIX B.—Being a Return of Business transacted by Local

Counties or Districts.	Number of judgments, or orders, etc.— <i>Continued</i>						
	Work and labor done. (19)	Money received, paid, advanced or lent. (20)	Goods sold and delivered. (21)	Promissory notes, bills of exchange. (22)	Bonds, life and fire insurance. (23)	Infants' estates. (24)	Quiecing Title matters. (25)
Algoma							
Brant							
Bruce							
Carleton	2	1					
Dufferin	1	1					
Elgin	1						
Essex							2
Frontenac							
Grey							
Haldimand							
Halton							
Hastings		1	1		1	1	1
Huron							
Kent							
Lambton	1		3				
Lanark							
Leeds and Grenville							
Lennox and Addington	1						
Lincoln							
Middlesex							1
Muskoka and Parry Sound							
Norfolk							
Northumberland and Durham							
Ontario	1						1
Oxford							
Peel							
Perth		1					
Peterborough							
Prince Edward							
Prescott and Russell							
Renfrew						1	
Simcoe	4			1			1
Stormont, Dundas and Glengarry		1					1
Thunder Bay							
Victoria							
Waterloo							
Welland							
Wellington							
Wentworth		1	1				1
Totals	11	6	5	1	1	2	8

Masters throughout the Province of Ontario, etc.—Continued.

Lamacy.	Miscellaneous.	Number of advertisements of sale issued.	Number of reports issued.	Number of references pending at date of return.	Number of bills of costs taxed by Master.	Amount realized by sales held under the direction of Master.	Amount of costs of reference, etc., taxed by Master or under his direction.	Amount of commission allowed in administration and partition matters.	Amount of fees, earned by Local Masters.
(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)
						§ c.	§ c.	§ c.	§ c.
	1	1	11	5	12	5,275 00	588 71	828 06	20 95
		1	5	3	5		813 94		152 70
1	1	7	35	9	7	8,025 00	5,817 31	337 41	1,522 35
			4	2	7		214 01	241 40	201 53
3	2	9	13	15	25	18,320 00	2,692 16	1,431 38	1,622 55
		2	9	6	8	1,080 00	1,064 00	180 00	745 60
		1	20	6	18	900 00	1,710 43		604 79
1		1	4	4	7	1,000 00	1,611 40		293 65
		1	4		5		554 77	59 20	92 25
		1	1			450 00			8 75
	7	6	24	10	29	12,924 00	4,131 16	193 00	1,392 30
		1	7	9	9		1,402 57	262 50	252 90
1		3	5	1	23		816 75	69 00	421 00
		1	2		8	1,457 00	527 37		75 20
	4	5	5	10	8	6,322 00	459 39	445 67	218 20
2		6	9	3	18	14,105 00	994 07	1,929 22	243 82
		1	8	5	7	49 00	559 94	395 00	355 67
		3	11	5	15	6,227 50	878 63	549 25	1,220 73
		15	30	10	12	11,586 00	3,617 21	529 86	1,334 34
		2		1	1		69 32		82 18
			2	1	2	1,290 00		105 58	28 18
		3	19	6	8	16,250 00	1,129 79	784 92	607 41
	2	4	11	5	6	3,600 00	2,008 07		369 70
						3,360 00	528 28		75 00
	1	8	12	15	13	12,545 00	1,231 60	532 00	830 95
	3	5	14	2	11	7,817 00	728 74	816 00	468 00
		1	13	2	12	4,739 60	1,700 57	557 88	581 71
					2		150 30		28 00
				1		325 60		65 00	62 80
		5	18	7	20	7,070 00	1,782 35	603 06	813 95
		8	25	25	32	5,835 00	1,430 39	985 00	733 80
		1	1		1	200 00	183 62		102 10
		4	13		11	25,454 00	1,296 00	878 20	256 40
		7	17	4	15	14,621 00	539 60	1,349 00	402 40
		2	5	4	6	27,500 00	356 44		123 11
1		1	16	7	10	23,370 00	931 63	826 89	1,281 31
	5	4	19	23	18	11,991 00	1,889 01	1,079 50	633 55
9	33	128	392	206	391	250,667 50	44,319 53	16,028 98	18,503 43

APPENDIX C.—Being a Return of all Business Transacted by Local Registrars, Deputy during the year ending

Counties or Districts.	Number of Writs Issued in the		Number of Writs <i>Ca Re</i> or <i>Ca Sa</i> Issued.		Number of Actions Entered in Procedure Book.		Number of <i>Lis pendens</i> Issued.		Number of <i>Procipe</i> Orders Issued.	
	Q. B. and C. P. Divs.	Chy. Divs.	Q. B. and C. P. Divs.	Chy. Divs.	Q. B. and C. P. Divs.	Chy. Divs.	Q. B. and C. P. Divs.	Chy. Divs.	Q. B. and C. P. Divs.	Chy. Divs.
Algoma	20	10			11	8	2	2	6	3
Brant	54	27			44	20	5		14	10
Bruce	49	24			33	13	8	4	12	12
Carleton	154	78			125	76	2	8	63	27
Dufferin	42	22			39	13	9	6	28	2
Elgin	96	49		1	83	45	12	4	23	17
Essex	71	36			66	39	5	5	42	23
Frontenac	112	54			79	42	3	7	13	24
Grey	45	23			35	23	5	1	19	12
Haldimand	13	7			12	2				3
Halton	21	10			14	7	2		7	4
Hastings	108	55			92	55	8	1	63	30
Huron	74	37			58	29	9	1	39	17
Kent	60	32			51	32	10		22	15
Lambton	63	33			51	26	4	3	12	6
Lanark	64	31			41	17	11		11	6
Leeds and Grenville	49	23			33	10	2		9	9
Lennox and Addington	40	20			31	17	1	2	18	14
Lincoln	52	26			44		8	1	21	11
Middlesex	256	128	1		192	94	14	8	86	27
Muskoka	5	2			8	4			1	1
Norfolk	18	9			9	10	1	1	3	
Northumberland and Durham	62	31			27	18	2	1	23	16
Ontario	61	30			40	22	4	3	6	9
*Oxford	61	32			48		9		41	
Parry Sound	6	4			5	4	1	1	5	
Peel	26	14			20	10	1	1	19	10
Perth	88	42			59	26	4	4	41	16
Peterborough	102	50			71	36	3		17	2
Prescott and Russell	14	7			12	7	2	3	2	3
Prince Edward	22	11			20	8	2	1	11	9
Renfrew	32	17			30	15			7	2
Simcoe	98	48			71	28	6	3	41	12
Stormont, Dundas and Glengarry	93	47			73	34	4	3	45	22
Thunder Bay	42	18			31	17	6	2	28	17
Victoria	32	16			22	15	1	2	7	10
Waterloo	66	33			48	29	1	2	10	5
Welland	21	11			21	16	5	1	16	10
Wellington	88	44			62	32	12	4	36	24
Wentworth	230	114			205	114	15	6	117	75
York	2,058	1,029			1,218	679	127	76	870	392
Totals	4,668	2,334	1	1	3,234	1,692	326	167	1,854	907

*No return from Deputy-Registrar's office. Mr. Beard died December, 1893.

Registrars and Deputy Clerks of the Crown throughout the Province of Ontario, 31st December, 1893.

Number of Orders Issued and Signed by Local Judge.		Number of Examination of Parties.		Number of Actions Entered for trial.				Number of Judgments Entered without Trial.		Total Amount of such Judgments without Costs.			
				(1) By Jury.		(2) Without Jury.							
Q. B. and C. P. Divs.	Chy. Divs.	Q. B. and C. P. Divs.	Chy. Divs.	Q. B. and C. P. Divs.	Chy. Divs.	Q. B. and C. P. Divs.	Chy. Divs.	Q. B. and C. P. Divs.	Chy. Divs.	Q. B. and C. P. Divs.	Chy. Divs.		
										\$	c.		
19	6	2		1	1	3	3	3	2	1,526	84		
15	12	23		9	5	2	1	12	8	9,842	52		
22	3	16		6	4			9	3	4,763	34		
59	6	51	19	19		25	5	53	28	49,206	20		
3	2	19	6			12	2	2	3	1,777	70		
49	31	26	19	17	8	15	12	20	13	23,271	92		
9	33	15	27	20		11		18	20	11,362	14		
77	31	16	10	3				12	47	78,982	42		
11	5	15	7	10	7	10	3	8	4	3,191	14		
6	3	6	1	1		2		5	2	6,488	09		
9	1			3	1	4	1	6	7	2,769	95		
28	5	40		25	1	5	8	20	12	395,865	70		
34	2	27	8	14		15	10	12	5	9,717	23		
25	25	34	31	7		19	14	10	9		1,662	57	
14	7	28	15	6	4	4	1	11	4	17,468	96		
33	12	2	8	2	1	3	1			25,379	00		
14	7	27	1	13		9	3	9	18	7,662	21		
7	2	19	4	5	3	3	2	10	12	14,486	46		
27	17	20		4		6	4	17	10	11,023	71		
111	34	68	17	50		45	16	91	37	201,373	24		
2		1				1		3	2	1,305	52		
4	6	2	3	8		1	1	3	5	4,762	39		
8	8	10	7	6	5	7	4	23	10	19,573	70		
13	9	6	7	6	2	7	2	20	11	13,779	37		
33		42		12		13		17		16,328	77		
		6	3	4		1	2	1	1				
3	4	16	13	6	6	4		7	2	1,739	25		
33	15	27	9	9	4	15	4	7	5	7,265	71		
2		14	5	10	5	7		20	11	8,631	19		
11	2	6	5	1		1	3	8	2	5,232	22		
5	1	5		3		7	3	7	3	10,582	58		
14	8	7	2	4	1	3	2	18	8	9,686	02		
	30	44	21	24		9	6	9	8	6,761	47		
52	29	18	11	19		14	10	29	14	25,048	20		
49	28	22	19	5		7	6	9	4	4,587	93		
9	7	26	18	8	5	4	3	10	4	5,075	57		
5	4	7	6	7		1	3	24	17	27,961	97		
9	9	16	5	3	4	7	1	5	2	7,005	59		
5	2	21	13	7		5	14	15	10	8,474	76		
95	42	42	33	28	20	21	15	70	44	127,657	96		
				163	74	101	47						
909	423	792	369	548	161	429	236	668	378	1,187,418	54	348,498	56

APPENDIX C.—Being a Return of all Business Transacted by Local Registrars, Deputy during the year ending

Counties or Districts.	Total Amount of Costs Taxed thereunder.		Total Amount of Disbursements allowed thereunder.		Number of Judgments entered after trial.	
	Q. B. and C. P. Divs.	Chy. Divs.	Q. B. and C. P. Divs.	Chy. Divs.	Q. B. and C. P. Divs.	Chy. Divs.
	\$ c.	\$ c.	¢ c.	\$ c.		
Algoma	106 86	237 82	18 95	143 36	2	3
Brant	386 71	107 27	108 14	28 27	5	1
Bruce	247 95	168 74	76 48	39 49	1	1
Carleton	1,331 75	504 00	385 81	227 09	21	13
Dufferin	35 60	34 00	9 94	15 16	8	4
Elgin	658 95	187 91	226 85	41 01	9	7
Essex	600 01	430 27	130 29	307 24	16	5
Frontenac	809 39	340 11	220 82	85 78	4	8
Grey	103 82	88 84	35 07	16 29	7	2
Haldimand	35 42	46 78	9 62	10 74	1	1
Halton	138 70	149 40	136 47	62 15	2	4
Hastings	544 68	376 16	207 64	114 00	10	2
Huron	825 04	126 47	482 21	37 71	2	.....
Kent	246 12	311 97	77 76	37 15	14	5
Lambton	240 77	110 87	81 08	19 06	3	1
Lanark	555 00	392 00	170 00	106 00	.....	.....
Leeds and Grenville	367 51	738 95	147 81	290 06	4	1
Lennox and Addington	262 62	180 46	67 75	59 16	6	.....
Lincoln	726 22	273 34	198 33	84 15	7	2
Middlesex	2,519 48	674 00	511 86	246 22	17	12
Muskoka	24 33	43 58	12 55	13 26	.....	.....
Norfolk	66 33	108 50	12 32	23 85	.....	.....
Northumberland and Durham	1,102 79	309 53	830 73	97 21	4	5
Ontario	388 71	181 05	138 50	91 17	2	4
Oxford	347 48	.....	100 88	.....	9	.....
Parry Sound .....	.....	.....	.....	.....	.....	.....
Peel	249 60	18 73	73 47	4 13	2	3
Perth	176 52	71 25	43 28	20 89	16	7
Peterborough	470 34	230 35	126 29	62 57	6	2
Prescott and Russell	285 72	67 34	49 53	18 74	1	.....
Prince Edward	200 41	98 60	64 21	29 54	4	4
Renfrew	523 26	310 29	156 07	87 42	.....	1
Simcoe	357 67	211 85	104 74	53 57	9	6
Stormont, Dundas and Glengarry ..	979 33	280 32	270 52	86 97	18	6
Thunder Bay	258 51	132 80	78 75	51 77	7	1
Victoria	249 20	65 51	81 09	18 71	4	.....
Waterloo	610 82	291 26	150 87	71 46	2	2
Welland	101 45	33 60	45 47	6 77	4	1
Wellington	413 35	369 21	99 67	131 40	7	3
Wentworth	2,377 09	987 22	712 53	239 03	16	14
York .....	.....	.....	.....	.....	.....	.....
Totals	19,925 51	9,309 75	6,454 35	3,085 55	250	141

Registrars and Deputy Clerks of the Crown throughout the Province of Ontario, 31st December, 1893.—*Continued.*

Total Amount of such Judgments without Costs.		Amount of Costs taxed thereunder.		Total Amount of Disbursements allowed thereunder.		Number of Judgments					
Q. B. and C. P. Divs.	Chy. Divs.	Q. B. and C. P. Divs.	Chy. Divs.	Q. B. and C. P. Divs.	Chy. Divs.	Over \$10,000.	\$10,000 and above \$5,000.	\$5,000 and above \$2,000.	\$2,000 and above \$1,000.	\$1,000 and above \$500.	\$500 and under.
§ c.	§ c.	§ c.	§ c.	§ c.	§ c.						
700 00	627 22	350 75	310 87	141 40	179 33				1	4	4
1,662 00		724 71	64 30	222 17	90 42				2	3	6
255 98		251 72		160 62						2	3
10,247 00	8,060 59	4,405 37	426 41	1,752 57	281 13	4	9		12	29	27
1,350 00	750 00	3 8 40	319 95	209 33	277 28				2	3	2
1,573 16		1,585 02	1,721 53	485 06	626 32	2	3	4	5	35	35
5,631 93	1,181 84	1,362 77	88 85	731 46	128 96	1	6	4	4	14	11
3,010 00	13,633 01	453 82	2,941 91	289 82	1,875 90	2	4	13	13	17	16
2,434 25	5 00	1,726 72	591 06	730 05	255 70				3	3	15
	239 39	169 67		74 00					1	2	2
	115 00	220 95	357 30	234 56	428 16				2	2	26
99 87	2,948 40	975 14	769 41	326 35	246 66	1	1	4	5	13	20
186 83		168 14		23 95					1	1	3
475 00	333 67	1,802 25	96 80	964 50	23 00				1	3	5
137 00			392 76		207 31	1			1	1	4
									1	2	8
1,748 57		2,034 34	238 01	1,012 09	146 56				3	3	10
1,205 63		1,551 29		602 03		1			1	4	3
2,969 29		1,964 61	519 75	1,041 68	195 51				3	2	12
21,572 31	1,373 01	2,917 62	707 03	760 30	252 94	3	5	15	28	39	44
									2	1	1
									2	1	1
534 60	330 00	1,251 06	381 13	289 83	221 12	1	3	4	3	10	14
747 18		38 10		33 63					2	5	8
1,340 58		709 67		473 87					1	10	3
612 00	382 35	382 71	520 46	146 94	275 69						2
3,435 43	292 83	517 12	292 83	102 60	38 47				1	3	6
993 00	530 00	1,003 87	430 94	528 82	188 03				1	4	8
294 35		142 99		41 77					1	1	3
3,776 25	1,374 52	947 99	1,470 83	559 02	883 94				3	5	4
			70 05		11 80					7	7
6,753 20	4,718 00	2,080 98	1,499 01	1,526 79	693 00	2	5		3	3	8
3,235 20	1,649 85	4,527 78	893 78	1,641 87	346 01				4	12	13
1,423 63		2,061 47	393 00	1,172 17	238 95	1	1		1	2	5
350 00		515 73		329 26						2	1
	1,000 00	61 89	890 02	42 84	413 48	1	7		6	12	12
724 36	100 00	414 09		326 60	2 00	1					1
2,445 00		1,318 31	876 10	616 65	332 21				3	2	9
8,276 36	7,807 74	2,603 07	3,048 39	1,219 44	1,633 80	3	5	17	19	41	39
90,200 96	47,452 42	41,550 12	20,311 98	18,813 95	10,493 68	11	30	117	179	327	510

APPENDIX C.—Being a Return of all Business Transacted by Local Registrars, Deputy during the year ending

Counties or Districts.	Number of Executions issued against goods.		Number of Executions issued against Land.		Amount of Money Paid into Court with Defence.		Amount of same paid out of Court.	
	Q. B. and C. P. Divs.	Chy. Divs.	Q. B. and C. P. Divs.	Chy. Divs.	Q. B. and C. P. Divs.	Chy. Divs.	Q. B. and C. P. Divs.	Chy. Divs.
					\$ c.	\$ c.	\$ c.	
Algoma	4	2	4	2				
Brant	20	8	21	7				
Bruce	8	2	6	2				
Carleton	37	13	34	9	2,490 01			
Dufferin	5	2						
Elgin	19	12	14	10				
Essex	13	10	10	5		33 00		
Frontenac	34	21	26	13	150 00			
Grey	13	15	11	5				
Haldimand	2	1	2	1				
Halton	10	6	7	3				
Hastings	26	9	15	8				
Huron	7	7	5	5				
Kent	13	7	8	7	750 00		250 00	
Lambton	6	4	3	3				
Lanark	11	3	5	3	61 00	1,667 00		
Leeds and Grenville	9	8	9	4				
Lennox and Addington	10	4	7	2				
Lincoln	18	12	10	6				
Middlesex	62	86	55	87		202 00		
Muskoka	1	1	1	1				
Norfolk	2	1	1	1				
Northumberland and Durham	13	8	10	5				
Ontario	16	7	17	7				
Oxford	19		17					
Parry Sound								
Peel	4	2	4	2				
Perth	12	4	5	1				
Peterborough	12	6	9	4	580 65	378 18		
Prescott and Russell	4	5	1	4	200 00		200 00	
Prince Edward	4	4	4	1				
Renfrew	7	4	5	2				
Simcoe	15	15	43	14				
Stormont, Dundas and Glengary	15	9	17	8		37 00		
Thunder Bay	12	7	10	5				
Victoria	5	3	5	3				
Waterloo	16	5	15	4				
Welland	5	1	3	2				
Wellington	15	19	10	7				
Wentworth	63	41	43	23	2,010 35	275 00		
York	624	317	512	348				
Totals	1,191	684	984	618	6,242 01	2,592 18	450 00	

Registrars and Deputy Clerks of the Crown throughout the Province of Ontario, 31st December, 1893.—Continued.

Balance of Money remaining in Court.		Number of Days of sitting of Judge at Trials.		Amount of Fees collected in Law Stamps by Deputy Clerks and Local Registrars.	Amount of Fees collected in Law Stamps by Deputy Registrars.	Amount of Salary paid Deputy Clerks of the Crown.	Amount of Salary paid Local Registrars as Deputy Registrars in Chancery.	Amount of Fees earned by Deputy Clerks of Local Registrars and payable in cash.	Amount of Fees earned by Deputy Registrars.	Total amount of Salaries paid and Fees earned by Deputy Clerks and Deputy Registrars.
Q. B. and C. P. Divs.	Chy. Divs.	Q. B. and C. P. Divs.	Chy. Divs.							
£ c.	£ c.			£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.
		5		91 20		50 00		35 00		85 00
		11	2	378 10		450 00	225 00	529 35		1,204 35
		5		238 10	132 00	450 00		121 70	132 00	703 70
		37	8	1,070 30	125 40	450 00		789 05	514 78	1,753 83
		6		293 40		450 00	225 00	238 00		903 00
		11	3	786 30		450 00	225 00	439 80		1,114 80
	33 00	11	5	430 90	70 40	450 00		215 30	315 65	980 95
		4	4	940 10		450 00	225 00	186 97		861 97
		8	4	463 10		500 00	250 00	165 70		915 70
		3		134 40		400 00	200 00	71 95		671 95
		4		203 20		400 00	200 00	109 70		709 70
		30	3	634 50	393 30	450 00		630 91	393 30	1,474 21
		12	7	341 40	92 14	500 00		430 05	92 14	1,022 19
	500 00	10	5	334 00	215 00	450 00		184 42	215 00	849 42
		16	2	459 60		450 00	225 00	345 22		1,029 22
		4		414 40		450 00	225 00	85 90		760 90
		19	2	245 90		500 00		305 45	65 77	871 22
		8		364 60		400 00	200 00	299 30		899 30
		3	2	336 80	68 50	450 00	222 20		172 30	844 50
		32	7	1,547 50		500 00		847 50	583 88	1,931 38
		3		34 85		100 00	50 00	19 77		109 77
		5	4	159 60		450 00	225 00	253 90		928 90
		11	2	459 40		500 00	250 00	247 86		997 86
		6	2	367 55		450 00	225 00	45 00		720 00
	9 50	8		511 50		450 00		542 40		992 40
		3		49 90		400 00	200 00	239 87		830 87
		5		236 65		400 00	200 00	322 54		922 54
		6	4	582 10		450 00	225 00	468 60		1,143 60
	580 65	6	2	620 30		450 00	225 00	544 03		1,219 03
		4		127 80		450 00	225 00	220 38		895 38
		5		264 80		400 00	200 00			600 00
		5		397 30		400 00	200 00	79 25		679 25
		18	5	440 20	71 20	500 00		406 45	292 11	1,198 56
	37 00	21	4	836 50		500 00	250 00	547 00		1,297 00
		8		462 30		100 00	50 00	741 60		891 60
		8	2	243 80		450 00	225 00	466 80		1,141 80
		7		374 00		850 00	225 00	283 50		1,358 50
		4		228 20		400 00	200 00	225 10		825 10
		5	4	554 20		500 00		390 31		890 31
		21	6	1,498 10	762 97	500 00		387 73	762 97	1,650 70
1,230 15	448 18	298	89	18,156 85	1,930 91	17,350 00	5,597 20	12,444 36	3,530 90	38,931 46

APPENDIX D.—Being a Return of Business Transacted by County Court Clerks

Counties or Districts.	Number of Writs of Summons issued.	Number of Writs of <i>Ct. Re.</i> issued.	Number of Actions entered in Proceudre Book.	Number of <i>lis pendens</i> issued.	Number of <i>proceps</i> orders issued.	Number of orders issued and signed by Local Judge.	Number of Examinations of Parties.	Number of Actions entered for Trial.		Number of Judgments entered without trial.	(a) Total amount of such Judgments without costs.
	(a) By Jury.	(b) Without Jury.									
Algoma	30		20	6	23	5	1	2	9	8,921	25
Brant	48		42	14	19	16	2	3	23	5,968	55
Bruce	46		34	9	31	5	2	2	17	3,906	08
Carleton	112		85	23	30	7	5	8	54	12,498	48
Dufferin	11		5		12	4	2		4	1,242	71
Elgin	65		46	21	39	16		4	24	5,457	70
Essex	65		51	9	7		2	4	29	6,042	83
Frontenac	52		39	1	6	12	5	12	21	3,919	65
Grey	29		27	2	11	5	4	2	10	2,425	95
Haldimand	17		16	1	3	5	4	3	6	892	91
Halton	23		18		5	9		2	13	3,039	07
Hastings	81		75	27	21	15	11	3	40	10,568	98
Huron	50	2	45	17	26	13	9	5	17	4,106	36
Kent	48		35	6	19	16	4	3	24	64	00
Laubton	70		56	7	20	16	2	3	34	7,618	59
Lanark	21		14	1	2	12	3	1		1,569	00
Leeds and Grenville	34		32	5	21	2	3	8	16	3,653	93
Lennox and Addington	15		7	4	16	3	1	1	2	528	04
Lincoln	52		35	5	20	8	2	2	17	2,009	37
Mantoulin	2				1	1		1			
Middlesex	204	2	156	1	12	76	20	4	114	26,798	08
Muskoka	5		4	1	9	1	1		1	262	73
Norfolk	5		8	2	13	1	1	2	1	205	53
Northumberland and Durham	34		10	6	34	7	5		37	5,810	58
Ontario	29		23	8	17	4	2	1	16	3,919	38
Oxford	71	1	55	24	54	15	8	4	19	4,564	22
Parry Sound	2		3			2	1			246	12
Peel	26		24	11	22	14	5	2	11	2,800	02
Perth	25		35	6	10	3	2	1	23	2,969	83
Peterborough	56		34	7	17	6	4		22	4,517	01
Prescott and Russell	20		16	1	1	23		2	10	1,295	97
Prince Edward	23		16	5		10	6	3	3	859	62
Rainy River	29			2	19	14		7	10	5,351	67
Renfrew	42		33		21	3	2	2	22	3,808	09
Simcoe	65		77	21		23	7	3	29	7,636	19
Stormont, Dundas and Glengarry	78		53	11	35	1	5	3	38	6,838	14
Thunder Bay	56		48	3	15	107	9	4	28	14,614	01
Victoria	21		21		11		10	7	9	2,814	44
Waterloo	39		25	9	11	3	1	2	14	3,235	08
Welland	20	1	20	12	17	6	2	2	7	1,789	40
Wellington	53		36	15	51	10	10	2	17	3,732	99
Wentworth	175	1	133	2	35	98	15	6	83	17,688	55
York	1,001	7	753	20	238	755	69	52	468	104,659	67
Totals	2,951	14	2,267	32	632	1,737	396	223	1,168	310,859	77

throughout the Province of Ontario, during the year ending 31st December, 1893.

(b) Total amount of costs taxed thereunder.	(c) Total amount of Disbursements allowed.	Number of Judgments entered after Trial.	(a) Total amount of such Judgments without costs.	(d) Total amount of costs taxed thereunder.	(e) Total amount of Disbursements allowed.	Number of Transcripts of Judgments received from Division Courts.	Number of Judgments.			Number of days of sitting of Judge at Trials.	Amount of money paid into Court with defence.
							Over \$200.	\$200 and over \$100.	\$100 and under.		
261 72	76 03	1	109 37	81 18	333 00	4	7	2	9	7	200 00
550 97	128 81	5	405 00	363 68	245 98	8	20	4	8	5	85 00
354 14	119 39	2	59 50	129 56	57 19	13	10	5	2	5	40 00
881 72	249 99	6	415 61	668 52	338 04	9	34	22	4	12	44 15
48 60	15 59	3	386 98	213 85	106 66	16	4	2	2	2	.....
365 53	102 46	3	394 80	413 34	116 77	22	19	6	2	11	.....
591 64	166 09	4	445 17	428 76	236 77	16	17	9	7	16	.....
325 18	82 96	3	305 72	188 99	101 56	8	10	11	8	8	116 14
366 38	103 04	5	718 46	235 94	78 53	19	8	4	5	9	.....
124 42	44 20	.....	.....	.....	.....	3	1	3	2	3	.....
143 35	58 73	2	115 00	136 35	194 60	10	10	4	1	2	.....
707 54	162 15	7	845 76	726 20	256 02	19	33	9	5	10	6 00
541 75	180 40	3	584 17	170 82	89 12	12	14	6	.....	7	.....
398 59	134 13	8	.....	1,970 42	1,355 51	44	20	5	7	7	400 00
654 31	147 50	1	82 00	138 51	47 68	36	25	6	3	3	15 00
179 00	51 00	.....	.....	.....	.....	9	5	1	5	2	.....
262 01	79 37	3	293 85	181 21	45 99	16	12	5	2	7	.....
55 95	12 00	1	400 00	79 61	21 36	3	3	.....	.....	6	50 00
427 03	172 82	1	.....	103 60	49 29	8	3	9	6	7	.....
.....	.....	1	.....	154 65	30 01	.....	.....	.....	.....	.....	.....
1,867 01	521 38	5	1,053 41	436 39	134 12	27	76	42	1	10	77 87
14 25	.....	1	180 00	105 35	58 85	2	2	2	.....	1	.....
19 47	4 46	1	.....	62 10	26 00	6	1	.....	1	4	.....
426 72	178 34	.....	.....	.....	.....	19	11	15	11	2	.....
215 55	95 06	.....	.....	.....	.....	19	11	5	.....	6	.....
315 10	79 40	4	689 61	272 10	89 67	11	15	6	2	10	66 00
21 59	.....	1	150 00	139 56	.....	.....	.....	1	.....	2	.....
196 76	67 36	3	292 00	355 59	166 27	11	9	2	1	7	325 00
136 94	35 44	2	310 00	241 31	87 36	17	6	5	14	4	.....
513 66	124 91	5	597 00	431 60	234 60	25	11	12	3	5	165 00
206 34	52 10	2	196 80	60 85	31 56	12	1	7	4	3	.....
92 39	32 89	2	871 33	780 79	305 86	9	3	4	5	6	.....
229 50	47 86	.....	.....	242 65	30 63	4	8	1	1	3	.....
363 17	130 40	.....	.....	.....	.....	8	8	12	.....	5	.....
567 73	175 89	3	101 00	273 00	99 39	28	27	22	9	6	.....
745 39	204 51	9	844 51	892 70	370 97	11	20	23	3	6	35 00
806 34	243 98	5	2,210 51	707 29	310 43	3	14	4	4	4	571 24
183 05	61 61	5	480 05	561 85	412 72	18	9	3	2	12	.....
295 75	90 44	4	870 94	274 23	130 66	5	10	8	.....	3	.....
97 70	41 96	.....	.....	.....	.....	16	5	2	.....	7	160 00
310 98	110 06	1	147 60	10 05	1 60	23	10	5	3	9	535 00
1,906 14	617 21	10	1,323 02	1,120 26	619 26	31	51	29	13	18	25 00
8,290 27	2,018 83	52	4,143 74	4,684 89	1,398 30	129	291	159	70	85	1,110 16
25,121 43	7,020 66	180	20,022 91	18,010 75	8,210 33	709	852	482	213	347	4,026 56

APPENDIX D.—Being a Return of Business Transacted by County Court Clerks through-

Counties or Districts.	Amount paid out.	Balance in Court.	Number of Writs of Execution issued against lands.	Number of Writs of Execution issued against goods.	Number of Writs of <i>Co Sa</i> issued.	Number of Certificates under Creditors' Relief Act.	Amounts for which issued, without costs.	Amount of Costs allowed thereunder.
Algoma		200 00	10	12		9	988 64	28 90
Brant	368 60		41	48		4	118 13	51 97
Bruce		40 00	35	24		2	199 55	31 48
Carleton			49	45				
Dufferin.....								
Elgin			36	37				
Essex			34	29				
Frontenac.....	116 14	12 72	39	43		1	56 83	6 75
Grey			29	27		3	1,434 68	28 13
Haldimand.....			10	15				
Halton			29	27				
Hastings		6 00	52	40		1	73 48	3 85
Huron			39	31		1	133 60	8 61
Kent	400 00		70	69		2	309 63	14 68
Lambton.....	15 00		35	31				
Lanark			18	17		4	454 81	20 23
Leeds and Grenville.....			10	6		10	1,174 65	41 32
Lennox and Addington.....	50 00		5	5		3	1,303 17	49 23
Lincoln	30 00		16	16				
Manitoulin.....			4	3				
Middlesex.....	77 87		140	124		1	75 00	926 00
Muskoka			7	5		2	494 95	63 40
Norfolk			8	7				
Northumberland and Durham.....		81 00	35	35	1	5	317 88	24 46
Ontario			39	55		2	336 75	12 77
Oxford	50 15	16 37	38	33	1	11	1,759 61	62 15
Parry Sound			1	1				
Peel	225 00	100 00	19	16		1	156 00	27 55
Perth			21	18				
Peterborough.....	165 00		45	39				
Prescott and Russell.....			4	11		3	402 44	24 58
Prince Edward.....			14	14				
Rainy River.....			7	8				
Renfrew			17	11				
Simcoe			53	99		13	74,043 23	78 10
Stormont, Dundas and Glengarry.....	35 00		47	34		3	325 27	21 23
Thunder Bay.....	523 28	1,148 19	35	30		2	3,869 09	16 10
Victoria			54	61				
Waterloo.....	100 00		24	32				
Welland		160 00	22	19	1			
Wellington.....	535 00		37	33				
Wentworth.....		25 00	116	101	2			
York	1,216 66	14,445 99	597	499		12	249,040 49	57 20
Totals.....	3,909 70	16,235 27	1,941	1,810	5	95	337,017 88	1,598 69

out the Province of Ontario, during the year ending 31st December, 1893.—Continued.

Number of Partition Matters.	Amount of money paid thereunder.	Amount paid out.	Amount at joint credit of Judge and Clerk, including interest allowed.	Number of Chattel Mortgages and Bills of Sale filed.	Total amount secured by such Mortgages.	Number of Mortgages renewed.	Number of Discharges filed.	Number of Assignments filed under R. S. O., chap. 124.	Number of Hire receipts filed under 57 Vict., chap. 19.	Total amount secured by such receipts, etc.	Amount of fees earned by Clerk of Court, not including salary paid.
1	1,510 00	1,225 90	1,878 99	158	244,245 75	22	6	5	15	2,420 00	297 95
.....	214 97	2,320 09	5,063 69	385	191,087 83	163	8	12	60	6,608 00	891 90
.....	.....	.....	.....	607	181,157 00	299	8	15	49	8,933 48	1,126 10
.....	.....	.....	.....	419	300,471 52	298	43	25	227	13,945 91	1,267 55
.....	.....	.....	.....	234	81,800 76	109	5	4	78	4,843 79	428 50
.....	.....	.....	.....	492	178,146 44	117	13	15	62	7,194 95	566 74
.....	.....	.....	.....	446	116,838 86	164	10	19	75	5,980 40	913 66
.....	.....	.....	290 69	449	207,397 91	163	6	16	62	3,355 00	601 49
.....	.....	.....	.....	1,190	309,318 65	334	11	13	108	8,013 05	1,069 01
.....	.....	.....	.....	145	38,071 36	45	1	5	8	470 00	326 45
.....	.....	.....	.....	140	77,900 70	36	6	3	16	1,029 75	279 35
.....	.....	.....	1,386 56	908	230,906 00	265	20	13	239	15,462 41	1,250 65
1	5,260 00	8,339 62	3,553 97	307	114,263 60	143	4	8	23	5,592 53	550 30
.....	.....	.....	.....	749	305,120 69	317	16	7	185	8,297 99	1,161 90
.....	.....	.....	.....	408	121,484 81	158	16	16	65	13,608 98	840 20
.....	.....	.....	.....	210	74,341 00	62	8	9	4	2,307 00	330 94
.....	.....	.....	188 30	323	77,998 55	171	15	18	23	6,939 00	780 75
.....	.....	.....	.....	117	60,103 65	95	3	3	27	1,244 00	349 45
.....	.....	.....	.....	332	191,045 64	95	12	8	25	9,296 53	604 64
.....	.....	.....	.....	103	57,112 80	32	2	.....	40	2,122 00	78 65
.....	.....	824 03	.....	556	169,536 57	271	10	36	100	15,862 00	1,495 15
.....	.....	.....	.....	.....	.....	.....	.....	.....	22	2,505 92	44 40
1	1,894 99	2,514 64	2,249 08	215	37,884 60	89	4	20	170	12,550 55	458 45
.....	.....	.....	.....	461	173,732 80	322	12	17	41	6,216 00	913 86
.....	.....	.....	.....	352	116,209 54	186	3	17	59	4,754 90	733 70
1	325 00	330 15	2,182 45	288	93,173 17	102	4	15	19	5,311 00	918 04
.....	.....	.....	.....	164	137,447 00	25	4	3	31	901 34	51 75
.....	.....	.....	54 21	118	65,520 03	52	6	4	5	1,375 78	447 08
.....	.....	.....	.....	302	129,560 32	81	5	14	25	2,819 65	560 95
.....	.....	.....	.....	341	183,609 66	106	5	11	28	2,765 39	514 27
.....	.....	.....	.....	183	108,766 62	34	6	4	8	1,815 00	285 25
.....	.....	.....	.....	176	42,382 83	75	4	1	30	1,968 93	446 95
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	189 10
.....	.....	.....	.....	161	43,004 37	127	5	5	37	3,439 26	431 00
.....	.....	.....	.....	673	265,380 05	295	5	34	168	20,684 55	1,387 35
.....	.....	.....	.....	440	177,227 09	112	13	12	37	2,705 48	871 95
.....	.....	.....	.....	51	39,195 25	8	4	4	69	5,974 50	547 25
.....	.....	.....	.....	375	202,829 06	140	6	14	93	9,643 09	621 15
5	1,576 26	179 41	1,396 85	141	73,077 63	84	.....	18	67	8,710 50	320 80
3	251 53	48 13	203 40	276	150,841 59	84	7	8	35	2,251 85	461 45
.....	.....	.....	4,999 31	487	222,607 81	163	11	17	84	7,308 57	564 05
1	120 00	.....	120 00	444	161,121 61	235	25	36	76	10,337 79	1,623 95
.....	.....	.....	1,319 57	1,967	896,609 00	677	66	144	207	51,633 45	6,951 45
13	11,152 75	15,811 99	24,837 07	16,326	6,621,490 15	6,356	416	648	2,802	309,201 30	34,685 53

APPENDIX E.—Being a Return of Business transacted by Surrogate Registrars

Counties or Districts.	Number of Probates issued.	Number of Letters of Administration issued.	Number of Letters of Guardianship issued.	Number of Probates and Letters issued under R. S. O. 1887, c. 50, Sec. 67, as amended by 53 Vict. c. 17, s. 17, and included in the previous numbers.	Number of Wills proved Guardianship issued where			
					Above \$100,000.	From \$50,000 to \$100,000.	From \$25,000 to \$50,000.	From \$10,000 to \$25,000.
Algoma	5	11						
Brant	50	30	3	3				5
Bruce	73	40	2	14				4
Carleton	119	61	7	19	2		4	7
Dufferin								
Elgin	73	52	3	3			2	4
Essex	61	25	1	9				1
Frontenac	59	27	3	7	3	1	3	5
Grey	105	34	2	12				
Haldimand	42	13	3	5				
Halton	51	18	4	6				3
Hastings	77	50	7	9			1	1
Huron	121	42	7	6		1	2	5
Kent	84	36	3	17				2
Lambton	79	50	3	36		1		3
Lanark	47	18		4				2
Leeds and Grenville	119	49	1	12		2		
Lennox and Addington	40	10	2	10	1			
Lincoln	41	26	6	10		1		
Manitoulin	3	4	1	4				
Middlesex	172	91	10	42	1		3	6
Muskoka	6	5	1	2				
Norfolk	47	25	3	10			1	
Northumberland	126	55	6	22		2	3	7
Ontario	79	34	6	15				2
Oxford	105	40	9	10			6	6
Parry Sound	4	5		2				

throughout the Province of Ontario during the year ending 31st December, 1893.

and Letters of Administration or personally valued as follows :				Total amount of personally devolving.	Total amount of realty to be admin- istered under R. S. O. 1887, c. 108, s. 4.	Amount of Fees collected by Surrogate Registrar for -			
From \$5,000 to \$10,000.	From \$1,000 to \$5,000.	From \$100 to \$1,000.	\$400 and under.			Registrar's Fees.	Judge's Fees.	Fee Fund.	Total.
				% c.	% c.	% c.	% c.	% c.	% c.
.....	3	9	4	9,691 75	.....	100 83	38 50	25 50	164 83
4	35	17	19	216,768 68	199,850 30	738 16	380 50	254 00	1,372 66
2	44	29	36	183,278 00	222,020 00	1,156 65	450 76	267 50	1,874 91
12	54	49	52	676,175 63	483,694 29	1,581 40	1,012 00	680 50	3,273 90
2	16	8	21	53,692 00	6,625 00	375 75	148 00	95 50	620 25
8	40	28	37	266,582 93	325,308 00	1,139 08	749 20	339 50	2,227 78
5	27	20	32	119,942 16	208,588 00	621 90	286 00	199 50	1,167 40
9	24	20	21	886,061 79	334,672 00	1,018 69	1,329 00	591 00	2,938 69
5	52	42	42	165,999 81	52,290 00	1,150 10	487 50	316 00	1,947 60
2	15	21	20	63,048 46	138,930 00	675 00	286 00	126 50	1,087 59
6	28	13	19	163,544 45	234,725 00	840 05	419 90	211 50	1,471 45
7	46	35	37	210,778 40	45,245 06	1,125 41	491 50	338 00	1,954 91
9	52	55	46	409,291 93	69,887 50	1,620 50	1,023 30	488 50	3,132 30
4	31	27	56	157,014 29	.....	899 10	498 50	281 00	1,588 60
8	46	29	41	257,181 92	304,723 00	919 30	502 00	345 00	1,766 30
3	30	14	15	134,305 00	243,833 00	574 69	265 20	191 50	1,031 39
7	53	47	59	438,001 23	86,591 00	1,428 24	829 50	530 00	2,787 74
3	16	11	21	199,819 24	4,400 00	479 70	848 70	184 00	1,512 40
3	27	16	20	154,674 58	139,184 00	612 99	296 20	207 00	1,116 19
.....	4	4	.....	4,940 10	2,316 64	65 40	18 00	19 00	93 40
15	92	59	97	689,462 55	101,178 00	2,283 50	1,303 50	746 50	4,333 50
.....	2	5	5	7,363 65	.....	83 20	30 00	19 50	132 70
6	27	14	27	134,502 91	23,822 00	605 45	385 30	197 50	1,188 25
14	66	38	57	623,611 92	85,190 00	1,532 08	928 50	627 20	3,087 78
10	41	28	38	198,810 00	16,400 00	940 25	591 00	281 50	1,722 75
11	58	34	39	443,344 09	466,768 79	1,592 94	953 70	593 50	3,070 14
.....	3	3	3	8,769 66	.....	62 79	25 50	18 50	103 79

APPENDIX E.—Being a Return of business transacted by Surrogate

Counties or Districts.	Number of Probates issued.	Number of Letters of Administration issued.	Number of Letters of Guardianship issued.	Number of Probates and Letters issued under R. S. O. 1887, c. 50, Sec. 67, as amended by 53 Vict. c. 17, s. 17, and included in the previous numbers.	Number of Wills proved (Guardianship issued where)			
					Above \$100,000.	From \$50,000 to \$100,000.	From \$25,000 to \$50,000.	From \$10,000 to \$25,000.
Peel	49	25	3	19				4
Perth	104	28	1	7	1			7
Peterborough.....	52	30	1	13			1	1
Prescott and Russell.....	25	19		22				
Prince Edward.....	41	19	1	16			1	
Rainy River.....	1	3						
Renfrew	35	23	1	9			1	
Simcoe	101	62	8	23		1		3
Stormont, Dundas and Glengarry	54	40	5	7		1		
Thunder Bay.....	5	3						
Victoria.....	37	21		11			1	1
Waterloo.....	95	17		8				8
Welland	61	31	4	7			1	4
Wellington	94	48	4	21		1	1	4
Wentworth	130	83	3	36	2		4	9
York	349	218	29	79	4	8	10	23
Totals.....	3,021	1,521	133	572	14	19	45	127

Registrars throughout the Province of Ontario, etc.—*Continued.*

and Letters of Administration or personally valued as follows :				Total amount of personality devolving.	Total amount of realty to be admin- istered under R. S. O. 1887, c. 103, s. 4.	Amount of Fees collected by Surrogate Registrar for—			
From \$5,000 to \$10,000.	From \$1,000 to \$5,000.	From \$400 to \$1,000.	\$400 and under.			Registrar's Fees.	Judge's Fees.	Fee Fund.	Total.
				\$. c.	\$. c.	\$. c.	\$. c.	\$. c.	\$. c.
6	26	22	19	188,030 35	222,887 00	698 12	312 90	190 50	1,201 52
11	56	24	34	565,098 71	329,104 50	1,145 55	1,022 70	515 50	2,683 75
6	30	17	27	201,117 43	178,916 03	689 09	426 50	219 00	1,334 59
.....	10	12	22	27,850 17	75,816 00	326 50	112 50	79 50	518 50
2	21	10	26	108,184 32	125,559 00	470 12	211 00	147 50	828 62
1	1	2	.....	6,741 12	7,540 00	37 44	25 00	13 50	75 94
3	22	12	16	115,865 21	93,085 75	406 30	218 30	143 60	767 60
7	60	38	46	299,622 30	75,170 00	1,437 20	599 00	413 00	2,449 20
10	38	28	22	263,712 48	1,128 35	750 23	412 00	290 50	1,452 73
.....	2	2	3	7,397 02	.....	49 40	18 50	14 50	82 40
6	17	22	11	131,561 64	17,050 00	458 20	210 00	146 00	814 20
16	34	18	36	996,678 71	280,070 00	958 31	521 00	365 50	1,844 81
7	27	25	32	211,607 74	192,604 00	1,019 60	502 10	274 50	1,796 20
9	45	32	54	310,145 00	337,393 00	1,442 84	669 70	378 50	2,491 04
17	55	50	79	1,175,718 26	710,950 49	1,767 67	1,599 30	915 00	4,281 97
46	178	122	205	2,839,369 00	46,725 00	5,026 60	3,202 00	2,342 00	10,570 60
302	1,554	1,111	1,496	14,325,266 59	6,490,185 70	40,916 32	24,460 26	14,519 20	79,885 78

APPENDIX F.—Schedule shewing Return of Fees and Emoluments of the different year ending 31st

County or District.	County Town.	Office.	Officers.	Amount Earned.		Salary paid by the Govern- ment.
				\$	c.	
Algoma ...	Sault Ste. Marie ...	Sheriff	W. H. Carney	1,657	22	1,000 00
		Surrogate Judge	Judge Johnston	38	00	.....
		Local Master	"	20	95	.....
		District Attorney	J. J. Kehoe	356	00	.....
		Clerk of the Peace	"	413	77	800 00
		Local Registrar	T. A. P. Towers	35	00	150 00
		District Court Clerk ..	"	297	95	600 00
		Surrogate Registrar....	"	100	83	.. ..
Brant	Brantford	Sheriff	W. Watt, jr.	2,344	23	.....
		Surrogate Judge	Judge Jones	commuted at		.....
		Local Master	*	commuted at		.....
		County Attorney.....	G. R. VanNorman, Q.C.	697	10	.....
		Clerk of the Peace	"	899	56	.. ..
		Local Registrar.....	W. B. Rubidge.....	529	35	675 00
		County Court Clerk ...	"	891	90	.....
		Surrogate Registrar....	"	738	16	.....
Bruce	Walkerton	Sheriff	Fred. S. O'Connor ..	3,400	10	.....
		Surrogate Judge	Judge Barrett	†390	26	.....
		Local Master & Deputy Registrar	W. A. McLean.....	commuted at		.....
		County Attorney.....	Thos. Dixon	585	30	.....
		Clerk of the Peace	"	1,559	26	.....
		Deputy Clerk of the Crown	Wm. Gunn.....	121	70	450 00
		County Court Clerk....	"	1,126	10	.....
		Surrogate Registrar....	"	1,156	65	.....
Carleton ...	Ottawa	Sheriff	John Sweetland	4,717	26	.....
		Surrogate Judge	Judge Ross	commuted at		.....
		"	Judge Mosgrove.....	commuted at		.....
		Local Master.....	W. M. Matheson	1,522	35	.....
		Deputy Registrar.....	"	514	78	.....
		County Attorney	W. A. Lees, acting ..	310	89	.....

*W. D. Jones appointed to act *pro tem* Nov. 5th, 1892.

†From 1st April.

County Judicial Officers in the Province of Ontario, earned and received during the December, 1893.

Total Earnings and Salary.		Total Earnings and Salary by officer in all his offices.		Amount received for present year.		Amount received for previous years.		Total Receipts.		Total receipts by officer from all his offices.		Amount disbursed.		Amount paid Government under 36 Vic. Chap. 17.*		Net amount received in 1893 in respect of the earnings of that year and previous years.		Net amount received in 1893 in respect of the earnings of that year.		
£	c.	£	c.	£	c.	£	c.	£	c.	£	c.	£	c.	£	c.	£	c.	£	c.	
2,657	22	2,657	22	2,451	82	200	96			2,652	78	1,590	48			1,062	30		861	34
38	00			38	00			38	00							38	00			
20	95	58	95	8	55	5	00	13	55	51	55					13	55	46	55	
356	00			202	00	55	00	257	00							257	00			
1,213	77	1,569	77	1,061	87	105	84	1,167	71	1,424	71	12	50			1,412	21	1,251	37	
185	00			185	00			185	00							185	00			
897	95			897	95	29	55	927	50			10	00			917	50			
100	83	1,183	78	100	83			100	83	1,213	33	5	00			95	83	1,168	78	
		2,344	23	2,120	18	206	89			2,327	07	608	36			1,718	71	1,511	82	
428	00			428	00			428	00							428	00			
577	00			577	00			577	00	937	00	25	00			552	00	980	00	
697	10			697	10			697	10			8	00			689	10			
899	56	1,596	66	899	56			899	56	1,596	66	55	50			844	06	1,533	16	
1,204	35			1,173	55			1,173	55			384	50			789	05			
891	90			861	06			861	06			275	95			585	11			
738	16	2,834	41	737	06			737	06	2,771	67	235	95			501	11	1,875	27	
		3,400	10	2,663	30	265	55			2,928	85	1,424	46			1,504	39	1,238	84	
		390	26	390	26					390	26							390	26	
850	00	850	00			850	00					5	00						845	00
585	50			567	60	154	30	721	90			14	00			707	90			
1,559	26	2,144	56	1,505	88	500	43	2,006	31	2,728	21	73	02			1,933	29	1,986	46	
571	70			571	70			571	70			170	00			401	70			
1,126	10			1,042	10	11	92	1,054	02			265	00			789	02			
1,156	65	2,854	45	871	65	138	08	1,039	73	2,635	45	265	00			744	73	1,785	45	
		4,717	26	4,525	99	427	37			4,953	36	2,372	82			2,580	54	2,153	17	
500	00	500	00	500	00					500	00								500	00
350	00	350	00	350	00					350	00								350	00
1,522	35			1,504	39	16	67	1,521	06			138	09			1,382	97			
514	78	2,037	15	505	24	1	60	506	84	2,027	90	137	00			369	84	1,734	54	
310	89			238	30	177	20	415	50			11	55			403	95			

*This Act did not affect receipts in 1893 in respect of previous earnings, the Act not having gone into operation until 1st January, 1893.

APPENDIX F.—Schedule shewing Return of Fees and Emoluments of the

County or District	County Town.	Office.	Officer.	Amount Earned.	Salary paid by the Govern- ment.
				§ c.	§ c.
Carleton.— <i>Con</i>	Ottawa.....	Clerk of the Peace.....	W. A. Lees, acting....	1,063 04	.....
		Deputy Cl ^k of the Crown	J. P. Featherston	789 05	450 00
		County Court Clerk....	“	1,267 55	.....
		Surrogate Registrar ...	“	1,581 40	.....
Dufferin....	Orangeville.....	Sheriff	Thos. Bowles.....	2,042 48	.....
		Surrogate Judge	Judge McCarthy	commuted at	
		Local Master.....	“	201 53	.....
		County Attorney	W. J. L. McKay	176 88	.....
		Clerk of the Peace.....	“	409 60	.....
		Local Registrar	John McLaren	228 00	675 00
		County Court Clerk....	“	428 50	.....
Surrogate Registrar....	“	375 75	.....	
Elgin	St. Thomas.....	Sheriff	Dugald Brown	3,124 47	.....
		Surrogate Judge	Judge Hughes	749 20	.....
		Local Master.....	Robert Miller	1,622 55	.....
		County Attorney.....	D. J. Donahue	690 84	.....
		Clerk of the Peace . . .	“	1,067 21	.....
		Local Registrar.. . . .	D. McLaws	439 80	675 00
		County Court Clerk....	“	666 74	.....
		Surrogate Court	“	1,139 08	.....
Essex	Sandwich	Sheriff	J. C. Iler	3,359 20	.....
		Surrogate Judge	Judge Horne.....	286 00	.....
		Local Master.....	A. H. Clarke <i>pro tem</i> ..	745 60	.....
		Deputy Registrar....	* “	315 65	.....
		County Attorney.....	A. H. Clarke	759 85	.....
		Clerk of the Peace . . .	“	865 23	.....
		Deputy Cl ^k of the Crown	F. E. Marcon	215 30	450 00
		County Court Clerk....	“	913 66	.....
		Surrogate Registrar....	“	621 90	.....
Frontenac..	Kingston.....	Sheriff	Wm. Ferguson	2,038 57	.....

different County Judicial Officers in the Province of Ontario, etc.—*Continued.*

Total Earnings and Salary.	Total Earnings and Salary by officer in all his offices.	Amount received for present year.	Amount received for previous years.	Total receipts.	Total receipts by officer from all his offices.	Amount disbursed.	Amount paid Government under 55 Vic. Cap. 17.	Net amount received in 1893 in respect of the earnings of that year and previous years.	Net amount received in 1893 in respect of the earnings of that year.
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
1,063 04	1,373 93	883 88	267 29	1,151 17	1,566 67	29 80		1,121 37	1,080 83
1,239 05		1,149 85	157 63	1,307 48		267 75		1,039 73	
1,267 55		1,196 55	175 12	1,371 67		267 75		1,103 92	
1,581 40	4,088 00	1,344 60	388 82	1,733 42	4,412 57	529 61	75 36	1,203 81	2,625 89
	2,042 48	1,591 66	323 56		1,915 22	624 08		1,291 14	967 58
168 00		168 00		168 00				168 00	
201 53	369 53	177 38	15 50	112 88	360 88	5 57		187 31	339 81
176 88		90 48	74 40	164 88		12 00		152 88	
409 60	586 48	225 25	184 35	409 60	574 48	10 00		399 60	293 73
903 00		903 00	5 90	908 90		7 90		901 00	
428 50		404 10	26 85	430 95		9 00		421 95	
375 75	1,707 25	374 30		374 30	1,714 15	21 90		352 20	1,642 60
	3,124 47	2,031 53	600 98		2,632 51	1,467 00		1,165 51	564 53
		749 20			749 20			749 20	749 20
	1,622 55	610 02	687 82	1,297 84	1,297 84	149 00		1,148 84	461 02
690 84		641 00	123 00	764 00		100 00		664 00	
1,067 21	1,758 05	1,067 21	502 26	1,569 47	2,333 47	150 00		1,419 47	1,458 21
1,114 80		996 65	43 10	1,039 75		65 00		974 75	
666 74		628 43	18 50	646 99		65 00		581 99	
1,139 08	2,920 62	956 55	64 00	1,020 55	2,707 29	250 00	20 06	759 49	2,201 69
	3,359 20	2,347 74	656 80		3,004 54	1,583 40		1,421 14	764 34
	286 00				286 00				286 00
745 60		629 60	199 20	828 80		60 00		768 80	
315 65		315 65	12 20	327 85				327 85	
759 85		510 65	96 30	606 95		10 00		596 95	
865 23	2,686 33	465 57	259 89	725 46	2,489 06	411 50		313 96	1,439 97
665 30		665 30		665 30					
913 66		913 66		913 66		345 65		668 01	
621 90	2,200 86	621 90		621 90	2,200 86				1,855 21
	2,038 57	2,038 57			2,038 57	525 33			1,513 24

APPENDIX F.—Schedule shewing return of Fees and Emoluments of the

County or District.	County Town.	Office.	Officer.	Amount Earned.	Salary paid by the Govern- ment.
				§ c.	§ c.
Frontenac.— <i>Continued.</i>	Kingston	Surrogate Judge.....	Judge Price	§ c. commuted at	
		Local Master.....	J. M. Machar, Q.C.....	604 79	.....
		County Attorney	J. L. Whiting, Q.C.....	397 53	.....
		Clerk of the Peace	“	1,041 44	.....
		Local Registrar	Archibald McGill.....	186 97	675 00
		County Court Clerk ...	“	601 49	.....
		Surrogate Registrar....	“	1,018 69	.....
Grey	Owen Sound	Sheriff	C. H. Moore	3,111 66	.....
		Surrogate Judge.....	†Judge Creasor	487 50	.....
		Local Masters.....	{ “	215 20	.....
		County Attorney.....	*Wm. Armstrong	100 40	.....
		Clerk of the Peace . .	“	596 26	.....
		Local Registrar	George Inglis.....	165 70	750 00
		County Court Clerk....	“	1,069 01	.....
		Surrogate Registrar....	“	1,150 10	.....
Haldimand.	Cayuga	Sheriff	R. H. Davis.....	1,478 96	.....
		Surrogate Judge	Judge McMillan	286 00	.....
		Local Master.....	“	92 25	.....
		County Attorney	J. R. Martin	459 18	.....
		Clerk of the Peace	“	1,292 50	.....
		Local Registrar	Jas. Mitchell.....	71 95	600 00
		County Court Clerk ..	“	326 45	.....
		Surrogate Registrar....	“	675 00	.....
Halton	Milton	Sheriff	M. Clements	1,575 30	.....
		Surrogate Judge	Judge Snider.....	419 90	.....
		Local Master.....	‡ “	8 75	.....
		County Attorney.....	T. G. Matheson	442 57	.....
		Clerk of the Peace	“	1,355 58	.....
		Local Registrar.....	Walter A. Lawrence ..	109 70	600 00

†From 16th July.

*From 8th May.

‡From 1st May.

different County Judicial Officers in the Province of Ontario, etc.—Continued.

Total Earnings and Salary.	Total Earnings and Salary by officer in all his offices.	Amount received for present year.	Amount received for previous years.	Total receipts.	Total receipts by officer from all his offices.	Amount disbursed.	Amount paid Government under 55 Vic. Cap. 17.	Net amount received in 1893 in respect of the earnings of that year and previous years.	Net amount received in 1893 in respect of the earnings of that year.
£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.
752 00	752 00	752 00			752 00			752 00	752 00
	604 79	368 66	133 50	501 96		100 00		401 96	268 66
397 55		109 60	214 80	323 80		13 00		310 80	
1,041 44	1,438 99	420 20	471 35	891 55	1,215 35	327 00		564 55	189 20
861 97		841 97		841 97				841 97	
601 49		520 49	43 00	563 49				563 49	
1,018 69	2,482 15	914 33	74 00	988 33	2,393 79	735 00		988 33	1,541 79
	3,111 66	2,816 46	469 13		3,285 59	1,457 87		1,827 72	1,358 59
487 50		487 50		487 50				487 50	
215 20	702 70	34 90		34 90	522 40	2 00		32 90	520 40
100 40		28 40	72 00	100 40		45 00		55 40	
596 26	696 66	390 02	206 24	596 26	696 66			596 26	373 42
915 70		915 70		915 70				915 70	
1,069 01		1,069 01		1,069 01		24 50		1,044 51	
1,150 10	3,134 81	1,103 15	122 85	1,226 00	3,210 71	112 67	140 14	1,113 33	2,950 69
	1,478 96	1,457 45	70 15		1,527 60	569 74		957 86	887 71
286 00		286 00		286 00				286 00	
92 25	378 25	84 25		84 25	370 25	4 00		80 25	366 25
459 18		260 35	233 50	493 85		35 00		458 85	
1,292 50	1,741 68	888 05	531 30	1,419 35	1,913 20	395 00		1,024 35	718 40
671 95		671 95		671 95		15 00		656 95	
326 45		326 45		326 45		20 00		306 45	
675 00	1,673 40	675 00		675 00	1,673 40	65 00		610 00	1,573 40
	1,575 30	1,479 51	39 30		1,518 81	460 00		1,058 81	1,019 51
419 90				419 90				419 90	
8 75	428 75				428 75				428 75
442 57		294 57	48 40	342 97		8 25		334 72	
1,355 58	1,798 15	895 73	460 24	1,355 97	1,698 94	52 70		1,303 27	1,129 35
709 70		709 70		709 70		200 00		509 70	

APPENDIX F.—Schedule shewing Return of Fees and Emoluments of the

County or District.	County Town.	Office.	Officer.	Amount Earned.	
				\$ c.	\$ c.
Halton-Con.	Milton	County Court Clerk....	Walter A. Lawrence ..	279 35	.....
		Surrogate Registrar....	“ ..	840 05	.....
Hastings ..	Belleville.....	Sheriff	Wm. Hope.....	4,316 49	.....
		Surrogate Judge.....	Judge Lazier.....	commuted at	
		Local Master and Deputy Registrar	S. S. Lazier	commuted at	
		County Attorney.....	G. E. Henderson, Q.C.	364 78	.....
		Clerk of the Peace	“	1,458 34	.....
		Deputy Clerk of the Crown	A. G. Northrup	630 91	450 00
		County Court Clerk ...	“	1,250 65	.....
		Surrogate Registrar....	“	1,125 41	.....
Huron	Goderich	Sheriff	R. Gibbons	2,754 90	.....
		Surrogate Judge	Judge Tom.	commuted at	
		Local Master and Deputy Registrar.....	S. Malcomson	commuted at	
		County Attorney	Ira Lewis	506 80	.....
		Clerk of the Peace.....	“	1,305 15	.....
		Deputy Clerk of the Crown	D. Macdonald	430 05	500 00
		County Court Clerk ...	“	550 30	.....
		Surrogate Registrar....	“	1,620 50	.....
Kent	Chatham	Sheriff	John Mercer	3,682 28	.....
		Surrogate Judge.....	Judge Bell.....	commuted at	
		Local Master and Deputy Registrar	R. O'Hara	commuted at	
		County Attorney	Wm. Douglas, Q C	1,482 58	.....
		Clerk of the Peace	“	1,359 00	.....
		Deputy Clerk of the Crown	W. A. Campbell.....	184 42	450 00
		County Court Clerk....	“	1,161 90	.....
		Surrogate Registrar....	“	899 10	.....
Lambton ..	Sarnia	Sheriff	Jas. Flintoft	2,508 93	.....

different County Judicial Officers in the Province of Ontario, etc.—*Continued.*

Total Earnings and Salary.	Total Earnings and Salary by officer in all his offices.	Amount received for present years.	Amount received for previous years.	Total receipts.	Total receipts by officer from all his offices.	Amount disbursed.	Amount paid Government under 55 Vic. Chap 17.	Net amount received in 1893 in respect of the earnings of that year and previous years.	Net amount received in 1893 in respect of the earnings of that year.
£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.
279 35		279 35		279 35		100 00		179 35	
840 05	1,829 10	840 05		840 05	1,829 10	209 00		631 05	1,320 10
	4,316 49	2,966 50	833 86		3,800 36	2,261 40		1,538 96	705 10
500 00					500 00			500 00	500 00
3,000 00	3,000 00				3,000 00				3,000 00
364 78		322 35	185 85	508 20		100 00		408 20	
1,458 30	1,823 08	937 49	629 43	1,566 92	2,075 12	250 00		1,316 92	909 84
1,080 91		930 00	250 00	1,180 00		250 00		930 00	
1,250 65		950 65	338 00	1,288 65		200 00		1,088 65	
1,125 41	3,456 97	725 00	350 00	1,075 00	3,543 65	320 60		755 00	1,835 65
	2,754 90	2,396 90	504 37		2,901 27	1,719 51		1,181 76	677 39
793 00	793 00				793 00			793 00	793 00
1,250 00	1,250 00	1,250 00			1,250 00				1,250 00
506 83		318 80	136 00	454 80		40 00		414 80	
1,305 15	1,811 95	946 85	340 45	1,287 30	1,742 10	635 00		652 30	590 65
930 05		930 05		930 05		174 20		755 85	
550 30		550 30		550 30		150 00		400 30	
1,620 50	3,100 85	1,620 50		1,620 50	3,100 85	450 00	32 66	1,170 50	2,326 65
	3,682 23	2,974 75	992 93		3,967 18	1,060 71		2,906 97	1,914 04
450 00	450 00				450 00				450 00
1,600 00	1,600 00	1,600 00			1,600 00				1,600 00
1,482 58		1,350 70	220 54	1,571 24		200 00		1,371 4	
1,359 03	2,841 58	1,200 00	350 00	1,550 00	3,121 24	100 00		1,450 00	2,250 70
634 42		634 42		634 42				634 42	
1,161 93		1,161 90	37 00	1,198 90		585 00		1,198 90	
899 10	2,695 42	899 10		899 10	2,732 42		11 04	899 10	2,110 42
	2,508 93	1,878 88	652 54		2,531 42	1,160 77		1,370 65	718 11

APPENDIX F.—Schedule shewing Return of Fees and Emoluments of the

County or District.	County Town.	Office.	Officer.	Amount Earned.	
				§ c.	§ c.
Lambton.— <i>Con.</i>	Sarnia.....	Surrogate Judge.....	Judge Robinson....	502	00
		Local Master.....	“.....	75	20
		County Attorney.....	J. P. Bucke.....	736	68
		Clerk of the Peace....	“.....	1,241	65
		Local Registrar.....	W. R. Gemmill....	345	22
		County Court Clerk...	“.....	840	20
		Surrogate Registrar...	“.....	919	30
Lanark.....	Perth.....	Sheriff.....	Jas. Thompson.....	1,334	97
		Surrogate Judge.....	Judge Senkler.....	262	80
		Local Master.....	“.....	218	20
		County Attorney.....	E. G. Malloch....	423	90
		Clerk of the Peace....	“.....	593	53
		Local Registrar.....	Charles Rice.....	85	90
		County Court Clerk...	“.....	330	94
Surrogate Registrar..	“.....	574	69		
Leeds and Grenville...	Brockville.....	Sheriff.....	James Smart.....	3,193	09
		Surrogate Judge.....	Judge Macdonald...	commuted at	
		Local Master.....	J. D. Buell.....	243	82
		Deputy Registrar....	“.....	65	77
		County Attorney....	“.....	402	08
		Clerk of the Peace....	“.....	590	30
		Deputy Clerk of Crown	S. Reynolds.....	305	45
		County Court Clerk..	“.....	780	75
Surrogate Registrar...	“.....	1,428	24		
Lennox and Addington..	Napanee.....	Sheriff.....	O. T. Prunyn.....	1,531	64
		Surrogate Judge.....	Judge Wilkinson...	commuted at	
		Local Master.....	S. S. Lazier.....	355	67
		County Attorney.....	A. L. Morden.....	86	40
		Clerk of the Peace....	“.....	557	59
		Local Registrar....	W. P. Deroche....	299	30
				600	00

different County Judicial Officers in the Province of Ontario, etc.—Continued.

Total Earnings and Salary.	Total Earnings and Salary by officer in all his offices.	Amount received for present year.	Amount received for previous years.	Total receipts.	Total receipts by officer from all his offices.	Amount disbursed.	Amount paid Government under 53 Viet. Cap. 17.	Net amount received in 1893 in respect of the earnings of that year and previous years	Net amount received in 1893 in respect of the earnings of that year.
£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.
502 00		502 00		502 00				502 00	
75 20	577 20	75 20		75 20	577 20			75 20	577 20
736 68		267 68	262 00	529 68		15 78		513 90	
1,241 65	1,978 33	1,158 45	103 90	1,262 35	1,792 03			1,262 35	1,410 35
1,020 22		1,020 22				45 00		975 22	
840 20		840 20		840 20		25 00		815 20	
919 30	2,779 72	919 30		919 30	2,779 72	55 00	80 94	864 30	2,654 72
	1,334 97	978 12	383 96	1,362 08	1,362 08	460 78		901 30	517 34
262 80		262 80		262 80				262 80	
218 20	481 00			119 28	382 08			119 28	481 00
423 90		295 40	110 05	405 45		48 00		357 45	
593 53	1,017 43	328 28	316 64	644 92	1,050 37	54 00		590 92	521 68
760 90		716 30	70	717 00		30 42		686 58	
330 94		251 44	89 24	340 68		30 42		310 26	
574 69	1,666 53	510 44	102 70	613 14	1,670 82	100 00		513 14	1,317 34
	3,193 09	2,352 64	578 97		2,931 61	835 30		2,096 31	1,517 34
600 00	600 00	600 00			600 00				600 00
243 82		124 64	123 91	248 55				248 55	
65 77		43 30		43 30				43 30	
402 08		259 74	74 90	334 64				334 64	
590 30	1,301 97	337 86	234 41	572 27	1,198 76			572 27	765 54
805 45		805 45		805 45		179 73		625 72	
780 75		780 75		780 75		32 82		747 93	
1,428 24	3,014 44	1,428 24		1,428 24	3,014 44	40 86	102 20	1,387 38	2,761 03
	1,531 64	903 25	454 06		1,358 03	993 97		364 06	
400 00	400 00				400 00				400 00
355 67		185 67	55 60	241 27		75 00		166 27	110 07
86 40		33 00	14 30	47 30		11 00		36 30	
557 59	643 99	313 85	229 94	543 79	591 09	69 50		474 29	266 35
899 30		874 60		874 60		38 81		835 19	

APPENDIX F.—Schedule shewing Return of Fees and Emoluments of the

County or District.	County Town.	Office.	Officer.	Amount Earned.		Salary paid by the Govern- ment.
				\$	c.	
Lennox & Ad- dington— <i>Con</i>	Napanea	County Court Clerk	W. P. Deroche....	349	45	.....
		Surrogate Registrar	“	479	70	.....
Lincoln	St. Catharines.....	Sheriff	Thomas C. Dawson	2,518	09	.....
		Surrogate Judge	Judge Senkler	commuted at		.....
		Local Master.....	F. W. McDonald..	1,220	73	.....
		Deputy Registrar.....	“	172	30	.....
		County Attorney	John McKeown ...	439	00	.....
		Clerk of the Peace.....	“	1,174	54	.....
		Deputy Clerk of the Crown	J. Clench	222	20	450 00
		County Court Clerk	“	604	64	.....
	Surrogate Registrar	“	612	99	.....
Manitoulin ...	Gore Bay	District Court Clerk.....	William S. Francis	78	65	300 00
		Surrogate Registrar	“	65	40	.....
Middlesex....	London	Sheriff	D. M. Cameron ...	3,971	58	.....
		Surrogate Judge	Judge Elliott	commuted at		.....
		Junior Judge.....	†Judge E. Elliott... ..	.....		.....
		Local Master.....	James Shanley ...	1,334	34	.....
		Deputy Registrar.....	“	583	88	.....
		County Attorney.....	*Jas. Magee, Q.C... ..	1,506	88	.....
		Clerk of the Peace	“	1,663	40	.....
		Deputy Clerk of the Crown	John Macbeth	847	50	500 00
	County Court Clerk	“	1,495	15	.....
	Surrogate Registrar	“	2,283	50	.....
Muskoka	Bracebridge	Sheriff	James W. Bettes..	1,653	95	500 00
		Surrogate Judge.....	Judge Mahaffy....	30	00	.....
		Local Master.....	“	82	18	.....
		District Attorney.....	Thomas Johnson ..	647	29	.....
		Clerk of the Peace.....	“	642	13	.....
		Local Registrar.....	Isaac Huber.....	19	77	.....
		District Court Clerk.....	“	44	40	600 00
	Surrogate Registrar ...	“	83	20	.....

*From Feb. 11th.

†From 23rd Sept.

different County Judicial Officers in the Province of Ontario.—*Continued.*

Total Earnings and Salary.	Total Earnings and Salary by officer in all his offices.	Amount received for present year.	Amount received for previous years.	Total receipts.	Total receipts by officer from all his offices.	Amount disbursed.	Amount paid Government under 55 Viet. Cap. 17.	Net amount received in 1893 in respect of the earnings of that year and previous years.	Net amount received in 1893 in respect of the earnings of that year.
£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.
349 45		349 45		349 45		11 00		338 45	
479 70	1,728 45	479 70		479 70	1,703 15	24 30		455 40	1,629 04
	2,518 09	2,231 34	90 92		2,322 26	594 26		1,728 00	1,637 08
560 00	556 00	566 00			566 00				566 00
1,220 73		677 65	597 73	1,275 38		16 00		1,259 38	
172 30	1,393 03	122 46	109 83	232 29	1,507 67			232 29	784 11
439 00		393 00	240 10	633 10		6 50		626 60	
1,174 54	1,613 54	777 25	537 34	1,314 59	1,947 69	325 21		989 38	838 54
672 20		647 30	5 96	653 26		49 65		603 61	
604 64		530 01	89 80	619 81		10 01		609 80	
612 99	1,889 83	607 29	32 07	639 36	1,912 43	35 52		603 84	1,689 42
378 65		378 65	25 00	403 65		31 52		372 13	
65 40	444 05	65 40		65 40	469 05			65 40	412 53
	3,971 58	3,792 07	141 98		3,934 05	2,110 40		1,823 65	1,681 67
1,000 00	1,000 00	1,000 00			1,000 00				1,000 00
1,334 34		814 00	95 00	909 00		29 80		879 20	
583 88	1,918 22	583 88		583 88	1,492 88			583 88	1,368 08
1,506 88		857 86		857 86		301 50		556 36	
1,663 40	3,170 28	1,025 75		1,025 75	1,883 61	452 50		573 25	1,129 61
1,347 50		1,167 00	83 40	1,250 40		419 00		831 40	
1,495 15		1,477 35	16 10	1,493 45		419 00		1,074 45	
2,283 50	5,126 15	2,273 50	9 80	2,283 30	5,027 15	419 00	364 35	1,864 30	3,660 85
2,153 95	2,153 95	1,507 30	460 57		1,967 87	632 47		1,335 40	874 83
30 00		30 00		30 00				30 00	
82 18	112 18	62 12		62 12	92 12	5 25		56 87	86 87
647 29		439 49	174 20	613 69		30 85		582 84	
642 13	1,239 42	433 78	253 15	686 93	1,300 62	29 30		657 63	813 12
19 77		19 77		19 77		6 20		13 57	
644 40		644 40		644 40		5 25		639 15	
83 20	747 37	83 20		83 20	747 37			83 20	735 92

APPENDIX F.—Schedule shewing Return of Fees and Emoluments of the

County or District.	County Town.	Office.	Officer.	Amount Earned.		Salary paid by the Govern- ment.
				\$	c.	
Norfolk	Simcoe	Sheriff	J. Jackson	1,753	65	.....
		Surrogate Judge.....	Judge Robb	385	30	.....
		Local Master.....	"	28	18	.....
		County Attorney	J. H. Ansley.....	301	40	.....
		Clerk of the Peace...	"	1,058	63	.....
		Local Registrar ..	C. C. Rapelje.....	253	90	675 60
		County Court Clerk..	"	458	45	.....
		Surrogate Registrar..	"	605	45	.....
Northumberland and Durham..	Cobourg.....	Sheriff	I. O. Proctor ..	3,380	21	.....
		Surrogate Judge.....	Judge Benson	commuted at		
		Local Master.....	J. H. Dunble	607	48	.....
		County Attorney	J. W. Kerr.....	517	79	.....
		Clerk of the Peace...	"	1,035	69	.....
		Local Registrar.....	John Fisher.	247	86	750 00
		County Court Clerk..	"	943	86	.....
		Surrogate Registrar..	"	1,532	08	.....
Ontario	Whitby	Sheriff	J. F. Paxton	2,333	56	.....
		Surrogate Judge.....	Judge Burnham ..	commuted at		
		Local Master.....	Judge Dartnell	309	70	.....
		County Attorney	J. E. Farewell, Q.C.	682	05	.....
		Clerk of the Peace...	"	1,254	48	.....
		Local Registrar.....	L. T. Barclay.....	45	00	675 00
		County Court Clerk..	"	733	70	.....
		Surrogate Registrar..	"	940	25	.....
Oxford	Woodstock.....	Sheriff	James Brady.....	2,731	51	.....
		Surrogate Judge.....	Judge Finkle.	953	70	.....
		Local Master.....	*H. B. Beard, Q.C..	.....	.....	.....
		Deputy Registrar....	* " .....	.....	.....	.....
		County Attorney	F. R. Ball, Q.C....	272	80	.....
		Clerk of the Peace...	"	806	84	.....

* Succeeded by W. T. McMullen, 23rd December.

different County Judicial Officers in the Province of Ontario, etc.—*Continued.*

Total Earnings and Salary.	Total Earnings and Salary by officer in all his offices.	Amount received for present year.	Amount received for previous years.	Total receipts.	Total receipts by officer from all his offices.	Amount disbursed.	Amount paid Government under 55 Vic, Cap. 17.	Net amount received in 1893 in respect of the earnings of that year and previous years.	Net amount received in 1893 in respect of the earnings of that year.
£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.
.....	1,753 65	1,278 53	408 46	.....	1,686 79	632 84	.....	1,053 95	645 49
.....	.....	385 30	.....	.....	385 30	.....	.....	385 30	.....
28 18	413 48	17 18	.....	17 18	402 48	1 06	.....	16 12	401 42
301 40	.....	301 40	.....	301 40	.....	11 17	.....	290 23	.....
1,058 63	1,360 03	1,048 50	.....	1,048 50	1,349 90	26 47	.....	1,022 03	1,312 26
928 90	.....	870 80	51 34	922 14	.....	32 29	.....	389 85	.....
458 45	.....	340 53	113 00	453 53	.....	2 50	.....	451 03	.....
605 45	1,992 80	582 75	220 95	803 70	2,179 37	.....	.....	808 70	1,759 29
.....	3,380 21	2,428 06	773 69	.....	3,201 75	1,751 33	.....	1,447 42	673 73
840 00	840 00	.....	.....	840 00	.....	.....	.....	.....	840 00
.....	607 48	390 31	213 39	.....	603 70	15 00	.....	588 70	375 31
517 79	.....	327 65	270 54	598 19	.....	100 00	.....	498 19	.....
1,035 69	1,553 48	647 90	459 17	1107 07	1,705 26	200 00	.....	907 07	675 55
997 86	.....	863 96	40 50	904 46	.....	200 00	.....	704 46	.....
943 86	.....	751 51	60 95	812 46	.....	190 50	.....	621 96	.....
1,532 08	3,473 80	1,285 62	101 80	1,387 42	3,104 34	200 00	31 06	1,187 42	2,310 59
.....	2,333 56	1,789 92	531 40	.....	2,321 32	1,111 52	.....	1,209 80	678 40
540 00	540 00	540 00	.....	.....	540 00	.....	.....	.....	540 00
.....	309 70	300 00	.....	.....	300 00	30 00	.....	270 00	270 00
682 05	.....	532 05	72 50	604 55	.....	146 60	.....	457 95	.....
1,254 48	1,936 53	748 64	464 13	1,212 77	1,817 32	274 90	.....	937 87	859 19
720 00	.....	720 00	.....	720 00	.....	11 00	.....	709 00	.....
733 70	.....	733 70	2 00	735 70	.....	13 00	.....	722 70	.....
940 25	2,393 95	930 00	.....	930 00	2,385 70	64 35	29 53	865 65	2,295 35
.....	2,731 51	2,439 93	197 17	.....	2,637 10	848 73	.....	1,788 37	1,591 20
.....	953 70	.....	.....	.....	953 70	.....	.....	.....	953 70
.....
.....
272 80	.....	168 80	129 70	298 50	.....	5 60	.....	292 90	.....
806 84	1,079 64	559 62	417 80	977 42	1,275 92	11 83	.....	965 59	710 99

APPENDIX F.—Schedule shewing Return of Fees and Emoluments of the

County or District.	County Town.	Officer.	Offices.	Amount Earned.			
				£ s. c.	£ s. c.		
Oxford.— <i>Con.</i>	Woodstock.	Deputy Clerk of the Crown	James Canfield.....	542 40	450 00		
		County Court Clerk	“	918 04	.....	
		Surrogate Registrar	“	1,592 94	.....	
Parry Sound..	Parry Sound.....	Sheriff	Henry Armstrong ...	1,794 87	500 00		
		Surrogate Judge.....	Judge Mahaffy.....	25 50	.....	
		Local Master.....	} See under Muskoka..				
		District Attorney.					
		Clerk of the Peace... ..					
				Local Registrar.....	R. H. Stewart.....	230 87	600 00
				District County Clerk...	“	51 75
		Surrogate Registrar.....	“	62 79	.....	
Peel	Brampton.	Sheriff	Robert Broddy	1,932 68	.....	
		Surrogate Judge.....	Judge Scott.....	commuted at			
		Local Master.....	“	75 00	.....	
		County Attorney.....	W. H. McFadden ...	308 95	.....	
		Clerk of the Peace.....	“	909 69	.....	
		Local Registrar.....	J. A. Austin	322 54	600 00		
		County Court Clerk	“	447 08	.....	
		Surrogate Registrar....	“	698 12	.....	
Perth	Stratford.....	Sheriff	John Hossie	2,356 54	.....	
		Surrogate Judge	Judge Woods.....	1,000 00	.....	
		Local Master.....	John E. Harding, Q.C.	830 95	.....	
		County Attorney.....	John Idington, Q.C..	352 75	.....	
		Clerk of the Peace	“	1,009 33	.....	
		Local Registrar.....	Jas. McFadden	468 60.	675 00		
		County Court Clerk.....	“	560 95	.....	
		Surrogate Registrar	“	1,145 55	.....	
Peterborough.	Peterborough.....	Sheriff.	Jas. A. Hall.....	1,928 92	.....	
		Surrogate Judge.....	Judge Weller.....	426 50	.....	

different County Judicial Officers for the Province of Ontario, etc.—*Continued.*

Total Earnings and Salary.	Total Earnings and Salary by officer in all his offices.	Amount received for present year.	Amount received for previous years.	Total receipts.	Total receipts by officer from all his offices.	Amount disbursed.	Amount paid Government under 55 Vict., Cap. 17.	Net amount received in 1893 in respect of the earnings of that year and previous years.	Net amount received in 1893 in respect of the earnings of that year.
% c.	% c.	% c.	% c.	% c.	% c.	% c.	% c.	% c.	% c.
992 40		704 00	175 50	879 50		97 00		782 50	
918 04		640 50	97 00	737 50		4 58		732 92	
1,592 94	3,503 38	1,087 50	276 70	1,364 20	2,981 20	118 00	21 24	1,246 70	2,212 42
2,294 87	2,294 87	1,947 41	221 70		2,169 11	1,014 00		1,155 11	933 41
	25 50				25 50			25 50	25 50
830 87		830 87		830 87				830 87	
51 75		51 75		51 75				51 75	
62 79	945 41	62 79		62 79	945 41			62 79	945 41
	1,932 68	1,465 68	320 41		1,786 09	1,041 92		744 17	423 76
240 00		240 00		240 00				240 00	
75 00	315 00	75 00		75 00	315 00			75 00	315 00
308 95		227 20	38 00	265 20		25 00		240 20	
909 69	1,218 64	761 43	208 36	969 79	1,234 99	25 00		944 79	938 63
922 54		922 54		922 54		116 85		805 99	
447 08		426 42	24 13	450 55		39 75		410 80	
698 12	2,067 74	677 22	33 70	710 92	2,084 01	42 30		668 62	1,827 28
	2,356 54	1,712 80	664 31		2,377 11	1,158 64		1,218 47	554 16
1,000 00		1,000 00		1,000 00					1,000 00
830 95	830 95	786 73	133 61	920 34				920 34	786 73
352 75		258 10	137 80	395 90		11 75		384 15	
1,009 33	1,362 08	467 55	326 93	794 48	1,190 38	291 98		502 50	421 92
1,143 60		1,078 35		1,078 35		341 51		736 84	
560 95		560 95	24 65	585 60		266 67		318 93	
1,145 55	2,850 10	1,145 55	52 90	1,198 45	2,862 40	266 67		931 78	1,910 00
	1,928 92	1,814 14	77 34		1,891 48	702 33		1,189 15	1,111 81
426 50		426 50		426 50				426 50	

APPENDIX F.—Schedule shewing Return of Fees and Emoluments of the

County or District.	County Town.	Office.	Officers.	Amount Earned.	Salary paid by the Govern- ment.
				\$ c.	\$ c.
Peterboro.'— <i>Con</i>	Peterboro'	Local Master.....	Judge Weller.....	468 00	.....
		County Attorney ..	Robert E. Wood.....	297 25	.....
		Clerk of the Peace.	"	891 08	.....
		Local Registrar....	John Maloney	544 03	675 00
		County Court Clerk	"	514 27	.....
		Surrogate Registrar	"	689 09	.....
Prescott & Russell	L'Original	Sheriff	Albert Hagar.....	1,506 31	500 00
		Surrogate Judge...	Judge O'Brian.....	112 50	.....
		Local Master.. ...	"	28 21	.....
		County Attorney ..	John Maxwell.....	176 94	.....
		Clerk of the Peace.	"	980 00	.....
		Local Registrar....	John Fraser... ..	220 38	675 00
		County Court Clerk	"	285 25	.....
		Surrogate Registrar	"	326 50	.....
Prince Edward ...	Picton	Sheriff	Jas. Gillespie.....	1,151 93	200 00
		Surrogate Judge...	Judge Merrill	211 00	.....
		Local Master.....	Nehemiah Gilbert ...	581 71	.....
		County Attorney..	J. Roland Brown....	116 00	.....
		Clerk of the Peace.	"	651 42	.....
		Local Registrar....	*John Twigg .....	.....	600 00
		County Court Clerk	"	446 95	.....
		Surrogate Registrar	"	470 12	.....
Rainy River	Pat Portage.....	Sheriff	Wm. H. Carpenter ..	1,276 82	1,000 00
		Surrogate Judge...	Judge Hamilton	* 25 00	.....
		Local Master.....	} See under Thunder Bay.		
		District Attorney..			
		Clerk of the Peace.			
		District Court Clerk	Frank J. Apjohn	201 10	700 00
Surrogate Registrar	"	37 44	.....	

* Succeeded by W. H. R. Allison, Q.C., 7th Oct.

different County Judicial Officers in the Province of Ontario, etc.—*Continued.*

Total Earnings and Salary.	Total Earnings and Salary by officer in all his offices.	Amount received for present year.	Amount received for previous years.	Total receipts.	Total receipts by officer from all his offices.	Amount disbursed.	Amount paid Government under 65 Vict. Cap. 17.	Net amount received in 1893 in respect of the earnings of that year and previous years.	Net amount received in 1893 in respect of the earnings of that year.
£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.
468 00	894 50			468 00	894 50				894 50
297 25		171 10	148 00	319 10		2 51		316 59	
891 08	1,188 33	461 88	487 08	948 96	1,268 06	23 17		925 79	607 30
1,219 03		1,219 03		1,219 03		80 00		1,139 03	
514 27		514 27		514 27		40 00		474 27	
689 09	2,422 39	689 09		689 09	2,422 39	80 00	22 23	609 09	2,222 39
2,006 31	2,006 31	1,485 42	481 01		1,966 43	859 87		1,106 56	625 55
112 50		112 50		112 50				112 50	
28 21	140 71				112 50				112 50
176 94		176 94		176 94				176 94	
980 00	1,156 94	975 09		975 09	1,152 03	15 00		960 09	1,137 03
895 38		841 63		841 63				841 63	
285 25		231 90	17 88	249 78				249 78	
326 50	1,507 13	222 00	14 45	236 45	1,327 86	214 33		236 45	1,081 20
2,151 93	1,351 93	1,154 40	281 15		1,435 55	901 34		534 21	253 06
	211 00				211 00				211 00
	581 71	518 59	237 93		756 42	35 00		721 42	483 59
116 00		56 00	22 40	78 40		8 00		70 40	
651 42	767 42	414 81	234 12	618 93	727 33	21 06		627 87	441 75
660 00		600 00		600 00				600 00	
446 95		446 95		446 95				446 95	
470 12	1,517 07	470 12		470 12	1,517 07	15 00		470 12	1,502 07
2,276 82	2,276 82	1,926 22	197 92		2,124 14	543 52		1,580 62	1,382 70
	25 00				25 00				25 00
901 10		901 10		901 10				901 10	
37 44	938 54	37 44		37 44	938 54			37 44	938 54

APPENDIX F.—Schedule shewing Return of Fees and Emoluments of the

County or District.	County Town.	Office.	Officers.	Amount earned.		Salary paid by the Government.
				£	c.	
Renfrew	Pembroke	Sheriff	Wm. Moffat	2,941	37	
		Surrogate Judge	Judge Deacon	commuted at		
		Local Master	"	62	80	
		County Attorney	J. H. Metcalf	334	70	
		Clerk of the Peace	"	793	05	
		Local Registrar	A. Thomson	79	25	600 00
		County Court Clerk	"	431	00	
		Surrogate Registrar	"	406	30	
Simcoe	Barrie	Sheriff	O. J. Phelps	3,696	66	
		Surrogate Judge	Judge Ardagh	commuted at		
		Local Master	J. R. Cotter	813	95	
		Deputy Registrar	"	292	11	
		County Attorney	"	839	90	
		Clerk of the Peace	"	1,290	10	
		Deputy Clerk of the Crown	J. McL. Stevenson	406	45	500 00
		County Court Clerk	"	1,387	35	
Surrogate Registrar	"	1,437	20			
Stormont, Dundas & Gleng'ry	Cornwall	Sheriff	D. E. McIntyre	3,139	41	
		Surrogate Judge	Judge Pringle	412	00	
		Local Master	"	738	80	
		County Attorney	James Dingwall	341	01	
		Clerk of the Peace	"	723	57	
		Local Registrar	J. A. McDougald	547	00	750 00
		County Court Clerk	"	871	95	
		Surrogate Registrar	Miss Helen McDonald	750	23	
Thunder Bay	Port Arthur	Sheriff	Alex. W. Thompson	2,321	83	800 00
		Surrogate Judge	Judge Hamilton	18	50	
		Local Master	"	102	10	
		District Attorney	Thos. A. Gorham	280	45	
		Clerk of the Peace	"	369	01	

different County Judicial Officers in the Province of Ontario, Etc.—Continued.

Total Earnings and Salary.	Total Earnings and Salary by Officer in all his offices.	Amount received for present year.	Amount received for previous years.	Total receipts.	Total receipts by officer from all his offices.	Amount disbursed.	Amount paid Government under 55 Vic. Cap. 17.	Net amount received in 1893 in respect of the earnings of that year and previous years.	Net amount received in 1893 in respect of the earnings of that year.
£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.
.....	2,941 37	2,710 39	135 93	.....	2,846 32	1,027 56	.....	1,818 76	1,682 83
264 00	.....	264 00	.....	264 00	.....	.....	.....	264 00	.....
62 80	326 80	62 80	.....	62 80	326 80	.....	.....	62 80	326 80
334 70	.....	300 70	46 00	346 70	.....	37 93	.....	308 77	.....
793 05	1,127 75	548 76	295 71	844 47	1,191 17	26 93	.....	817 54	784 6
679 25	.....	679 25	.....	679 25	.....	47 30	.....	631 95	.....
431 00	.....	431 00	.....	431 00	.....	39 00	.....	392 00	.....
406 30	1,516 55	406 30	.....	406 30	1,516 55	39 00	.....	367 30	1,391 2
.....	3,096 66	3,300 41	518 80	.....	3,819 21	2,704 92	.....	1,114 29	595 49
585 00	585 00	.....	.....	.....	585 00	.....	.....	585 00	585 00
813 95	.....	813 95	.....	813 95	.....	96 24	.....	717 71	.....
292 11	.....	292 11	.....	292 11	.....	36 00	.....	256 11	.....
839 90	.....	839 90	.....	839 90	.....	18 00	.....	821 90	.....
1,290 10	3,236 06	1,290 10	.....	1,290 10	3,236 06	30 75	.....	1,259 35	3,055 07
906 45	.....	906 45	.....	906 45	.....	.....	.....	906 45	.....
1,387 35	.....	1,387 35	.....	1,387 35	.....	596 00	.....	1,387 35	.....
1,437 20	3,731 00	1,437 20	.....	1,437 20	3,731 00	.....	190 50	1,437 20	3,135 00
.....	3,139 41	2,704 74	380 47	.....	3,085 21	1,162 56	.....	1,922 65	1,542 18
412 00	.....	412 00	.....	412 00	.....	.....	.....	412 00	.....
738 80	1,150 80	619 20	47 93	667 13	1,079 13	114 87	.....	552 26	916 33
341 01	.....	255 31	87 30	342 61	.....	22 13	.....	320 48	.....
723 57	1,064 58	476 98	267 82	744 80	1,087 41	29 85	.....	714 55	680 31
1,297 00	.....	1,297 00	.....	1,297 00	.....	195 67	.....	1,101 33	.....
871 95	2,168 95	871 95	.....	871 95	2,168 95	5 28	.....	866 67	1,968 00
.....	750 23	750 23	.....	.....	750 23	3 50	.....	746 73	746 73
3,121 83	3,121 83	2,524 39	377 73	.....	2,902 12	1,607 80	.....	1,894 32	1,516 59
18 50	.....	.....	.....	18 50	.....	.....	.....	18 50	.....
102 10	120 60	102 10	.....	102 10	120 60	7 50	.....	94 60	113 10
280 45	.....	129 25	65 60	194 85	.....	37 35	.....	157 50	.....
369 01	649 46	152 62	158 70	311 32	506 17	2 70	.....	308 62	241 82

APPENDIX F.—Schedule shewing Return of Fees and Emoluments of the

County or District.	County Town.	Office.	Officers.	Amount earned.	Salary paid by the Government.
				\$ c.	\$ c.
Thunder Bay.— <i>Continued</i>	Port Arthur	Local Registrar	James Meek	741 60	150 00
		District Court Clerk	“	547 25	450 00
		Surrogate Registrar.	“	49 40	.....
Victoria	Lindsay	Sheriff	John McLennan	2,147 74	.....
		Surrogate Judge	Judge Dean	commuted at	
		Local Master	“	commuted at	
		County Attorney	A. P. Devlin	247 70	.....
		Clerk of the Peace	“	994 87	.....
		Local Registrar	William Grace	466 80	675 00
		County Court Clerk.	“	621 15	.....
		Surrogate Registrar.	“	458 20	.....
Waterloo	Berlin	Sheriff	Moses Springer	2,049 99	100 00
		Surrogate Judge	Judge Lacourse	commuted at	
		Local Master	“	commuted at	
		County Attorney	W. H. Bowlby, Q.C.	417 80	.....
		Clerk of the Peace	“	1,188 50	.....
		Local Registrar	John McDougall	283 50	1,075 00
		County Court Clerk.	“	320 80	.....
		Surrogate Registrar.	A. J. Peterson	958 31	.....
Welland	Welland	Sheriff	James Smith	2,216 55	.....
		Surrogate Judge	Judge Fitzgerald	410 60	.....
		Local Master	* “	123 11	.....
		County Attorney	T. D. Cowper	431 61	.....
		Clerk of the Peace	“	1,252 25	.....
		Local Registrar	I. P. Wilson	225 10	600 00
		County Court Clerk.	“	461 45	.....
		Surrogate Registrar.	“	1,019 60	.....
Wellington	Wuelph	Sheriff	R. McKim	2,474 58	.....
		Surrogate Judge	Judge Chadwick	669 70	.....

* From 15th April.

different County Judicial Officers in the Province of Ontario, Etc.—*Continued.*

Total Earnings and Salary.	Total Earnings and Salary by officer in all his offices.	Amount received for present year.	Amount received for previous years.	Total receipts.	Total receipts by officer from all his offices.	Amount disbursed.	Amount paid Government under 55 Vic. Cap. 17.	Net amount received in 1893 in respect of the earnings of that year and previous years.	Net amount received in 1893 in respect of the earnings of that year.
£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.
891 60		837 37	22 97	860 34				860 34	
997 25		938 71	26 61	965 32				965 32	
49 40	1,938 25	48 90	10 57	59 47	1,885 13	115 90		59 47	1,709 08
	2,147 74	1,635 42	602 23		2,237 65	387 60		1,850 05	1,247 82
500 00		500 00		500 00				500 00	
900 00	1,400 00	900 00		900 00	1,400 00			900 00	1,400 00
247 70		106 00	136 65	242 69				242 69	
994 87	1,242 57	602 51	402 78	1,005 29	1,247 98			1,005 29	708 51
1,141 80		1,067 34	115 00	1,182 34		95 00		1,087 34	
621 15		492 65	50 00	542 65		43 90		498 75	
458 20	2,221 15	448 00	21 00	469 00	2,193 99	32 00		437 00	1,837 09
2,149 99	2,119 99	1,860 72	545 45		2,406 17	900 00		1,506 17	960 72
704 00		704 00		704 00				704 00	
591 00	1,295 00			591 00	1,295 00			591 00	1,295 00
417 80		417 80	120 60	538 40		100 00		438 40	
1,188 50	1,606 30	1,188 50	60 60	1,249 10	1,787 50	300 00		949 10	1,206 30
1,358 50		1,308 50		1,308 50		25 00		1,283 50	
320 80	1,673 30	320 80		320 80	1,629 30	25 00		295 80	1,579 30
958 31		958 31			958 31	229 20			729 11
	2,216 55	1,870 50	396 60		2,267 10	630 31		1,636 79	1,240 19
410 60		410 60		410 60				410 60	
123 11	533 71	94 69		94 69	505 29			94 69	505 29
431 61		246 30	143 00	389 30				389 30	
1,252 25	1,683 86	699 94	552 31	1,252 25	1,641 55	19 89		1,232 36	926 35
825 10		815 20	22 85	838 05		40 00		798 05	
461 45		434 65	19 10	453 75		127 46		326 29	
1,019 60	2,306 15	1,010 90	7 35	1,018 25	2,310 05	250 50		767 75	1,842 79
	2,471 58	1,594 10	757 23		2,351 33	1,567 64		783 69	26 46
	669 70				669 70				669 70

APPENDIX F.—Schedule shewing Return of Fees and Emoluments of the

County or District.	County Town.	Office.	Officers.	Amount earned.		Salary paid by the Govern- ment.
				§ c.	§ c.	
Wellington. — <i>Continued</i>	Guelph	County Attorney . . .	H. W. Peterson . . . *	959	30	
		Clerk of the Peace . .	“	2,848	44	
		Local Master	A. M. McKinnon . . .	1,281	31	
		Local Registrar *	“	390	31	427 00
		County Court Clerk . .	*Wm. Carroll	564	05	
		Surrogate Registrar . .	Alex. Mackenzie . . .	1,442	84	
Wentworth	Hamilton	Sheriff	Hon. A. McKellar . . .	4,784	14	
		Surrogate Judge	Judge Muir	1,000	00	
		Local Master and Deputy Registrar . . .	J. E. O'Reilly	commuted at		
		County Attorney	John Crerar, Q.C. . . .	1,253	70	
		Clerk of the Peace . .	“	948	14	
		Deputy Clerk of the Crown	S. H. Ghent	387	73	500 00
		County Court Clerk . .	“	1,623	95	
Surrogate Registrar . .	“	1,767	67			
York	Toronto	Sheriff	J. H. Widdifield . . .	7,914	88	
		Surrogate Judge	Judge McDougall . . .	3,202	00	
		“	Judge Morgan			666 00
		“	Judge Morson			636 00
		County Attorney	H. H. Dewart	2,624	50	
		Clerk of the Peace . .	J. H. Bull	3,682	90	
		Surrogate Registrar . .	T. G. Brown	5,026	68	
County Court Clerk . .	Hon. A. M. Ross	6,951	45			
Toronto	Toronto	Sheriff	Fred Mowat	16,769	75	
		Crown Attorney	J. W. Curry	3,514	00	

*From 20th February.

different County Judicial Officers in the Province of Ontario, Etc.—*Concluded.*

Total Earnings and Salary.	Total Earnings and Salary by officer in all his offices.	Amount received for present year.	Amount received for previous years.	Total receipts.	Total receipts by officer from all his offices.	Amount disbursed.	Amount paid Government under 55 Vic. Cap. 17.	Net amount received in 1893 in respect of the earnings of that year and previous years.	Net amount received in 1893 in respect of the earnings of that year.
£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.	£ c.
959 30		700 00	134 00	834 00		200 00		634 00	
2,848 44	3,807 74	1,974 82	707 29	2,682 11	3,516 11	706 80		1,975 31	1,768 02
1,281 31		1,077 53	150 78	1,228 31		65 00		1,163 31	
817 31	2,098 62	776 57	38 88	815 45	2,043 76	12 50		802 95	1,776 60
564 05	564 05				564 05	76 40			487 65
1,442 84	1,442 84	1,319 84	32 25	1,352 09	1,352 09	120 00		1,232 09	1,199 84
	4,784 14	4,053 95	1,040 19		5,094 14	2,836 28		2,257 86	1,217 67
	1,000 00				1,000 00				1,000 00
3,500 00	3,500 00				3,500 00				3,500 00
1,253 70		1,253 70		1,253 70		125 00		1,128 70	
948 14	2,201 84	948 14		948 14	2,201 84	125 00		823 14	1,951 84
887 73		859 13	32 00	891 13				891 13	
1,623 95		1,448 04	130 10	1,578 14		262 70		1,315 44	
1,767 67	4,279 35	1,559 42	70 40	1,729 82	4,199 09	284 50	275 82	1,445 32	3,419 39
	7,914 88	6,315 80	1,992 01		8,307 81	4,038 31		4,269 50	2,277 49
	3,202 00				3,202 00				3,202 00
	666 00				666 00				666 00
	666 00				666 00				666 00
	2,624 50	1,876 00	883 29	2,759 29	2,759 29	615 50		2,143 79	1,260 50
	3,682 90	2,755 75	420 55		3,176 30	709 50		2,466 80	2,046 25
	5,026 68	5,026 68	128 05	5,154 73	5,154 73	1,211 92	425 90	3,516 91	3,814 76
	6,951 45	6,845 25	74 55	6,919 80		1,253 28	1,136 78	4,529 74	5,591 97
	16,769 75	13,359 43	3,380 97		16,740 40	9,185 59	202 75	7,352 06	4,173 84
	3,514 00	3,488 70	917 70	4,406 40	4,406 40	717 75		3,688 65	2,770 95

REPORT
OF THE
MASTER OF TITLES
1893.

PRINTED BY ORDER OF THE LEGISLATIVE ASSEMBLY.



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1894.

REPORT
OF THE
MASTER OF TITLES.

TORONTO, 28th February, 1894.

To His Honor,

The Honorable GEORGE AIREY KIRKPATRICK,
Lieutenant-Governor of Ontario.

SIR,—I have the honor to report as follows in respect of the business of the Land Titles' Offices during 1893.

The depression in real estate in and about Toronto, referred to in my last annual report, continued during the year reported on. Very little property has changed hands, and the transfers which have been effected in this office consist very largely of sales under mortgages, and of what are in effect releases to mortgagees of the equities of redemption of the lands held by them under their mortgages, the properties having shrunk in marketable value to an extent more than sufficient to cover the margins of the mortgagees.

The general depression in business has continued to affect very unfavorably, applications for the first registration of lands. Owners holding for sale, seeing but little chance for selling, are unwilling to incur the expense attendant upon these applications. Fewer applications for first registration were made in this office last year than in any year since the Act was adopted, only eleven having been filed. All of these, with one exception, were cases where there were points in the title which made it difficult for the owners to sell without the guarantee afforded by The Land Titles' Act.

The value of the property brought under the Act during the year was \$198,165. This consists almost entirely of improved city property. I append a schedule shewing the value of each parcel and the costs of this office.

The number of registrations during the year was 1,892; in the year 1889 there were 4,679, and the average since the office was opened was 2,949 each year.

I made my usual annual inspection of the offices in the districts during August and September, and gave such instructions and explanations to the local Masters as I saw were requisite.

The master at Port Arthur, though a competent man, has not disposed of applications for first registration with the speed which he might, and his receiving book has not, nor have his procedure books, been kept as they should be. He has secured such assistance as ought to enable him in future to conduct his office so that there may be no grounds of complaint. The remarks hereinafter made as to lack of promptness in remitting assurance fees apply also to the master at Port Arthur.

The other offices I found upon the whole very satisfactorily conducted, though in some the assurance fees are not so promptly remitted as I deem advisable. This occurs to a considerable extent through the trouble which the frequent remittance of small sums gives. I have pressed upon these officers the necessity there is for the immediate remittance of all amounts, whether large or small, which they receive on account of the Assurance Fund.

In strictness the owners should themselves transmit these moneys to the Accountant of the Supreme Court at Toronto, but they are as a general rule ignorant of the method of doing this, and apart from the danger of misapprehension on their part it is less trouble for the master to attend to it for them than to instruct them. In view of this and the fact that these fees are usually not paid until a transfer or mortgage is brought in for registry and that a refusal to accept the instrument until a receipt should be obtained from Toronto, might prove very inconvenient to the parties and possibly inflict loss upon them, I have not felt at liberty to give direction to the local masters not to accept these moneys.

The following table shows the business in these offices during 1893, and also the business since 1st January, 1888, the date when the Act came into operation in these districts.

Business at Offices of Local Masters.	Parry Sound.		Sault Ste. Marie.		Bracebridge.		Port Arthur.		North Bay.		Rat Portage.	
	1893.	Since Act passed.	1893.	Since Act passed.	1893.	Since Act passed.	1893.	Since Act passed.	1893.	Since Act passed.	1893.	Since July 1, 1893, when separate office established.
Patents received from Crown Lands Department, including Mining Lease Patents	118	906	107	796	83	510	113	675	54	316	91	91
Patents entered in Register	119	895	103	790	75	499	112	674	53	315	87	87
Patents in course of entry.	11	....	5	6	8	11	1	1	1	1	4	4
Applications for First Registration received.....	none.	5	none.	1	none.	1	4	9	none.	none.	none.	none.
Applications for First Registration granted	none.	4	none.	1	none.	1	4	6	none.	none.	none.	none.
Applications for First Registration withdrawn or refused	none.	1	none.	none.	none.	none.	none.	1	none.	none.	none.	none.
Applications for First Registration pending.....	....	none..	none.	none.	none.	none.	2	2	none.	none.	none.	none.
Number of instruments registered	125	449	209	769	59	230	81	461	57	234	77	77
Fees payable upon registrations	\$ c.	304 63	\$ c.	560 55	\$ c.	159 50	\$ c.	199 25	\$ c.	95 10	\$ c.	219 55
Fees payable upon special matters	none.	....	38 55	....	none.	....	24 60	....	none.	....	16 40	....

No land has yet been brought under the Act in the County of Elgin.

The amount at the credit of the Assurance Fund on 31st December, 1893, was \$18,527.51. Of this \$3,502.29 is in respect of lands in the districts, and \$15,025.22 of lands in the City of Toronto, and County of York.

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

J. G. SCOTT,
Master of Titles

Table showing the value of each parcel first registered under The Land Titles' Act at Toronto during 1893, and the costs of the Land Titles' Office on first registration.

No.	First Registered Owner.	Value.		Costs.	
		\$	c.	\$	c.
337	Andrew Barker.....	6,000	00	22	30
315	F. W. Kingstone.....	16,000	00	18	80
323	Charlotte Woods.....	2,500	00	36	30
340	John Russell.....	7,000	00	23	00
330	J. Ross Robertson.....	25,000	00	27	60
331	J. Ross Robertson.....	12,000	00	19	70
332	J. Ross Robertson.....	12,000	00	13	50
333	J. Ross Robertson.....	25,000	00	17	50
334	J. Ross Robertson.....	10,000	00	21	10
335	J. Ross Robertson.....	25,000	00	23	90
341	Joseph McCluer.....	10,515	00	12	20
339	Marshall E. Cook <i>et al.</i>	7,000	00	20	60
327	S. H. Stevenson and E. B. Shuttleworth.....	4,650	00	32	30
338	Margaret Coolahan.....	4,000	00	20	80
215	Thomas Foster.....	15,000	00	39	50
342	Edith A. Munro.....	3,500	00	17	10
346	Fred Morson.....	7,000	00	19	70
344	Mary Wilson <i>et al.</i>	6,000	00	13	10
		198,165	00	399	00

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24 29-11.



SUBJECT
PROPERTY
No.

NAME OF BORROWER.

John

